

ZONAL MASTER PLAN OF BHAGIRATHI ECO-SENSITIVE ZONE

PART-3 ANNEXURE



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Executive Summary

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का.आ. 2930(अ).—गंगोत्री हिमनद शिवलिंग, धलय सागर, मेरू, भागीरथी-III पर्वत शिखरों से घिरा हुआ एक बड़ा हिमनद है। भागीरथी नदी का उद्गम-स्थल 3892 मीटर की ऊंचाई पर स्थित गौमुख नामक क्षेत्र में चौखंभा पर्वत शिखर के नीचे स्थित गंगोत्री हिमनद है जहां से प्रारंभ होकर देवप्रयाग में अलकनंदा नदी से मिलने से पूर्व उत्तराखंड प्रांत में गढ़वाल हिमालय के उत्तरकाशी जिले में उत्तर-दक्षिण दिशा में बहती है;

और भागीरथी नदी प्रवासी प्रजातियों सहित जलीय वनस्पति और जीव-जंतुओं से समृद्ध है तथा जल विद्युत परियोजनाओं के निर्माण के कारण उनके प्रवास में किसी प्रकार की बाधा उत्पन्न होने से, इस अद्भुत पारिस्थितिकी-प्रणाली पर विपरीत प्रभाव पड़ सकता है;

और नदी पर शुरू हो चुकी या प्रस्तावित या कार्यान्वयनाधीन परियोजनाओं और मानव एवं पशु आबादी में लगातार और असाधारण वृद्धि, पारिस्थितिकीय प्रणाली और पर्यावरण पर नृजातिय दबावों में अत्यधिक वृद्धि से नदी के प्रवाह तथा स्वरूप सहित सुकोमल पर्वत-परिप्रणालियों को अपूरणीय क्षति हुई है;

और यह निर्णय लिया गया है कि गौमुख से उत्तरकाशी तक भागीरथी नदी के लगभग 100 किलोमीटर लंबे, 4179.59 वर्ग किलोमीटर के संपूर्ण जल संभरण क्षेत्र को भागीरथी नदी के पर्यावरणीय प्रवाह और पारिस्थितिकी को बनाए रखने के लिए पारिस्थितिकीय और पर्यावरणीय दृष्टि से पारिस्थितिकी संवेदनशील क्षेत्र घोषित किया जाएगा;

4666 GH/2012

(1)

और पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (2) के खंड (v) और खंड (xiv) के साथ पठित उपधारा (1) के अधीन भारत सरकार, पर्यावरण और वन मंत्रालय की दिनांक 1 जुलाई, 2011 की अधिसूचना सं.का.आ. 1499 (अ) के तहत पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (3) की अपेक्षानुसार भारत के राजपत्र, असाधारण में एक प्रारूप अधिसूचना प्रकाशित की गई थी, जिसमें जनता को उक्त अधिसूचना वाले राजपत्र की प्रतियां उपलब्ध कराये जाने की तारीख से साठ दिन की अवधि के भीतर उन व्यक्तियों से आपत्तियां एवं सुझाव मांगे गए थे जिनके उनसे प्रभावित होने की संभावना थी;

• और उक्त अधिसूचना वाले राजपत्र की प्रतियां, जनता को 1 जुलाई, 2011 को उपलब्ध करा दी गई थी;

और केन्द्रीय सरकार द्वारा प्रारूप अधिसूचना पर जनता से प्राप्त आपत्तियों और सुझावों पर भली-भांति विचार कर लिया गया है;

अतः अब केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (3) और पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (2) के खंड (v) और उपखंड (xiv) के साथ पठित उपधारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, गौमुख से उत्तरकाशी तक भागीरथी नदी के लगभग 100 किलोमीटर लंबे, 4179.59 वर्ग किलोमीटर के संपूर्ण जल संभरण क्षेत्र को पारिस्थितिकी संवेदनशील क्षेत्र (जिसे इसमें इसके पश्चात् पारिस्थितिकी संवेदनशील क्षेत्र कहा जाएगा) घोषित करती है :-

1. **पारिस्थितिकी संवेदनशील क्षेत्र की सीमाएं-** उक्त पारिस्थितिकी संवेदनशील क्षेत्र गौमुख से उत्तरकाशी तक भागीरथी नदी के लगभग 100 किलोमीटर के संपूर्ण जल संभरण क्षेत्र के अंतर्गत आने वाला 4179.59 वर्ग किमी. क्षेत्र है। पारिस्थितिकी संवेदनशील क्षेत्र पूर्व से उत्तर-पश्चिम तक भारत-चीन सीमा का सीमावर्ती क्षेत्र है।

(क) पारिस्थितिकी संवेदनशील पूर्व की ओर $31^{\circ}05'46.54''$ उत्तरी अक्षांश एवं $79^{\circ}25'11.65''$ पूर्वी देशान्तर से; उत्तर की ओर $79^{\circ}04'32.21''$ पूर्वी देशान्तर एवं $31^{\circ}27'23.28''$ उत्तरी अक्षांश से; पश्चिम की ओर $30^{\circ}51'03.95''$ उत्तरी अक्षांश एवं $78^{\circ}22'57.78''$ पूर्वी देशान्तर से और दक्षिण की ओर $30^{\circ}39'08.09''$ उत्तरी अक्षांश एवं $78^{\circ}31'26.41''$ पूर्वी देशान्तर से घिरा हुआ है।

(ख) पारिस्थितिकी संवेदनशील क्षेत्र का सीमा मानचित्र, उप-बेसिन सीमाओं, गोविन्द एवं गंगोत्री राष्ट्रीय उद्यानों की सीमाओं, महत्वपूर्ण स्थानों, भागीरथी नदी की प्रमुख सहायक नदियों और पारिस्थितिकी संवेदनशील क्षेत्र की सीमा के चारों किनारों के अक्षांश-देशान्तर के साथ इस अधिसूचना के उपाबंध-I के रूप में संलग्न है, और

(ग) पारिस्थितिकी संवेदनशील क्षेत्र के अंतर्गत आने वाले ग्रामों की सूची उपाबंध 2 के रूप में संलग्न है। उपाबंध-II में दिए गए ग्रामों की सूची को आंचलिक महायोजना बनाते समय राज्य सरकार द्वारा पुनः संशोधित और परिपुष्ट किया जाएगा।

2. पारिस्थितिकी संवेदनशील क्षेत्र के लिए आंचलिक महायोजना- (1) राज्य सरकार पारिस्थितिकी संवेदनशील क्षेत्र के प्रयोजन के लिए राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष की अवधि के भीतर स्थानीय जनता, विशेषकर महिलाओं, के परामर्श से एक आंचलिक महायोजना बनाएगी और उसे पर्यावरण और वन मंत्रालय, भारत सरकार द्वारा अनुमोदित किया जाएगा।

- (2) आंचलिक महायोजना पर्यावरण, वन, शहरी विकास, पर्यटन, नगरपालिका, राजस्व, लोक निर्माण विभाग, पर्यावरण संरक्षण और प्रदूषण नियंत्रण बोर्ड, जल संसाधन, बागवानी, पंचायती राज्य, ग्रामीण विकास आदि जैसे राज्य के सभी संबंधित विभागों की सम्यक् भागीदारी से बनाई जाएगी ताकि इसमें पर्यावरणीय और पारिस्थितिकीय विचारों को सम्मिलित किया जा सके ।
- (3) राज्य या केन्द्रीय सरकार द्वारा बनाई गई या बनाई जाने वाली सीमा क्षेत्र विकास योजना और किसी भी अन्य योजना को आंचलिक महायोजना में शामिल किया जाएगा और वह इसका भाग होगी ।
- (4) आंचलिक महायोजना में निरावृत्त क्षेत्रों की बहाली, विद्यमान जल निकायों के संरक्षण, जल ग्रहण क्षेत्रों के प्रबंधन, जल संभरणों के प्रबंधन, भूमिगत जल के प्रबंधन, मृदा और नदी संरक्षण, स्थानीय समुदाय की आवश्यकताओं तथा पारिस्थितिकी और पर्यावरण के ऐसे अन्य पहलुओं जिन पर ध्यान देने की आवश्यकता है, के लिए उपबंध किया जाएगा ।
- (5) आंचलिक महायोजना जल संभरण की अवधारणा के आधार पर बनाई जाएगी । इसमें यह भी सुनिश्चित किया जाएगा कि नदियों और सहायक नदियों के किनारों पर किसी प्रकार की संरचनाओं का निर्माण करके नदी और उसकी सहायक नदियों की प्राकृतिक सीमाओं में परिवर्तन का कोई प्रयास नहीं किया जाए ।
- (6) आंचलिक महायोजना सभी विद्यमान ग्रामीण बस्तियों, वनों के प्रकारों एवं किस्मों, कृषि क्षेत्रों, उर्वर भूमि, हरित क्षेत्रों, बागान क्षेत्रों, फलोद्यानों, झीलों एवं अन्य जल निकायों को चिन्हित करेगा ।
- (7) पारिस्थितिकी संवेदनशील क्षेत्र में विभिन्न भवनों, होटलों, रिसोर्ट के निर्माण में क्षेत्र की परंपरागत संकल्पनाओं और वास्तु का पूर्णतया पालन किया जाएगा । आंचलिक महायोजना में उनके लिए विशिष्ट दिशानिर्देश निर्धारित किए जाएंगे ।

- (8) आंचलिक महायोजना पारिस्थितिकी संवेदनशील क्षेत्र के विकास को ऐसे विनियमित किया जाएगा जिससे कि वहां के वास्तविक निवासियों के अधिकारों और विशेषाधिकारों को प्रभावित किए बिना स्थानीय निवासियों की जरूरतें पूरी हो सकें। तथा उनके जीवन यापन की सुरक्षा के लिए पारिस्थितिकीय अनुकूल विकास भी सुनिश्चित करेगी।
- (9) पारिस्थितिकी संवेदनशील क्षेत्र के लिए आंचलिक महायोजना का निर्माण और पर्यावरण और वन मंत्रालय द्वारा उसका अनुमोदन लंबित रहने तक निगरानी समिति सभी नए निर्माण और अन्य विकास क्रियाकलापों के मामले अधिसूचना के पैरा 4 के उपपैरा (4) के अनुसार पर्यावरण और वन मंत्रालय को निर्दिष्ट होंगे।
- (10) आंचलिक महायोजना में पर्यटन, तीर्थ यात्रा और स्थानीय उपयोग के लिए पैदल मार्गों के विकास को प्रोत्साहित किया जाएगा।
- (11) निगरानी समिति द्वारा, छूट दिए जाने पर विचार करने सहित लिये जाने वाले किसी भी निर्णय के लिए आंचलिक महायोजना एक संदर्भ दस्तावेज होगा।
- (12) आंचलिक महायोजना में गैर हरित उपयोगों के लिए हरित उपयोगों जैसे उद्यान क्षेत्रों, कृषि-भूमि, चाय बागानों, उद्यानों और अन्य जैसे स्थानों पर भूमि का उपयोग का परिवर्तन अनुज्ञात नहीं होगा। तथापि, विद्यमान स्थानीय जनसंख्या की प्राकृतिक वृद्धि के कारण स्थानीय निवासियों की आवासीय आवश्यकताओं को पूरा करने के लिए, राज्य सरकार की सिफारिशों पर केन्द्रीय सरकार के पूर्व अनुमोदन से कृषि भूमि के अत्यधिक सीमित परिवर्तन की अनुमति होगी।
- (13) 5000 और उससे अधिक जनसंख्या वाले सभी मानव आवास क्षेत्रों में क्षेत्र विकास योजना होगी और वह स्थानीय स्वशासन के मार्ग निर्देशों के अनुसार तैयार होगी।
- (14) हरित क्षेत्र जैसे वन क्षेत्र, कृषि क्षेत्र आदि में कोई परिणामिक कटौती नहीं की जाएगी।

(15) केन्द्रीय सरकार और राज्य सरकार अन्य उपाय यदि वह आवश्यक हों विनिर्दिष्ट करेगी और उसको इस अधिसूचना के उपबंधों से प्रभाव देगी ।

(16) पहाड़ी ढलानों का विकास और संरक्षण :

- (i) आंचलिक महायोजना पर्वतीय ढालों पर उन क्षेत्रों को इंगित करेगा जहां विकास अनुज्ञात नहीं किया जाएगा;
- (ii) उपलब्ध वैज्ञानिक साक्ष्यों के आधार पर राज्य सरकार द्वारा अभिज्ञात किए गए ऐसे क्षेत्रों में कोई विकास नहीं किया जाएगा जिनमें तीव्र ढलान है या जो 'फॉल्ट' या परिसंकटमय क्षेत्रों के अंतर्गत आते हैं अथवा जो झरना-मार्गों और पहले दर्जे के प्रवाहों में हैं या जहां अत्यधिक मात्रा में क्षरण होता है;
- (iii) विद्यमान तीव्र पहाड़ी ढलानों वाले या अत्यधिक मात्रा में क्षरण वाले ढलानों पर किसी विकास की अनुमति नहीं दी जाएगी ।
- (iv) पर्यटक सैरगाह और वाणिज्यिक परिसर उन क्षेत्रों में अवस्थित होंगे जहां अधिशेष पानी और बिजली उपलब्ध हो जिससे कि विद्यमान प्रयोक्ताओं से पूर्व-परामर्श के बिना उनके अधिकार प्रभावित न हों ।
- (v) पारिस्थितिकी संवेदनशील क्षेत्रों में स्थित जिन स्थानों में पहाड़ों के कटाव से पारिस्थितिकी को नुकसान होता है और ढलान अस्थिर होते हैं उनमें नुकसान से बचने के लिए कटाव के लिए समुचित उपाय किये जायेंगे ।

स्पष्टीकरण: इस अधिसूचना में "तीव्र पहाड़ी, ढलान" से 20° या अधिक के ढलान वाला कोई पहाड़ी ढलान अभिप्रेत है ।

(17) प्राकृतिक झरने-आंचलिक महायोजना में सभी झरनों के जल ग्रहण क्षेत्र चिन्हित किए जाएंगे और उनके संरक्षण सूख चुके झरनों को उनकी प्राकृतिक स्थिति में लाने के लिए उनका नवीकरण करने के लिए योजनाएं सम्मिलित की जाएंगी और राज्य सरकार इन क्षेत्रों में या इनके निकटवर्ती क्षेत्रों में विकास गतिविधियों को प्रतिबंधित करने के लिए कड़े दिशानिर्देश तैयार करेगी;

(18) पर्यटन-

- (i) पर्यटन क्रियाकलाप, उत्तराखंड राज्य सरकार के पर्यटन विभाग द्वारा बनाई जाने वाली पर्यटन महायोजना के अनुसार होंगे;
- (ii) पर्यटन महायोजना आंचलिक महायोजना के संघटक के रूप में होगी और पारिस्थितिक संवेदनशील परिक्षेत्र के धारक क्षमता अध्ययन के ब्यौरों पर आधारित होगी जिसे राज्य सरकार द्वारा क्रियान्वित किया जाएगा ।
- (iii) सभी नए पर्यटन क्रियाकलापों पर्यटन के विकास या विद्यमान पर्यटन क्रियाकलापों के विस्तार की अनुमति इस पर्यटन महायोजना के मानदंडों के भीतर अनुज्ञात होगी।
- (iv) धारक क्षमता अध्ययन विद्यमान अवसंरचनाओं के आधार पर किया जायेगा, न कि किसी ऐसी परियोजना के भावी प्रक्षेपण के आधार पर जिसके लिए पर्यावरणीय या वन स्वीकृति लेना आवश्यक हो ।
- (v) आंचलिक महायोजना के अनुमोदन होने तक निगरानी समिति द्वारा पर्यटन के विकास और विद्यमान पर्यटन क्रियाकलापों के विस्तार की अनुमति विस्तृत जांच के उपरांत ही दी जाएगी और वह इस बारे में राज्य सरकार और केन्द्रीय सरकार द्वारा निर्धारित दिशानिर्देशों के अध्याधीन होगी ।

(19) **पर्वतीय सड़कों** - पर्वतीय सड़कों के निर्माण और अनुरक्षण के लिए निम्नलिखित दिशानिर्देश बनाये जाएंगे और आंचलिक महायोजना में सम्मिलित किए जाएंगे; अर्थात् :-

- (i) 5 कि.मी. लंबाई से अधिक के पारिस्थितिकी संवेदनशील क्षेत्र में बिना तारकोल की सड़कों समेत किसी सड़क का निर्माण (विद्यमान सड़कों के विस्तारण या चौड़ीकरण समेत);
- (ii) सड़कों को काटने, नालों के आर-पार निर्माण करने और पुलियाएं बनाने के फलस्वरूप होने वाली पहाड़ी ढलानों की अस्थिरताओं के उपचार के लिए सड़कों के डिजाईन में जैव अभियांत्रिकी और अन्य उपयुक्त तकनीकों का प्रयोग करके और इन उपायों पर आने वाली लागत को प्रस्तावित सड़क के लागत अनुमान में शामिल करने के उपबंध किये जायेंगे;
- (iii) मलबे को खड्डों या ढलानों के नीचे नहीं डाला जाएगा बल्कि सड़कों के निर्माण में उपयोग किया जाएगा तथा अप्रयुक्त मलबे का उपयुक्त और चिन्हित स्थानों पर उचित रीति से निपटान करने के लिए भी उपबंध किए जाएंगे जिससे कि उस क्षेत्र की पारिस्थितिकी पर प्रतिकूल प्रभाव न पड़े तथा मलबे का उपचार और भूदृश्य निर्माण जैव इंजीनियरिंग और अन्य उपयुक्त तकनीकों का प्रयोग करके किया जाएगा और ऐसे उपायों की लागत को प्रस्तावित सड़क के लागत अनुमान में सम्मिलित किया जाएगा;
- (iv) सभी सड़कों के किनारे पर्याप्त संख्या में नाले बनाये जाएंगे और निपटान को बहाने के लिए इन नालों को रुकावट से मुक्त रखा जाएगा तथा सड़क के किनारे के नालों से होने वाले बहाव को प्राकृतिक निकास प्रणाली से जोड़ा जाएगा;
- (v) वानस्पतिक आच्छादन की हानि को कम करने के लिए संरक्षण का चयन किया जाएगा ;

(vi) सड़क की डिजाइन बनाते समय कटाव और भरण के वृहद संतुलन तथा अनावश्यक कटाव से बचने सहित उचित डिजाइन मानकों का अनुपालन किया जाएगा।

(vii) सड़कों के किनारे स्थित सभी 'फॉल्ट' क्षेत्रों और भू-स्खलन वाले क्षेत्रों के बारे में इन क्षेत्रों के प्रारंभ और समाप्ति को दर्शाते हुए सूचना दी जायेगी।

(20) **प्राकृतिक विरासत स्थल** - पारिस्थितिकी संवेदनशील क्षेत्र में स्थित मूल्यवान प्राकृतिक विरासतों के स्थानों, विशेषतया स्थलीय प्राकृतिक सुंदरता, नदियों के संगम बिंदुओं, झरनों, तालाबों, झीलों, दर्रा, उपवनों, कंदराओं, खुले क्षेत्रों, काष्ठ क्षेत्रों, शिखरों, विहार-स्थलों, सैर, अश्व पथों आदि को अभिज्ञात किया जायेगा उनकी प्राकृतिक अवस्था में ही उनके संरक्षण की योजनाओं को आंचलिक महायोजना में सम्मिलित किया जाएगा। पारिस्थितिकी संवेदनशील क्षेत्रों के सभी जीन पूल संरक्षित क्षेत्रों को संरक्षित किया जायेगा। राज्य सरकार इस अधिसूचना के प्रकाशन की तारीख से एक वर्ष के भीतर उनके संरक्षण और सुरक्षा की समुचित योजना बनायेगी। ये योजनाएं आंचलिक महायोजना का भाग होंगी। विरासत-स्थलों के आस-पास निर्माण कार्य और अन्य कार्यकलापों को विनियमित करने के लिए राज्य सरकार द्वारा दिशानिर्देश और विनियम बनाये जाएंगे ताकि विरासत स्थलों व क्षेत्र का विशिष्ट स्वरूप एवं अद्भुत परिवेश बरकरार रहे।

(21) **मानव निर्मित विरासत स्थल**- इस अधिसूचना के प्रकाशन की तारीख से एक वर्ष के भीतर ऐतिहासिक या पुरातत्व या सौंदर्य परख या सांस्कृतिक या पर्यावरणीय महत्व के भवन, संरचनाएं, शिल्प तथ्य, मंदिर, सड़कें, क्षेत्र और अहाते अभिज्ञात किये जाएंगे तथा उनके संरक्षण की योजना बनायी जाएगी और उसे आंचलिक महायोजना में सम्मिलित किया जाएगा। विरासत-स्थलों के आस-पास निर्माण कार्य और अन्य कार्यकलापों को विनियमित करने के लिए राज्य सरकार द्वारा दिशानिर्देश और विनियम बनाये जाएंगे ताकि विरासत स्थलों व क्षेत्र का विशिष्ट स्वरूप एवं अद्भुत परिवेश बरकरार रहे।

3. पारिस्थितिकी संवेदनशील क्षेत्र में प्रतिषिद्ध, विनियमित या अनुज्ञात किए जाने वाले क्रियाकलाप-

(क) पारिस्थितिकी संवेदनशील क्षेत्र में प्रतिषिद्ध क्रियाकलाप करना: पारिस्थितिकी संवेदनशील

क्षेत्र में निम्नलिखित क्रियाकलाप प्रतिषिद्ध होंगे :

- (i) नदी घाटी परियोजनाएं: गोमुख से उत्तरकाशी तक भागीरथी नदी और सभी उपनदियों पर नए जल विद्युत संयंत्रों (बांध, नहरों और जलाशयों का निर्माण) की स्थापना और विद्यमान संयंत्रों का विस्तार करना, सिवाय ग्राम सभा की सहमति और अन्य अपेक्षित अनापत्तियों के अधीन रहते हुए, सूक्ष्म या लघु जल विद्युत परियोजनाओं के, जिससे स्थानीय समुदायों की ऊर्जा आवश्यकताओं की पूर्ति हो सके ;
- (ii) किन्हीं नए औद्योगिक प्रयोजनों के लिए नदी के जल का निष्कर्षण ;
- (iii) खनिजों का खनन और पत्थर उत्खनन और क्रशिंग : सभी प्रकार के खनिजों का खनन (सूक्ष्म और वृहद खनिज) पत्थर उत्खनन और क्रशिंग सिवाए स्थानीय निवासियों की वास्तविक घरेलू आवश्यकताओं की पूर्ति हेतु सीमित खनन, पत्थर उत्खनन और क्रशिंग स्थल मूल्यांकन पर आधारित होगा परंतु ऐसे क्रियाकलाप विद्यमान तीव्र पहाड़ी ढलानों या कटाव के उच्च श्रेणी, झरनों, भूमि जल के पुनः संभरण क्षेत्रों के साथ के क्षेत्रों पर नहीं होंगे । मानीटरी समिति को ऐसी विशेष अनुज्ञा प्रदत्त करने का अधिकार होगा ।

टिप्पण : वास्तविक स्थानीय निवासियों से उक्त क्षेत्र का वह निवासी अभिप्रेत है जो अपने अवयस्क बच्चों के साथ बिना किसी व्यवधान की अवधि के उस क्षेत्र में निवास करता है और जो इस अधिसूचना की तारीख पर निर्वाचन सूची में है ।

- (iv) **पेड़ों की वाणिज्यिक कटाई** : पारिस्थितिकी संवेदनशील क्षेत्र में पेड़ों की वाणिज्यिक कटाई और कोई काष्ठ आधारित उद्योग की स्थापना, सिवाय ग्राम सभा की सहमति और सभी अन्य अपेक्षित अनापत्तियों के अधीन रहते हुए स्थानीय क्रियाकलापों और जीवन यापन जिसमें काष्ठ संग्रहण, कुटीर उद्योग जैसे बांस की टोकरी भी है ;
- (v) आरा मशीनों की स्थापना;
- (vi) जलाने की लकड़ी का वाणिज्यिक उपयोग;
- (vii) **प्रदूषणकारी उद्योग**: कोई नया अत्यधिक प्रदूषणकारी उद्योग और विद्यमान ऐसे उद्योगों का विस्तार;
- (viii) **मल जल और औद्योगिक बहिस्राव**: अनुपचारित मल जल और औद्योगिक बहिस्राव का निकास । तथापि जल गुणवत्ता मानकों को पूरा करने वाले उपचारित मल जल और औद्योगिक बहिस्रावों की अनुमति दी जायेगी;
- (ix) **प्लास्टिक के सामान ले जाने वाले थैलों का उपयोग**: दुकानों, वाणिज्यिक स्थापनों, पर्यटन स्थलों आदि में प्लास्टिक थैलियों का उपयोग तथा गैर जैव अक्रमणीय आद्यानों में बेचने वाले विनिर्माता, थोक विक्रेता, वितरक, फुटकर विक्रेता आदि अपने आद्यानों तथा/या पैकेजिंग में पुनः खरीद तथा पुनः चक्रण के लिए एक योजना को लागू करेंगे;
- (x) **परिसंकटमय अपशिष्ट प्रसंस्करण इकाईयां**: उद्योग परिसंकटमय अपशिष्टों का प्रसंस्करण समय समय पर यथा संशोधित परिसंकटमय अपशिष्ट (प्रबंध और हथालन) नियम, 1989 में यथा उपबंधित रीति में करेंगे;

(ख) पारिस्थितिकी संवेदनशील क्षेत्र में विनियमित क्रियाकलाप-विद्यमान अधिनियमों और नियमों के अनुसार पारिस्थितिकी संवेदनशील क्षेत्र में निम्नलिखित क्रियाकलाप विनियमित होंगे ।

- (i) जल-(1) भूमिगत जल का निष्कर्षण केवल भूमि के वास्तविक अधिभोगी की कृषि और घरेलू उपभोग के लिए ही अनुमति होगी तथा राज्य भूमिगत जल बोर्ड के पूर्व अनुमोदन के सिवाए भूमिगत जल की विक्रय की अनुमति नहीं होगी; (2) कृषि समेत जल के संदूषण या प्रदूषण को रोकने के लिए सभी उपाय किए जाएंगे ।
- (ii) पेड़-पेड़ों की कटाई या तो वनों में सरकारी राजस्व या निजी भूमि, वन भूमि की दशा में राज्य सरकार की पूर्व अनुमति के बिना और सरकारी, राजस्व और निजी भूमि की दशा में संबंधित जिला कलक्टर, राज्य सरकार द्वारा अधिकथित ऐसी रीति में अनुज्ञात होगी;
- (iii) रक्षा स्थापनों और राष्ट्रीय सुरक्षा से संबंधित कोई अन्य अवसंरचनात्मक विकास;
- (iv) पारिस्थितिकी संवेदनशील क्षेत्र में चीड़ पेड़ों का रोपण;
- (v) विदेशज प्रजातियों का लगाना;
- (vi) हॉटलों और रिसोटों की स्थापना;
- (vii) विद्युत केबलों का उस्थापन;
- (viii) कृषि प्रणाली में तीव्र परिवर्तन;
- (ix) साइन बोर्ड और होर्डिंग;

- (x) **ध्वनि प्रदूषण-वायु** (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1981 के उपबंधों के अनुसार पारिस्थितिकीय संवेदनशील क्षेत्र में ध्वनि प्रदूषण के नियंत्रण के लिए पर्यावरण विभाग या राज्य वन विभाग, उत्तराखंड पारिस्थितिकी संवेदनशील क्षेत्र में ध्वनि नियंत्रण के लिए मार्गदर्शक सिद्धांत और विनियम बनाने के लिए प्राधिकारी होगा।
- (xi) **वायु प्रदूषण-वायु** (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1981 के उपबंधों के अनुसार पारिस्थितिकीय संवेदनशील क्षेत्र में ध्वनि प्रदूषण के नियंत्रण के लिए पर्यावरण विभाग या राज्य वन विभाग, उत्तराखंड पारिस्थितिकी संवेदनशील क्षेत्र में वायु नियंत्रण के लिए मार्गदर्शक सिद्धांत और विनियम बनाने के लिए प्राधिकारी होगा।
- (xii) **बहिस्रावों का निर्गमन-उपचारित बहिस्राव जल** (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1974 के उपबंधों को पूरा करेंगे।
- (xiii) **जल विद्युत संयंत्र-विद्यमान जल विद्युत परियोजनाओं का प्रचालन कठोर पर्यावरणीय अनुपालन** और सामाजिक संपरीक्षण के साथ जारी रहेगा;
- (xiv) **ठोस अपशिष्ट-(1)** पारिस्थितिकी संवेदनशील क्षेत्र से बाहर ले जाने को ठोस अपशिष्ट का निपटान केन्द्रीय सरकार द्वारा समय-समय पर संशोधित अधिसूचना संख्यांक का.आ.908(अ) तारीख 25 सितंबर, 2000 द्वारा जारी किए गए नगरीय निकाय ठोस अपशिष्ट (प्रबंधन और हथालन) नियम, 2000 के उपबंधों के अनुसार किया जाएगा।
- (2) मानीटरी समिति समय-समय पर यथा संशोधित केन्द्रीय सरकार द्वारा जारी अधिसूचना संख्यांक का.आ.594(अ) तारीख 28 जुलाई, 1989 द्वारा जारी परिसंकटमय अपशिष्ट (प्रबंध और हथालन) नियम, 1989 के उपबंधों के अनुसार ठोस अपशिष्टों के निपटान के लिए उनके स्थलों की पहचान और उनका निर्माण करेगी;

- (3) स्थानीय प्राधिकारी ठोस अपशिष्ट के जैव अपघटनीय और गैर जैव अपघटनीय अवयवों में पृथक्करण के लिए योजना बनाएंगे ।
- (4) जैव अपघटनीय सामग्री का अधिमानतः कंपोस्ट या कृमिसंवर्धन द्वारा पुनर्चक्रण किया जा सकेगा;
- (5) अकार्बनिक सामग्री चिन्हित स्थल पर पर्यावरणीय रूप से स्वीकार्य रीति में निपटान की जा सकेगी ;
- (xv) **जैव चिकित्सीय अपशिष्ट** - पारिस्थितिकी संवेदनशील क्षेत्र से बाहर ले जाने को जैव चिकित्सीय अपशिष्ट का निपटान केन्द्रीय सरकार द्वारा समय-समय पर संशोधित अधिसूचना संख्यांक का.आ.630(अ) तारीख 20 जुलाई, 1998 द्वारा जारी किए गए जैव चिकित्सीय अपशिष्ट (प्रबंधन और हथालन) नियम, 1998 के उपबंधों के अनुसार किया जाएगा ।
- (xvi) **यान यातायात-** यातायात के वाहनों की आवा-जाही विनियमित होगी और आंचलिक महायोजना में विशेष उपबंध निर्धारित किए जाएंगे । मानीटरी समिति की आंचलिक महायोजना की तैयारी लंबित रहने और इसका अनुमोदन पर्यावरण और वन मंत्रालय के अनुमोदन के लंबित रहने के दौरान पारिस्थितिकी संवेदनशील क्षेत्र के भीतर यातायात को विनियमित करने की शक्ति होगी;
- (xvii) गंगोत्री और गौमुख के बीच पर्वतारोहण ।
- (ग) **पारिस्थितिकी संवेदनशील क्षेत्र में पारिस्थितिकीय अनुकूल क्रियाकलाप** - पारिस्थितिकी संवेदनशील क्षेत्र में निम्नलिखित क्रियाकलापों को प्रोत्साहन दिया जाएगा -
- (i) वर्षा जल संचयन;
- (ii) कार्बनिक खेती;

- (iii) हरित प्रौद्योगिकी;
- (iv) भ्रमण पर्यटन;
- (v) स्थानीय उपयोग के लिए सूक्ष्म जल परियोजनाएं;
- (vi) स्थानीय उपयोग के लिए सौर ऊर्जा;
- (vii) स्थानीय जैव संसाधनों पर आधारित उद्योग।

4. मानीटरी समिति-

(1) पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (3) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए इस अधिसूचना के उपबंधों का अनुपालन को मानीटर करने के लिए मानीटरी समिति के नाम से ज्ञात एक समिति का गठन किया जाता है।

(2) मानीटरी समिति में (क) दस से अधिक सदस्य नहीं होंगे, (ख) मानीटरी समिति का अध्यक्ष सिद्ध प्रबंधकीय या प्रशासनिक अनुभव और स्थानीय मामलों की समझ रखने वाला प्रतिष्ठित व्यक्ति होगा तथा अन्य सदस्य निम्नलिखित होंगे :--

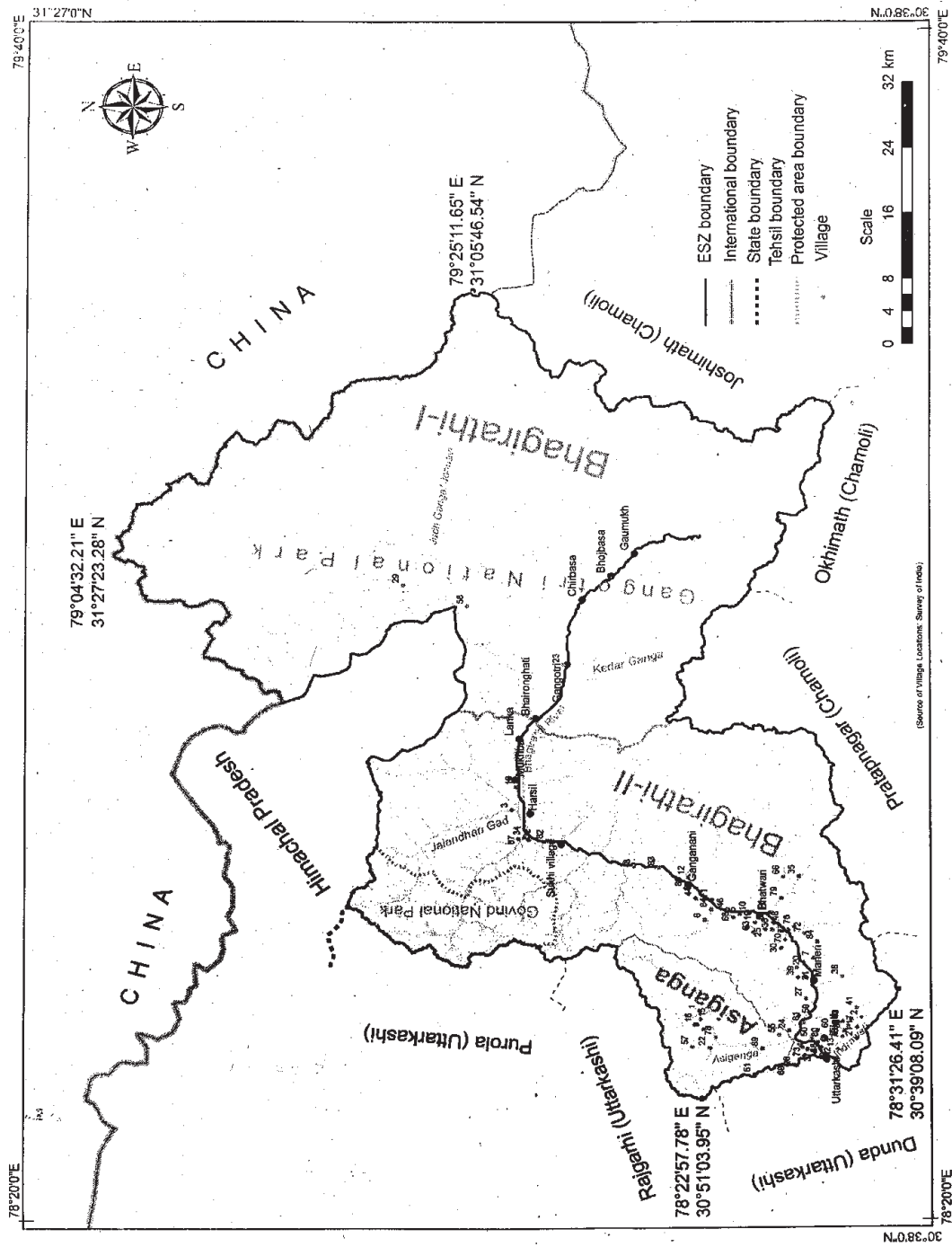
- (i) भारत सरकार के पर्यावरण और वन मंत्रालय का एक प्रतिनिधि;
- (ii) भारत सरकार द्वारा नामनिर्दिष्ट किये जाने वाले पर्यावरण (विरासत संरक्षण समेत) के क्षेत्र में गैर सरकारी संगठनों के दो प्रतिनिधि;
- (iii) सदस्य सचिव, पर्यावरण संरक्षण और प्रदूषण नियंत्रण बोर्ड उत्तराखंड;
- (iv) क्षेत्र का ज्येष्ठ नगर योजनाकार;
- (v) मुख्य वन संरक्षक, गढ़वाल;
- (vi) राज्य सिंचाई विभाग का प्रतिनिधि;

- (vii) पर्यावरण और पारिस्थितिक विज्ञान के क्षेत्र में एक विषय विशेषज्ञ;
- (viii) जिला मजिस्ट्रेट, उत्तरकाशी-सदस्य सचिव ।
- (3) मानीटरी समिति की बैठक त्रैमासिक आयोजित होगी ।
- (4) वे क्रियाकलाप जिनमें पूर्व अनुज्ञा या पर्यावरणीय अनापत्ति अपेक्षित है, पर्यावरण और वन मंत्रालय को निर्दिष्ट किए जाएंगे जो समय-समय पर यथासंशोधित पर्यावरण प्रभाव मूल्यांकन अधिसूचना, तारीख 14 सितंबर, 2006 के उपबंधों के अनुसार ऐसी अनुमति देने के लिए सक्षम प्राधिकारी होगा ।
- (5) मानीटरी समिति, मुद्दा दर मुद्दा आधार पर अपेक्षाओं के आधार पर अपने विचार विमर्श में सहायता करने के लिए संबद्ध विभागों या संघों से प्रतिनिधियों या विशेषज्ञों को भी आमंत्रित कर सकेगी ।
- (6) मानीटरी समिति का अध्यक्ष या सदस्य सचिव, इस अधिसूचना के उपबंधों के अनुपालन के लिए पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 19 के अधीन शिकायतें दायर करने के लिए सक्षम प्राधिकारी होगा ।
- (7) मानीटरी समिति, प्रत्येक वर्ष पर्यावरण और वन मंत्रालय को 31 मार्च तक की गई अपनी वार्षिक कार्रवाई रिपोर्ट प्रस्तुत करेगी और मंत्रालय समय-समय पर मानीटरी समिति के कृत्यों के प्रभावी निर्वहन के लिए अपने निदेश देगा ।
- (8) मानीटरी समिति की शक्तियां और कृत्य केवल इस अधिसूचना के उपबंधों के अनुपालन तक निर्बंधित होंगे ।

[फा. सं. 25/3/2010-आरई]

डॉ. जी.वी. सुब्रह्मण्यम, वैज्ञानिक 'जी'

उपाबंध-क
 पारिस्थितिकी संवेदनशील क्षेत्र के मानचित्र में प्रदर्शित उपघाटी सीमाओं, गोबिन्द और गंगोत्री राष्ट्रीय उद्यान सीमा, महत्वपूर्ण स्थान भगीरथी नदी की मुख्य उप नदियां और चार बाहरी आकांक्षा और देशांतर



उपाबंध II

पारिस्थितिकी संवेदनशील क्षेत्र जिला उत्तरकाशी, उत्तराखंड में ग्रामों की अवस्थिति

क्रम सं.	ग्राम/ शहर का नाम	ऊंचाई (मी.)	क्षेत्र (हे.)	अक्षांश	देशांतर
1.	अमोड़ा	2428	214.09	30° 51' 13.2"	78° 29' 45.6"
2.	अलेथ	1785	99.59	30° 41' 12"	78° 29' 16.2"
3.	बागोरी	2762	83.98	31° 2' 51.6"	78° 45' 7.2"
4.	बाग्याल गांव	1558	91.85	30° 44' 30.6"	78° 26' 37.2"
5.	बंदरानी	1599	61.79	30° 48' 39"	78° 37' 9"
6.	बरसू	2154	144.6	30° 50' 51.6"	78° 36' 45"
7.	बयाना	2003	133.99	30° 44' 13.8"	78° 33' 51"
8.	भांगेली	2016	160.37	30° 55' 15"	78° 40' 46.8"
9.	भांगोली	2155	213.93	30° 50' 54"	78° 28' 22.8"
10.	भटवारी	1649	327.28	30° 47' 51.6"	78° 37' 9.6"
11.	भेला टिपरी	1639	63.18	30° 46' 55.8"	78° 37' 19.2"
12.	भूक्की	2436	96.52	30° 51' 55.8"	78° 40' 1.2"
13.	बोंगा	1327	100.05	30° 42' 39"	78° 26' 45"
14.	बोंगारी	1694	54.03	30° 42' 35.4"	78° 28' 47.4"
15.	डंडालका	2413	92.06	30° 51' 4.2"	78° 29' 2.4"
16.	डांसरा	2640	68.99	30° 51' 22.2"	78° 28' 34.8"
17.	धानपुर	1833	113.7	30° 41' 24.6"	78° 28' 32.4"
18.	धराली	2485	99.98	31° 2' 34.2"	78° 46' 49.8"
19.	धवरी	1799	94.33	30° 47' 49.2"	78° 36' 32.4"
20.	डिडसारी	1555	173.11	30° 44' 51.6"	78° 33' 29.4"

21.	डोवाह	1744	305.77	30° 41' 33"	78° 27' 34.2"
22.	गजोली	1720	126.67	30° 50' 31.8"	78° 26' 52.2"
23.	गंगोत्री	3008	71.81	30° 59' 41.4"	78° 56' 18"
24.	गवाना	1316	131.94	30° 45' 38.4"	78° 28' 10.2"
25.	गोरशाली	1962	183.29	30° 47' 13.8"	78° 36' 6.6"
26.	ग्यांजा	1997	93.6	30° 45' 21"	78° 25' 10.2"
27.	हिन्ना	1455	256.56	30° 44' 36.6"	78° 30' 41.4"
28.	हुरी	2453	140.49	30° 54' 4.2"	78° 41' 19.2"
29.	जादूंग	4373	72	31° 9' 33.6"	79° 2' 25.8"
30.	जखोल	1927	101.78	30° 46' 13.2"	78° 34' 36.6"
31.	जमाक	1428	203.4	30° 44' 10.8"	78° 31' 60"
32.	जसपुर	2649	134.58	30° 43' 52.8"	78° 27' 21"
33.	झाला	2459	66.05	31° 2' 2.4"	78° 42' 58.8"
34.	जोडाव	2224	228.71	30° 45' 10.2"	78° 40' 3.6"
35.	जोकानी	1718	54.53	30° 46' 44.4"	78° 35' 59.4"
36.	जोशियारा	1423	217.91	30° 44' 4.8"	78° 26' 28.2"
37.	कमार	1993	85.78	30° 42' 24.6"	78° 32' 25.8"
38.	कनाथ	1779	130.42	30° 45' 7.8"	78° 32' 23.4"
39.	कंकरारी	1764	60.91	30° 42' 21"	78° 28' 55.2"
40.	किशनपुर	1725	154.5	30° 41' 28.2"	78° 30' 0.6"
41.	कोटियाल गांव	1454	162.52	30° 43' 0.6"	78° 25' 52.2"
42.	कुमाल्टी	1466	77.69	30° 46' 11.4"	78° 35' 58.8"

43.	कुजन	2060	143.4	30° 51' 27"	78° 38' 22.2"
44.	कुरोली	1804	59.23	30° 42' 48.6"	78° 28' 46.8"
45.	क्याक	2007	149.4	30° 49' 25.2"	78° 37' 31.8"
46.	लडारी	1111	117.9	30° 43' 27.6"	78° 26' 25.8"
47.	लता	1536	163.08	30° 46' 34.8"	78° 36' 24"
48.	मल्ला	1727	96.97	30° 47' 24"	78° 36' 42.6"
49.	मांडो	1220	139.95	30° 44' 17.4"	78° 27' 31.8"
50.	मनेरी	1519	95.63	30° 44' 40.8"	78° 32' 25.8"
51.	मनपुर	1578	167.52	30° 41' 50.4"	78° 29' 1.2"
52.	मसतारी	1705	83.52	30° 42' 49.8"	78° 27' 57.6"
53.	मुखावा	2925	213.31	31° 3' 2.4"	78° 47' 25.2"
54.	नालदा उर्फ बोदहर	1672	290.44	30° 46' 13.8"	78° 27' 51"
55.	नातिन	2035	72.86	30° 48' 18"	78° 36' 10.8"
56.	नौगांव	2075	123.19	30° 51' 33"	78° 26' 54"
57.	नालग	4254	67.24	31° 5' 36"	79° 0' 51"
58.	नेताला	1277	290.7	30° 44' 60"	78° 29' 18"
59.	निराकोट	1615	153.97	30° 43' 55.2"	78° 28' 11.4"
60.	नेसमोर	2253	263	30° 47' 42"	78° 24' 31.8"
61.	ओंगी	1538	113.55	30° 45' 12.6"	78° 33' 3.6"
62.	पाही	2331	3.88	30° 47' 55.2"	78° 35' 46.2"

63.	पाला मराडी	1727	304.37	30° 50' 27"	78° 37' 34.2"
64.	पाटा	1338	80.93	30° 44' 50.4"	78° 26' 53.4"
65.	पिलांग	2040	122.42	30° 46' 8.4"	78° 40' 2.4"
66.	पुराली	2460	155.07	31° 2' 25.8"	78° 42' 51.6"
67.	रेंथल	1720	132.34	30° 49' 9.6"	78° 36' 55.2"
68.	सल्ड उर्फ माजा गांव	1970	118.94	30° 45' 44.4"	78° 25' 8.4"
69.	सांज	1579	176.77	30° 46' 1.2"	78° 35' 14.4"
70.	सालांग	1794	158.21	30° 50' 36"	78° 38' 15.6"
71.	सातू	1864	89.75	30° 44' 45"	78° 35' 42"
72.	सगरेली	1812	51.26	30° 44' 42"	78° 26' 10.8"
73.	सारा	1424	63.82	30° 42' 0.6"	78° 28' 33.6"
74.	साराग	1328	61.68	30° 42' 22.2"	78° 27' 46.2"
75.	सारी	1909	72.99	30° 45' 25.2"	78° 36' 14.4"
76.	सौरा	1467	150.67	30° 45' 42.6"	78° 35' 45"
77.	सीकू	1905	217.58	30° 50' 10.8"	78° 27' 45"
78.	सिल्ला	1766	111.6	30° 46' 13.8"	78° 38' 22.8"
79.	सिल्यान	1509	55.47	30° 43' 37.8"	78° 27' 33"
80.	सिरोर	1363	268.62	30° 44' 49.8"	78° 28' 42.6"
81.	सुक्की	2642	105.98	31° 0' 39"	78° 42' 44.4"
82.	सुंगर	1993	62.88	30° 53' 43.2"	78° 40' 44.4"
83.	स्यावा	2145	88.25	30° 43' 58.2"	78° 35' 5.4"

84.	थालन	1481	87.34	30° 42' 13.8"	78° 28' 7.8"
85.	तेहर	1884	150.24	30° 51' 59.4"	78° 39' 7.8"
86.	तिलोथ	1099	60.4	30° 43' 43.2"	78° 26' 52.2"
87.	उत्तरकाशी	1241	#N/A	30° 44' 00.92"	78° 26' 21.41"
88.	उत्तरोन	1290	131.7	30° 47' 20.4"	78° 26' 46.8"

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 18th December, 2012

S.O. 2930(E).—Whereas, the Gangotri glacier is one of the largest glaciers surrounded by Shivaling, Thalay Sagar, Meru, Bhagirathi-III peaks. The river Bhagirathi originates from Gangotri glacier below Chaukhamba peak in an area called Gaumukh at an elevation of 3892 meters and flows north-south in the Uttarkashi district of Garhwal Himalaya in Uttarakhand province before meeting the Alakhnanda river at Devprayag;

AND WHEREAS, the river Bhagirathi is rich in aquatic flora and fauna including migratory species and any hindrance in their migration due to construction of hydropower projects may adversely affect this unique ecosystem;

AND WHEREAS, a number of hydro power projects have been commissioned or proposed or under implementation on the river and also continuous and phenomenal increase in the human and cattle population, the anthropogenic pressure on ecosystems and environment has tremendously increased, causing irreparable damage to the fragile mountain ecosystems including flow and character of the river;

AND WHEREAS, it has been decided that for the maintenance of environmental flow and ecology of the river Bhagirathi from Gaumukh to Uttarkashi with a total area of 4179.59 square kilometers covering the entire watershed of about 100km stretch of the

river Bhagirathi shall be declared as an Eco-sensitive Zone from ecological and environmental point of view;

AND WHEREAS, a draft notification under sub-section (1) read with clause (v) and clause (xiv) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) was published in the Gazette of India, Extraordinary, vide notification of the Government of India in the Ministry of Environment and Forests number S.O. 1499(E), dated the 1st July, 2011, as required under sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of the Gazette containing the said notification were made available to the public;

AND WHEREAS, copies of the Gazette containing the said notification were made available to the public on the 1st July, 2011;

AND WHEREAS, all objections and suggestions received in response to the draft notification have been duly considered by the Central Government;

NOW, THEREFORE, in exercise of the powers conferred by sub-section (1) read with clause (v) and clause (xiv) of sub – section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) and sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby notifies entire watershed of about 100 kilometers stretch of the river Bhagirathi from Gaumukh to Uttarkashi covering an area of 4179.59 square kilometers as the Eco-sensitive Zone (herein after called as the Eco-sensitive Zone):-

- 1. Boundaries of Eco-sensitive Zone.-** The said Eco-sensitive Zone is the entire watershed of about 100 kilometers stretch of the river Bhagirathi from Gaumukh

to Uttarkashi covering an area of 4179.59 square kilometers. The Eco-sensitive Zone abets the Indo China border from East to North West.

- (a) The Eco-sensitive Zone is bounded by $31^{\circ}05'46.54''$ N latitude and $79^{\circ}25'11.65''$ E longitude towards east; $79^{\circ}04'32.21''$ E longitude and $31^{\circ}27'23.28''$ N latitude towards north; $30^{\circ}51'03.95''$ N latitude and $78^{\circ}22'57.78''$ E longitude towards west and $30^{\circ}39'08.09''$ N latitude and $78^{\circ}31'26.41''$ E longitude towards south.
- (b) The map of Eco-sensitive Zone boundary together with sub-basin boundaries, Govind and Gangotri National Parks boundaries, important places, major tributaries of Bhagirathi river, and latitude-longitude of four extremes of the Eco-sensitive Zone boundary is appended with this notification as **Annexure I** and
- (c) The list of the villages falling within the Eco-sensitive Zone is appended as **Annexure II**. The list of villages given in Annexure-II shall be further revisited and confirmed by the State Government while preparing the Zonal Master Plan.

2. Zonal Master Plan for the Eco-sensitive Zone.- (1) For the purpose of the Eco-sensitive Zone the State Government shall prepare in consultation with local people particularly women a Zonal Master Plan within a period of two years from the date of publication of this notification in the Official Gazette and the same shall be approved by the Ministry of Environment and Forests, Government of India.

- (2) The Zonal Master Plan shall be prepared with due involvement of all concerned State Departments of Environment, Forest, Urban Development, Tourism, Municipal, Revenue, Public Works Department, Environment Protection and Pollution Control Board, Water Resources, Horticulture, Panchayati Raj, Rural Development etc. for integrating environmental and ecological considerations into it.
- (3) The border area development plan and any other plans prepared or to be prepared by the State or Central Government shall be integrated and form part of the Zonal Master Plan.
- (4) The Zonal Master plan shall provide for restoration of denuded areas, conservation of existing water bodies, management of catchment areas, watershed management, groundwater management, soil and moisture conservation, needs of local community and such other aspects of the ecology and environment that need attention.
- (5) The Zonal Master Plan shall be prepared based on watershed approach. It shall also ensure that there is no attempt to tamper with the natural boundaries of the river and tributaries through the construction of any kind of structures on the banks of the river and tributaries .
- (6) The Zonal Master Plan shall demarcate all the existing village settlements, types and kinds of forests, agricultural areas, fertile lands, green areas, horticultural areas, orchards, lakes and other water bodies.
- (7) The construction of various buildings, hotels, resorts in the Eco-sensitive Zone shall strictly follow the traditional concepts and architecture of the



- area. Specific guidelines shall be laid down for the same in the Zonal Master Plan.
- (8) The Zonal master plan shall regulate the development in the Eco-sensitive Zone so as to meet the requirement of local people without affecting the rights and privileges of the bona-fide residents and also ensure eco friendly development for their livelihood security.
- (9) Pending the preparation of the Zonal Master Plan for the Eco-sensitive Zone and approval thereof by the Ministry of Environment and Forests all new constructions and other developmental activities shall be referred to the Ministry of Environment and Forests by the Monitoring Committee as per sub-para (4) of paragraph 4 of the notification.
- (10) The Zonal master plan shall encourage development of walking paths for tourism, pilgrimage and local use.
- (11) The Zonal Master Plan shall be a reference document for the Monitoring Committee for any decision to be taken by them including consideration for relaxation.
- (12) No change of land use from green uses such as horticulture areas, agriculture, tea gardens, parks and others like places to non green uses shall be permitted in the Zonal Master Plan. However, to meet the residential needs of the local residents due to the natural growth of existing local population, strictly limited conversion of agricultural lands shall be permitted, with the prior approval of the Central Government on the recommendation of the State Government.

- (13) All the human habitation areas with population of 5000 and above shall have Area Development Plan and shall be prepared under the guidance of local self Government.
- (14) There shall be no consequential reduction in Green area such as forest area, agricultural area, etc.
- (15) The Central Government and the State Government shall specify other measures, if it considers necessary, in giving effect to the provisions of this notification.
- (16) **Development and protection of hill slopes:**
 - (i) the Zonal Master Plan shall indicate areas on hill slopes where development shall not be permitted;
 - (ii) no development shall be undertaken in areas having a steep slope or areas which fall in fault or hazard zones or areas falling on the spring lines and first order streams or slopes with a high degree of erosion as identified by the State Government on the basis of available scientific evidence;
 - (iii) no development on existing steep hill slopes or slopes with a high degree of erosion shall be permitted.
 - (iv) Tourist resorts and commercial complexes shall be located in areas with surplus water and electricity, so as not to affect the rights of existing users without their prior consultation.
 - (v) The places in the Eco-sensitive Zone where cutting of hills causes ecological damage and slope instability in adjacent areas, such

cuttings shall be undertaken with appropriate measures to avoid such damages.

Explanation:- In this notification, "steep hill slope" means a hill slope with a gradient of 20 degrees or more

(17) **Natural Springs.-** the catchment areas of all springs shall be identified and plans for their conservation and rejuvenation of those that have run dry, in their natural setting shall be incorporated in the Zonal Master Plan and the strict guidelines shall be drawn up by the State Government to ban development activities at or near these areas;

(18) **Tourism.-**

- (i) The tourism activities shall be as per the Tourism Master Plan to be prepared by the Department of Tourism of the Uttarakhand State Government.
- (ii) The Tourism Master Plan shall also form a component of the Zonal Master Plan and shall be based on a detailed Carrying Capacity Study of the Eco-sensitive Zone, which may be carried out by the State Government.
- (iii) All new tourism activities, development for tourism or expansion of existing tourism activities shall be permitted only within the parameters of this Tourism Master Plan.
- (iv) The Carrying Capacity Study shall be carried out based on the existing infrastructure and shall not be based on future projections of any project that requires environmental or forest clearance.

- (v) Till the Zonal Master Plan is approved, development for tourism and expansion of existing tourism activities shall be permitted by the Monitoring Committee only after a detailed examination and shall be subject to the guidelines laid down by the State Government and the Central Government in this regard.

(19) **Hill Roads.-** following guidelines shall be framed for the construction and maintenance of hill roads and incorporated in the Zonal Master Plan; namely:-

- (i) for construction of any road including untarred in the Eco-sensitive Zone of more than 5 km length (including the extension or widening of existing roads);
- (ii) provision shall be made in the design of the road for treatment of hill slope instabilities resulting from road cutting cross drainage works and culverts using bio-engineering and other appropriate techniques and by including the cost of such measures in the cost estimate of the proposed road;
- (iii) the debris shall not be dumped down the khud or slopes but shall be subsumed in the construction of roads and the provision shall also be made for disposal of unused debris in appropriate manner at suitable and identified locations so as not to affect the ecology of the area adversely and the debris shall be treated and landscaped using bio-engineering and other appropriate techniques and the cost of such measures shall be included in the cost estimate of the proposed road;

- (iv) all roads shall be provided with adequate number of road side drains and these drains shall be kept free from blockage for runoff disposals and this run off from the road side drainage shall be connected with the natural drainage system in the area;
 - (v) alignment shall be selected so as to minimise loss of vegetal cover;
 - (vi) appropriate design standards shall be followed while designing the roads including mass balancing of cut and fill and avoidance of unnecessary cutting.
 - (vii) Notice shall be given about all fault Zones and land slide zones along the roads indicating the beginning and end of such areas.
- (20) **Natural Heritage.-** The sites of valuable natural heritage in the Eco-sensitive Zone shall be identified, particularly scenic beauty, confluence points of river, water falls, pools, springs, gorges, groves, caves, open areas, wooded areas, points, walks, rides, bridle paths etc. and plans for their conservation in their natural setting shall be incorporated in the Zonal Master Plan. All the gene pool reserve areas in the Eco-sensitive Zone shall be preserved. The State Government shall draw up proper plan for their protection and conservation within one year from the date of publication of this Notification. These plans shall form part of the Zonal Master Plan. Guidelines and regulations shall be drawn up by the State Government to regulate building and other activities around the heritage structures so that the special character and distinct ambience of the heritage site and area are maintained.

- (21) **Man-made Heritage.-** Buildings, structures, artefacts, temples, streets, areas and precincts of historical or architectural or aesthetical or cultural or environmental significance shall be identified and plans for their conservation, shall be prepared within one year from the date of publication of this Notification and incorporated in the Zonal Master Plan. Guidelines and regulations shall be drawn up by the State Government to regulate building and other activities around the heritage structures or sites so that the special character and distinct ambience of the heritage structure or site and area are maintained.

3. Activities to be prohibited, regulated or permitted within the Eco-sensitive Zone:

(a) **Prohibited activities in the Eco-sensitive Zone:** The following activities shall be prohibited within the Eco-sensitive Zone:

- (i) **River Valley projects:** Setting up of new hydro-electric power plants (dams, tunneling, and construction of reservoir) and expansion of existing plants on the river Bhagirathi and all its tributaries from Gaumukh to Uttarkashi except micro or mini hydel power projects, which would serve the energy needs of the local communities, subject to consent of the gram sabha and all other requisite clearances;
- (ii) abstraction of river water for any new industrial purposes;
- (iii) **Mining of Minerals and stone quarrying and crushing:** all types of mining (minor and major minerals), stone quarrying and crushing except for the domestic needs of *bona fide* local residents. The limited mining,

stone quarrying and crushing shall be based on site evaluation, provided that such activities are not done on existing steep hill slopes or areas with high degree of erosion, spring lines, ground water recharge areas. The Monitoring Committee shall be the authority to grant such special permission.

Note: *bona fide* local residents means someone who is residing in that area for an uninterrupted period and who is on the electoral roll as on date of this Notification, together with his minor children.

- (iv) **Commercial felling of trees:** Commercial felling of trees and setting up of any wood based industry in the Eco-sensitive Zone, except local activities and livelihoods which include wood collection, cottage industry like bamboo basket subject to consent of the gram sabha and all other requisite clearances.
- (v) Setting up of saw mills.
- (vi) Commercial use of firewood.
- (vii) **Polluting Industries:** Any new highly polluting industries and expansion of existing such industries;
- (viii) **Sewage and industrial effluents:** Discharge of untreated sewage and industrial effluents. However, treated sewage and industrial effluents meeting the water quality standard shall be permitted;
- (ix) **Use of plastic carry bags:** Use of plastic bags in shops, commercial establishments, tourist spots etc. and manufacturers, wholesalers, distributors, retailers etc., selling products in non-biodegradable containers

shall implement a scheme for the buy back and recycling of their containers and/ or packaging.

(x) **Hazardous waste processing units:** The industries processing the hazardous waste as provided in the Hazardous Wastes (Management and Handling) Rules, 1989 as amended from time to time.

(b) **Regulated activities in the Eco-sensitive Zone.-** The following activities shall be regulated in the Eco-sensitive Zone as per the prevalent acts and rules.

- (i) **Water.-** (1) the extraction of ground water shall be permitted only for the agricultural and domestic consumption of the *bona fide* occupier of the plot and the sale of ground water shall not be permitted except with the prior approval of the State Ground Water Board; (2) all steps shall be taken to prevent contamination or pollution of water including from agriculture;
- (ii) **Trees.-** There shall be no felling of trees either on forest, Government, revenue or private lands, without the prior permission of the State Government in case of forest land, and the respective District Collector in case of Government, revenue and private land, granted in such manner as may be laid down by the State Government.
- (iii) Defense installations and any other infrastructure development related to national security.
- (iv) The plantation of pine trees in the Eco-sensitive Zone.
- (v) Introduction of exotic species
- (vi) Establishments of hotels and resorts.
- (vii) Erection of electric cables.

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- (viii) Drastic change of agricultural systems.
- (ix) Sign boards and hordings.
- (x) **Noise pollution.**- the Environment Department or the State Forest Department, Uttarakhand shall be the authority to draw up guidelines and regulations for the control of noise pollution in the Eco-sensitive Zone; as per the provisions of the Air (Prevention and Control of Pollution) Act, 1981.
- (xi) **Air Pollution.**-The Environment Department or the State Forest Department, Uttarakhand shall be the authority to draw up guidelines and regulations for the control of air pollution in the Eco-sensitive Zone as per the provisions of the Air (Prevention and Control of Pollution) Act, 1981.
- (xii) **Discharge of effluents.**- the treated effluent shall meet the provisions of the Water (Prevention and Control of Pollution) Act, 1974;
- (xiii) **Hydro-electric power plants.**- The existing hydro-electric power projects shall continue to operate with strict environmental compliance and social audit.
- (xiv) **Solid Wastes.**- (1) the solid waste disposal in Eco-sensitive Zone shall be carried out as per the provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000 issued by the central Government vide notification number - S.O. 908 (E), dated the 25th September 2000 and amended from time to time.
- (2) The Monitoring Committee shall indentify sites for disposal of solid wastes and its constructions as per the provisions of the Hazardous Wastes (Management and Handling) Rules, 1989 issued by the Central Government vide Notification No. - S.O. 594(E), dated the 28th July, 1989 and amended from time to time.

- (3) The local authorities shall draw up plans for the segregation of solid wastes into biodegradable and non-biodegradable components;
- (4) The biodegradable material may be recycled preferably through composting or vermiculture;
- (5) The inorganic material may be disposed off in an environmentally acceptable manner at identified sites;
- (xv) **Bio-medical Waste.-** the Bio-Medical Waste disposal in the Eco-sensitive Zone shall be carried out as per the provisions of the Bio-Medical Waste (Management and Handling) Rules, 1998 issued by the Central Government vide Notification No. - S.O. 630(E), dated the 20th July, 1998 and amended from time to time.
- (xvi) **Vehicular Traffic:** The vehicular movement of traffic shall be regulated and specific provisions shall be laid down in the Zonal Master Plan. Pending the preparation of the Zonal master plan and its approval by the Ministry of Environment and Forests, the Monitoring Committee shall have powers to regulate traffic within the Eco-sensitive Zone.
- (xvii) Trekking between Gangotri and Gaumukh.
- (c) **Eco-friendly activities in the Eco-sensitive Zone.-** The following activities shall be promoted in the Eco-sensitive Zone:
- (i) Rain Water harvesting.
 - (ii) Organic farming.
 - (iii) Green technology.
 - (iv) Walking tourism.
 - (v) Micro hydel projects for local use.

- (vi) Solar energy for local use.
- (vii) Local bio-resource based industry.

4. Monitoring Committee.-

(1) A committee to be called the Monitoring Committee to monitor the compliance with the provisions of this notification is hereby constituted, in exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986).

(2) The Monitoring Committee shall consist of (a) not more than ten members. (b) the Chairperson of the Monitoring Committee shall be an eminent person with proven managerial or administrative experience and understanding of local issues and the other members shall be:-

- (i) a representative of the Ministry of Environment and Forests, Government of India;
- (ii) two representatives of Non-Governmental Organizations working in the field of environment (including heritage conservation) to be nominated by the Government of India;
- (iii) Member Secretary, Environment Protection and Pollution Control Board, Uttarakhand;
- (iv) senior Town Planner of the area;
- (v) the Chief Conservator of Forests; Garhwal
- (vi) the representative of State Irrigation Department;
- (vii) one subject expert in the field of environment and ecology;

(viii) the District Magistrate, Uttarkashi – Member Secretary.

- (3) The meeting of the Monitoring Committee shall be convened quarterly.
- (4) The activities requiring prior permission or environmental clearance shall be referred to the Ministry of Environment and Forests, which shall be the Competent Authority for grant of such clearances as per the provisions of the Environment Impact Assessment Notification, dated the 14th September 2006 as amended from time to time.
- (5) The Monitoring Committee may also invite representatives or experts from concerned Departments or Associations to assist in its deliberations depending on the requirements on issue to issue basis.
- (6) For non-compliance of the provisions of this notification, the Chairperson or Member Secretary of Monitoring Committee shall be the competent authority to file complaints under section 19 of the Environment (Protection) Act, 1986.
- (7) The Monitoring Committee shall submit its annual action taken report by the 31st March of every year to the Ministry of Environment and Forests and the Ministry shall give its directions from time to time for effective discharge of the functions by the Monitoring Committee.
- (8) The powers and functions of the Monitoring Committee shall be restricted to the compliance of the provisions of this notification only.

[F. No. 25/3/2010-RE]

Dr. G. V. SUBRAHMANYAM, Scientist 'G'

Locations of Villages in Eco-sensitive Zone, district Uttarkashi, Uttarakhand.

S.No.	Village/Town name	Elevation (m)	Area (ha)	Latitude	Longitude
1.	Agoda	2428	214.09	30° 51' 13.2"	78° 29' 45.6"
2.	Aleth	1785	99.59	30° 41' 12"	78° 29' 16.2"
3.	Bagori	2762	83.98	31° 2' 51.6"	78° 45' 7.2"
4.	Bagyal Gaon	1558	91.85	30° 44' 30.6"	78° 26' 37.2"
5.	Bandrani	1599	61.79	30° 48' 39"	78° 37' 9"
6.	Barsu	2154	144.6	30° 50' 51.6"	78° 36' 45"
7.	Bayana	2003	133.99	30° 44' 13.8"	78° 33' 51"
8.	Bhangeli	2016	160.37	30° 55' 15"	78° 40' 46.8"
9.	Bhancoli	2155	213.93	30° 50' 54"	78° 28' 22.8"
10.	Bhatwari	1649	327.28	30° 47' 51.6"	78° 37' 9.6"
11.	Bhela Tipri	1639	63.18	30° 46' 55.8"	78° 37' 19.2"
12.	Bhukki	2436	96.52	30° 51' 55.8"	78° 40' 1.2"
13.	Bonga	1327	100.05	30° 42' 39"	78° 26' 45"
14.	Bongari	1694	54.03	30° 42' 35.4"	78° 28' 47.4"
15.	Dandalka	2413	92.06	30° 51' 4.2"	78° 29' 2.4"
16.	Dansra	2640	68.99	30° 51' 22.2"	78° 28' 34.8"
17.	Dhanpur	1833	113.7	30° 41' 24.6"	78° 28' 32.4"
18.	Dharali	2485	99.98	31° 2' 34.2"	78° 46' 49.8"
19.	Dhwari	1799	94.33	30° 47' 49.2"	78° 36' 32.4"
20.	Didsari	1555	173.11	30° 44' 51.6"	78° 33' 29.4"
21.	Dovah	1744	305.77	30° 41' 33"	78° 27' 34.2"
22.	Gajoli	1720	126.67	30° 50' 31.8"	78° 26' 52.2"
23.	Gangotri	3008	71.81	30° 59' 41.4"	78° 56' 18"
24.	Gawana	1316	131.94	30° 45' 38.4"	78° 28' 10.2"
25.	Gorshali	1962	183.29	30° 47' 13.8"	78° 36' 6.6"
26.	Gyanja	1997	93.6	30° 45' 21"	78° 25' 10.2"
27.	Hinna	1455	256.56	30° 44' 36.6"	78° 30' 41.4"
28.	Hurri	2453	140.49	30° 54' 4.2"	78° 41' 19.2"
29.	Jadung	4373	72	31° 9' 33.6"	79° 2' 25.8"
30.	Jakhol	1927	101.78	30° 46' 13.2"	78° 34' 36.6"
31.	Jamak	1428	203.4	30° 44' 10.8"	78° 31' 60"
32.	Jaspur	2649	134.58	30° 43' 52.8"	78° 27' 21"
33.	Jhala	2459	66.05	31° 2' 2.4"	78° 42' 58.8"

34.	Jodaw	2224	228.71	30° 45' 10.2"	78° 40' 3.6"
35.	Jokani	1718	54.53	30° 46' 44.4"	78° 35' 59.4"
36.	Joshiyara	1423	217.91	30° 44' 4.8"	78° 26' 28.2"
37.	Kamar	1993	85.78	30° 42' 24.6"	78° 32' 25.8"
38.	Kanath	1779	130.42	30° 45' 7.8"	78° 32' 23.4"
39.	Kankrari	1764	60.91	30° 42' 21"	78° 28' 55.2"
40.	Kishanpur	1725	154.5	30° 41' 28.2"	78° 30' 0.6"
41.	Kotiyal Gaon	1454	162.52	30° 43' 0.6"	78° 25' 52.2"
42.	Kumalti	1466	77.69	30° 46' 11.4"	78° 35' 58.8"
43.	Kunjan	2060	143.4	30° 51' 27"	78° 38' 22.2"
44.	Kuroli	1804	59.23	30° 42' 48.6"	78° 28' 46.8"
45.	Kyark	2007	149.4	30° 49' 25.2"	78° 37' 31.8"
46.	Ladari	1111	117.9	30° 43' 27.6"	78° 26' 25.8"
47.	Lata	1536	163.08	30° 46' 34.8"	78° 36' 24"
48.	Malla	1727	96.97	30° 47' 24"	78° 36' 42.6"
49.	Mando	1220	139.95	30° 44' 17.4"	78° 27' 31.8"
50.	Maneri	1519	95.63	30° 44' 40.8"	78° 32' 25.8"
51.	Manpur	1578	167.52	30° 41' 50.4"	78° 29' 1.2"
52.	Mastari	1705	83.52	30° 42' 49.8"	78° 27' 57.6"
53.	Mukhawa	2925	213.31	31° 3' 2.4"	78° 47' 25.2"
54.	Nalda Urph Bodhhar	1672	290.44	30° 46' 13.8"	78° 27' 51"
55.	Natin	2035	72.86	30° 48' 18"	78° 36' 10.8"
56.	Naugaon	2075	123.19	30° 51' 33"	78° 26' 54"
57.	Nalang	4254	67.24	31° 5' 36"	79° 0' 51"
58.	Netala	1277	290.7	30° 44' 60"	78° 29' 18"
59.	Nirakot	1615	153.97	30° 43' 55.2"	78° 28' 11.4"
60.	Nesmor	2253	263	30° 47' 42"	78° 24' 31.8"
61.	Ongee	1538	113.55	30° 45' 12.6"	78° 33' 3.6"
62.	Pahi	2331	3.88	30° 47' 55.2"	78° 35' 46.2"
63.	Pala Maradi	1727	304.37	30° 50' 27"	78° 37' 34.2"
64.	Pata	1338	80.93	30° 44' 50.4"	78° 26' 53.4"
65.	Pilang	2040	122.42	30° 46' 8.4"	78° 40' 2.4"
66.	Purali	2460	155.07	31° 2' 25.8"	78° 42' 51.6"
67.	Raithal	1720	132.34	30° 49' 9.6"	78° 36' 55.2"
68.	Sald Urph Maja Gaon	1970	118.94	30° 45' 44.4"	78° 25' 8.4"
69.	Sanj	1579	176.77	30° 46' 1.2"	78° 35' 14.4"
70.	Salang	1794	158.21	30° 50' 36"	78° 38' 15.6"
71.	Salu	1864	89.75	30° 44' 45"	78° 35' 42"
72.	Sangrali	1812	51.26	30° 44' 42"	78° 26' 10.8"
73.	Sara	1424	63.82	30° 42' 0.6"	78° 28' 33.6"
74.	Sarag	1328	61.68	30° 42' 22.2"	78° 27' 46.2"

75.	Sari	1909	72.99	30° 45' 25.2"	78° 36' 14.4"
76.	Saura	1467	150.67	30° 45' 42.6"	78° 35' 45"
77.	Seku	1905	217.58	30° 50' 10.8"	78° 27' 45"
78.	Silla	1766	111.6	30° 46' 13.8"	78° 38' 22.8"
79.	Silyan	1509	55.47	30° 43' 37.8"	78° 27' 33"
80.	Siror	1363	268.62	30° 44' 49.8"	78° 28' 42.6"
81.	Sukki	2642	105.98	31° 0' 39"	78° 42' 44.4"
82.	Sungar	1993	62.88	30° 53' 43.2"	78° 40' 44.4"
83.	Syawa	2145	88.25	30° 43' 58.2"	78° 35' 5.4"
84.	Thalan	1481	87.34	30° 42' 13.8"	78° 28' 7.8"
85.	Tehar	1884	150.24	30° 51' 59.4"	78° 39' 7.8"
86.	Tiloth	1099	60.4	30° 43' 43.2"	78° 26' 52.2"
87.	Uttarkashi	1241	#N/A	30° 44' 00.92"	78° 26' 21.41"
88.	Uttron	1290	131.7	30° 47' 20.4"	78° 26' 46.8"

Annexure No. 2

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File No. 2573/2010-RE
Government of India
Ministry of Environment & Forests
 Bhayavaran Bhawan,
 CGO Complex, Lodi Road,
 New Delhi-110 003

Dated the 10th October, 2012

OFFICE MEMORANDUM

Subject: **Constitution of the Monitoring Committee pursuant to the Notification No. S.O.2930 (E), dated 19th December, 2012 notifying the entire watershed of about 100 km stretch of the river Bhagirathi from Gaumukh to Uttarkashi covering an area of 4179.59 square kilometers as Eco-sensitive Zone.**

In pursuance of the Notification No. S.O.2930 (E), dated 19th December, 2012 notifying the entire watershed of about 100 km stretch of the river Bhagirathi from Gaumukh to Uttarkashi covering an area of 4179.59 square kilometers as Eco-sensitive Zone and under the provisions of sub-section (1) of section 5 of the Environment (Protection) Act, 1986 (No. of 1986) the Government of India in the Ministry of Environment and Forests hereby constituted the Monitoring Committee as under in the following:

1. Joint Secretary Government of Uttarakhand (In-charge Secretariat), A, Subhash Marg, Dehradun-248003	Chairman
2. Joint Secretary Director Forest & Nature Conservation A-3, Indira Nagar, Dehradun-248005 Uttarakhand	Member
3. Shri B. C. Mishra Secretary National Trust of India A-11, Mahatma Jyotiba Phule Nagar, M. G. Road, Connaught Place, New Delhi, Delhi-110028 New Contact: 011-24	Member

(10)

-2-

4	Ms. Malika Bhatnagar Ganga Ahtwan B-1407, Near Swarn Kumbh, Sector-1, Vaishali, Ghaziabad-201018 UttarPradesh	Member
5	Dr. B. S. Rawat, IFS Principal Chief Conservator of Forests (RCCF), 85 Rajpur Road, Dehradun Uttarakhand-248009	Member
6	Dr. Chandra Singh Negi, Assistant Professor Department of Zoology, Government P.G. College Pithoragarh, Pithoragarh - 262562, Uttarakhand.	Member
7	Dr. Anil Joshi, Himalayan Environment Studies & Conservation Organization Village Shuklapur P.O. Ambwala Via-Premnagar Dehradun-248007, Uttarakhand	Member
8	A representative of the Ministry of Environment and Forests Government of India	Member
9	Member Secretary Uttarakhand Environment Protection and Pollution Control Board Kalyanpur Bhawan, B-15, North Colony, Maidwar Road, Dehradun-248001 Uttarakhand	Member
10	Senior Town Planner, Department of Town and Country Planning, Town Council, First Floor, BY Darga Khas, Dehradun Uttarakhand	Member

- (i) The Government of Karnataka (Department of Environment, Government of Karnataka, Mysuru office, Mysuru-575001, Karnataka)
- (j) The Union Magistrate, Mandya District, Mandya Office, Mandya, Mandya District, Karnataka, Mandya-581113, Karnataka

3. The members referred to by the Committee are as follows:

- (i) To ensure monitoring of compliance of the provisions of the Environmental Clearance Notification issued vide G.O.No. 2000 (C), dated 18th December, 2012 notifying the entire stretch of about 100 kms stretch of the river Bhagirathi from Gavrukki to Ultra-city covering an area of 4178.58 square kilometers as Environment zone.
 - (ii) To discharge the functions specifically enumerated in the notification and to do all things incidental thereto (except the functions as are required to be performed by the Union Government under the provisions of the EIA Notification of 14th September, 2006 as amended from time to time).
4. The Chairman or Member Secretary of the Monitoring Committee shall be competent for non-compliance of the provisions of the notification under section 18 of the Environment (Protection) Act, 1986.
5. The tenure of the Committee is for a period of two years and may be subsequently extended, if necessary, by the Government of India.
6. The meeting of the Monitoring Committee shall be convened quarterly.
7. The Monitoring Committee may invite representatives or experts from concerned Departments or Organizations to assist in its deliberations depending on the requirements or issue to issue field.
8. The Monitoring Committee shall submit its annual action plan report by the 31st March of every year to the Ministry of Environment and Forests.

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8. The expenditure on the Monitoring Committee shall be met by the Government of Uttarakhand.
9. The quorum for the Monitoring Committee shall not be less than two members including the Chairman.
10. FARPA for the non-official members shall be met by the Government of Uttarakhand as per the State Government rules.

This is done with the approval of the Competent Authority


 (Dr. Satish C. Garkoti)
 Director(S)

To

1. The Chief Secretary, Government of Uttarakhand, Uttarakhand Secretariat, 4, Subhash Marg Dehradun-248001
2. The Principal Secretary, Department of Environment, Government of Uttarakhand, Secretariat, 4, Subhash Marg Dehradun-248001
3. The Chairman and the Members of the Monitoring Committee
4. Guard File

Copy to

1. PS to MOS (JC), Environment & Forests
2. PPS to Secretary (E&F)
3. PPS to AS (HR)
4. PS to Auditor (GV5)

S.No	Contributors	Designation
	Sector - Vaidhik Gwalior-201010 Vaidhik Prasad	
7	Member Secretary Uttarakhand Environment Protection and Pollution Control Board Rajgurunagar Road E-115 Badli Colony, Haridwar Road Dehra Dun-248001 Uttarakhand	Member
8	Senior Town Planner Department of Town and Country Planning Tomb Complex Post P.O. - 011001 Dehra Dun, Uttarakhand	Member
9	Chief Geoscientist of Forests Campus, Rajpur Road Dehra Dun Uttarakhand	Member
10	Representative of Department of Forests Government of Uttarakhand Vaidhik Colony Dehra Dun-248001 Uttarakhand	Member
11	Director of the Institute Dehra Dun Dehra Dun Dehra Dun-248001 Uttarakhand	Member
12	The District Magistrate Collectorate, Uttarakhand Uttarakhand	Member Secretary

2. The Terms of Reference (ToR) of the Monitoring Committee are as follows:

1. To ensure monitoring of compliance of the provisions of the Socio-Economic Zone Notification issued vide S.O. No. 2960 (C) dated 1st December, 2012 and all Applicable laws from time to time.
2. To identify the violations regularly enumerated in the notification and to set up an effective system for monitoring and to report the same to the Central Government when the compliance of the EIZ Notification in form Socio-Economic Zone Notification is not being followed.

F No. 15-40/2013-RE
 GOVERNMENT OF INDIA/भारत सरकार
 Ministry of Environment, Forest and Climate Change
 (RE: ESZ Division)

Indian Consulate Chennai
 27 Esplanade, Chennai - 600 008
 Tamil Nadu, India
 Dated: 07 July 2016

I. The Additional Chief Secretary
 (Shri S. Ramaswami)
 Department of Env. and Forests
 Govt. of Uttarakhand
 4B, Subhash Road, Dehradun
 Dehradun, Uttarakhand-245001
 Fax: 0135-2712644

Subject: Zonal Master Plan for Bhagirathi Eco-Sensitive Zone.

II. This is with reference to Zonal Master Plan received from Govt. of Uttarakhand vide letter dated 19/07/16 which was placed for consideration in Eco-Sensitive Zone (ESZ) meeting held on 4th July 2016. Based on the inputs of representative of Govt. of Uttarakhand, the meeting was held as:

1. In this regard, the Ministry of E.F & CC has received comments from Ministry of Water Resources, River Development & Ganga Rejuvenation and Urban Welfare & Remote Sensing, a copy of which is attached for incorporation in draft Zonal Master Plan.

2. Kindly send the revised ZMP at the earliest for consideration at the next ESZ meeting.

Yours faithfully,

 (Pankaj Verma)
 Director
 Contact: 011-26089389

For: Government

Copy to:

Ms. Muskan Devi, Additional Secretary-I, Department of Env. and Forests, Govt. of Uttarakhand, 4B, Subhash Road, Subhash Road, Dehradun, Uttarakhand-245001

- iii. It should be ensured that corpses/ human remains and animal carcasses are not disposed of in the river. Further, open defecation, disposal of municipal and industrial effluents (if any), construction debris in the river should be prevented.
- iv. There should be adequate restrictions on anthropogenic disturbances of river habitat by frequent dredging of river bed and habitat encroachment by humans for riverbed farming.
- v. Organic farming, wherever feasible, should be encouraged to reduce damage to soil and human health by chemical inputs.
- vi. There should be continuous geological monitoring of the Bhagirathi basin to forecast impending geological and geomorphological events.
- vii. It is observed that landslides are frequent events in this zone due to the litho-tectonic character of the Himalayas, but their frequencies and magnitudes are highly aggravated by anthropogenic activities such as deforestation, road and building constructions, unsafe debris disposal etc. which need to be firmly checked.
- viii. Alternatives to embankments for flood management with an emphasis on "living with the floods" concept must be emphasized which may include floodplain zoning and other non-structural approaches.

T-25/2016-17/100/NMCG/2016
National Mission for Clean Ganga
 Ministry of Water Resources,
 River Development & Ganga Rejuvenation
 Government of India

MOSS, 2nd Floor, Road Wing
 O. G. O Complex, 30th Road
 New Delhi - 110 002
 Date: 17th June 2016

To
Shri Pantaj Verma,
 Joint Director, MoEF&CC,
 Indira Paryayaran Bhawan,
 Level-II, Pethvi Wing,
 100 High Road, All India,
 New Delhi.

Subject: Eco-Sensitive Zone (ESZ) Expert Committee Meeting being held on 4th July, 2016 regarding.

Dear Sir,

This has reference to your letter No. 25-1/2016-ESZ/RE dated 08.06.2016. In this regard, comments on the Zonal Master Plan of the Bhagirathi Eco-Sensitive Zone are appended @ Annexure-I. Further, Dr. Sandeep Behara, Consultant-Biodiversity, NMCG has been nominated to attend the aforesaid meeting.

This issues with the approval of the competent authority.

Encl. As above.

Yours faithfully,

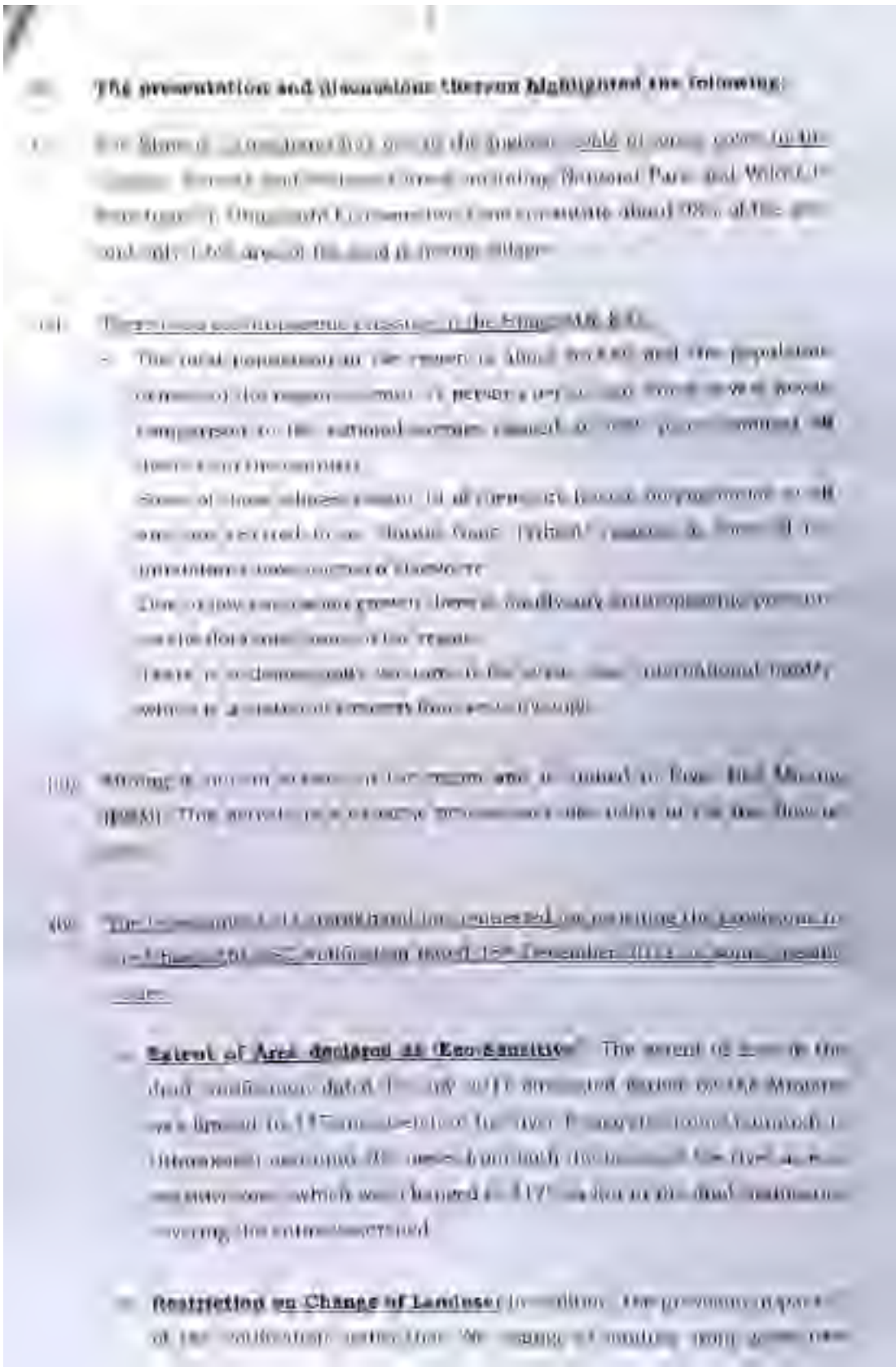
 17/6/16
 (Samarth Agarwal)
 Deputy Director

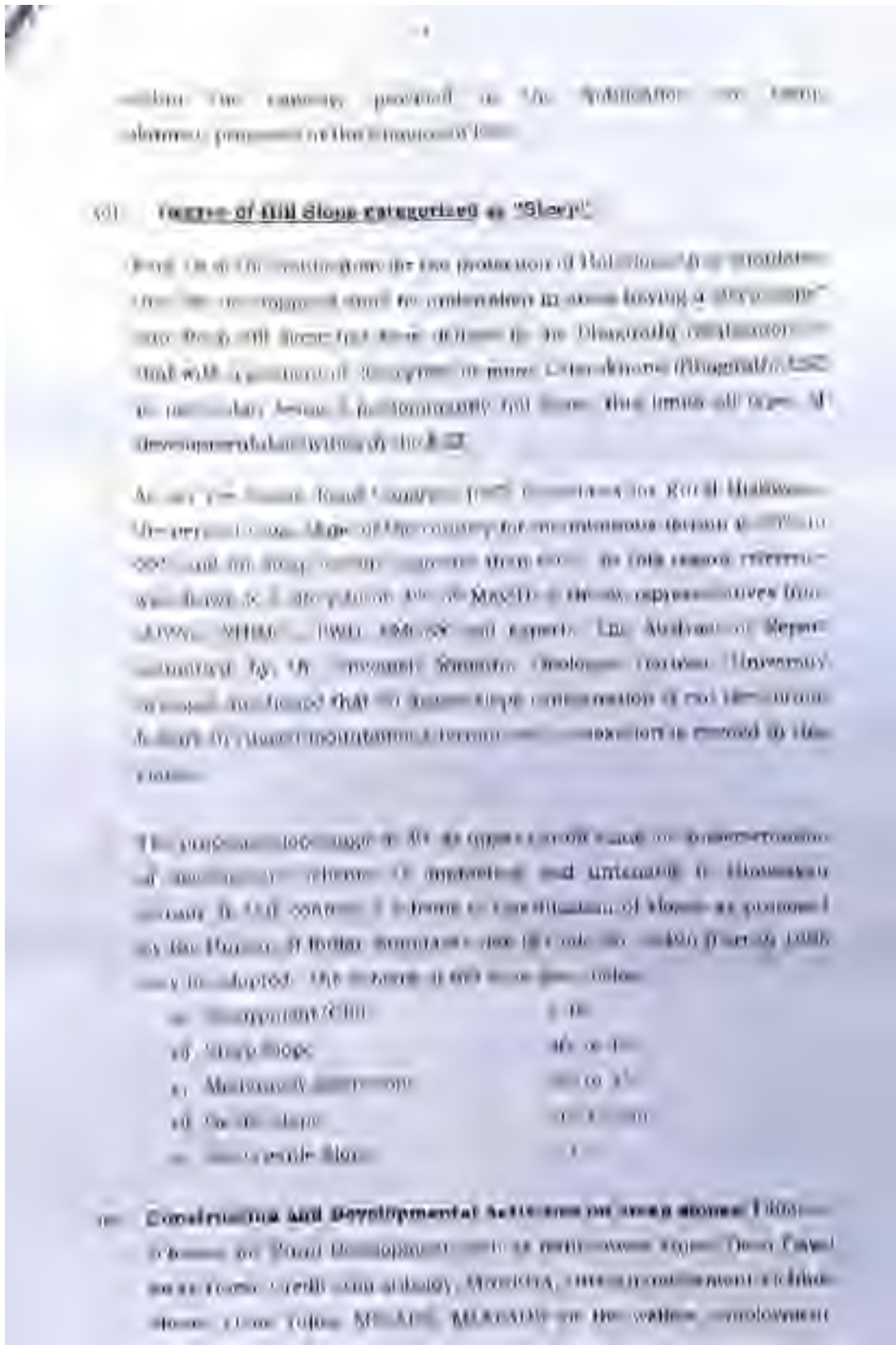
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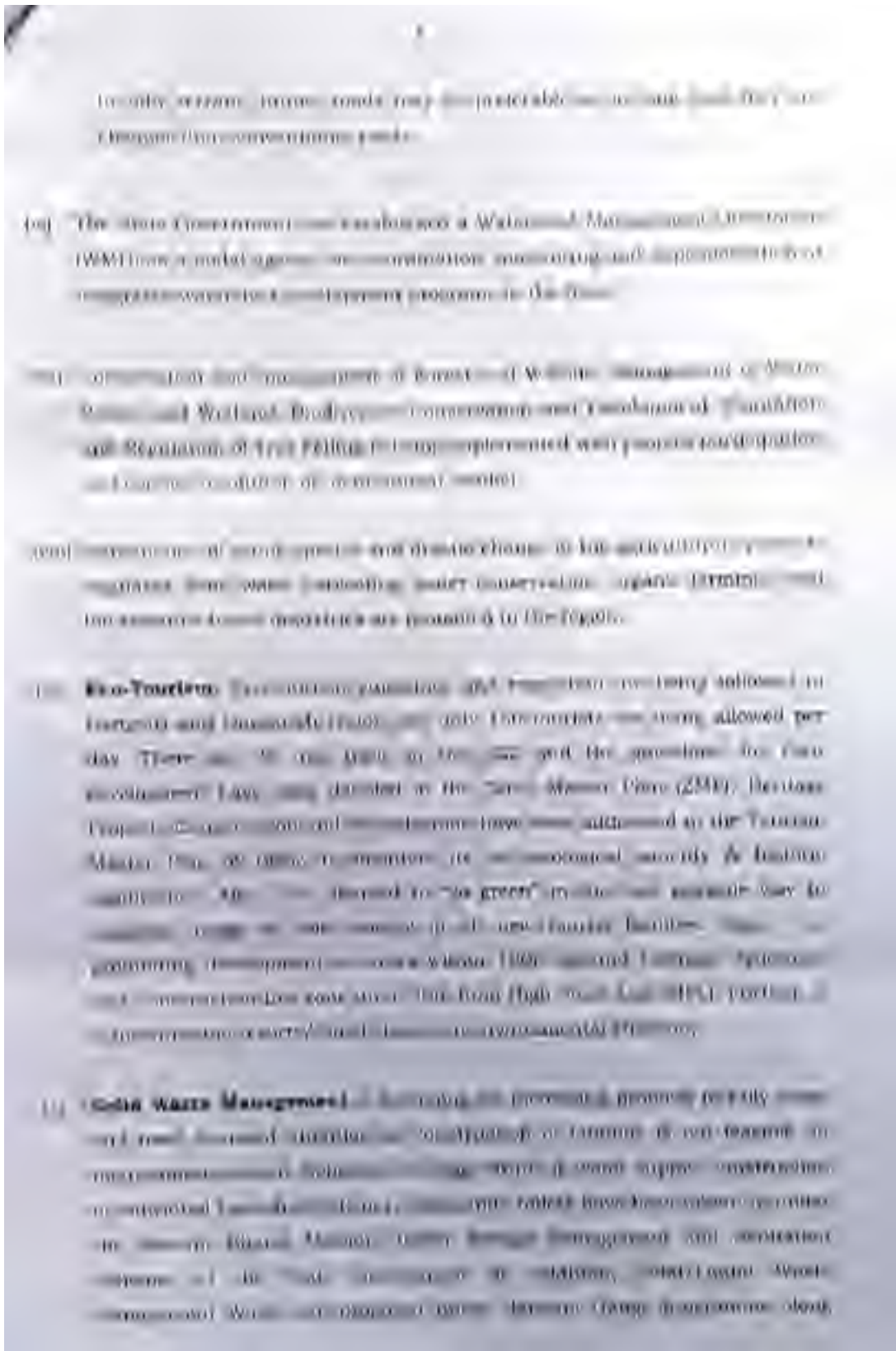
1. P to JS&MD, NMCG.
2. Dr. Sandeep Behara, Consultant-Biodiversity, NMCG.

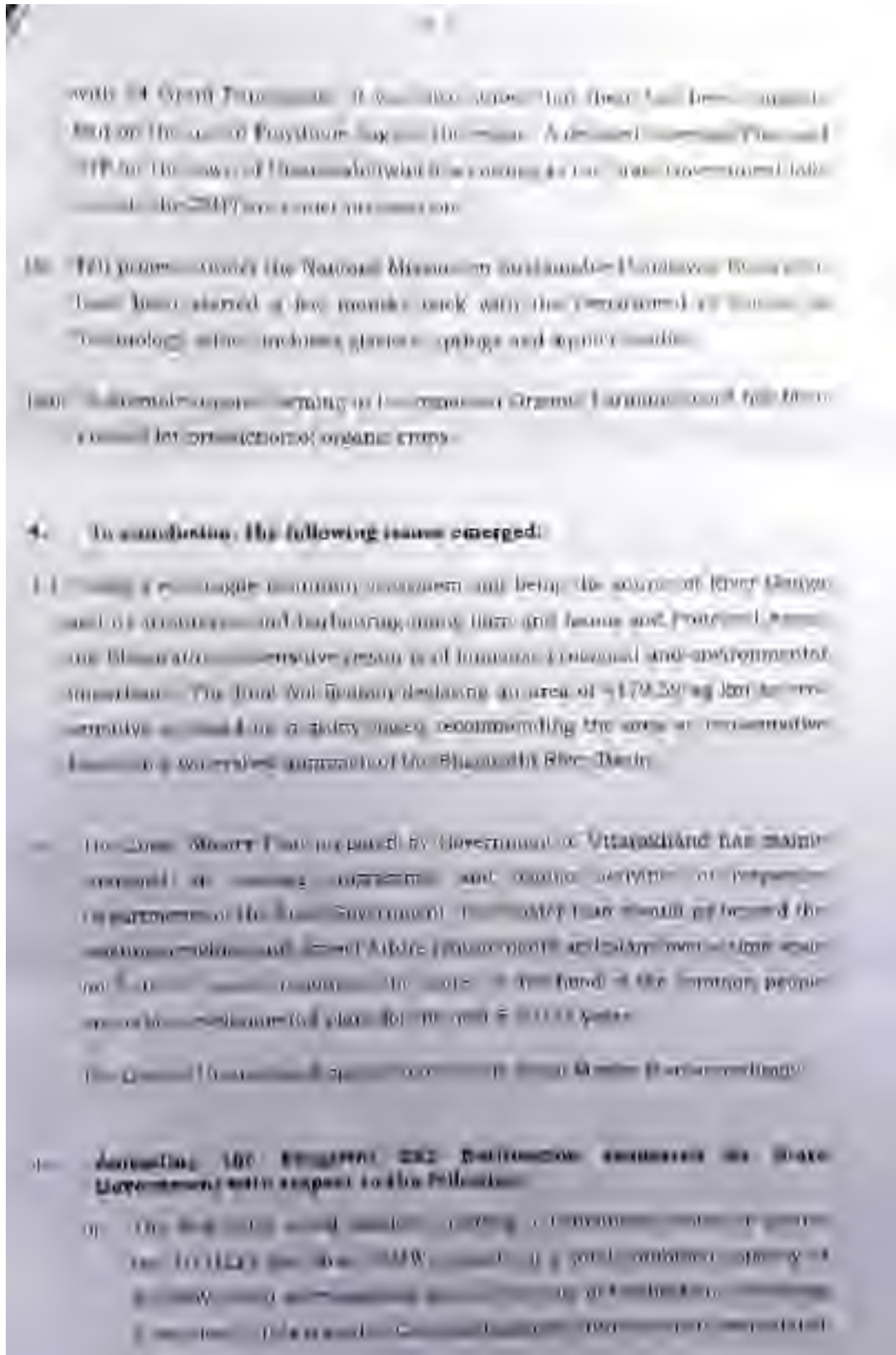
Comments on Zonal Master Plan for Bhubaneswar Urban Area

1. The Zonal Master Plan will give good spatial structure to the city with the following recommendations and it needs to be implemented:
 - a. To implement clause 4 (item) of The Gazette of India, Government of India, Ministry of Urban Cooperation, New Delhi, with the following policy interventions: group of 100 buildings and plots for residential use may be developed only as per the master plan for the area.
 - b. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
 - c. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
2. It is recommended that the Zonal Master Plan should be implemented in accordance with the following recommendations:
 - a. Consideration of the impact of the plan on the environment and the need for the implementation of the plan in accordance with the provisions of the Environment Protection Act, 1986.
 - b. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
 - c. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
3. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
4. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
5. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
6. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
7. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
8. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
9. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
10. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
11. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.
12. The location of new shopping areas in Zonal Master Plan should be given priority to existing shopping areas and would need very large scale planning in terms of Market Place, central mall and others to be achieved. On-going shopping areas to be developed in accordance with the master plan for the area.









based on the recommendations of the Hill slope assessment as per standard IS 8000-Vol. 1 (1962/2004) (1999).

(ii) Providing the above details on the topographic map as follows:

4.4 **With respect to para 3 (v) of the Road Sector;**

The construction of bituminous road suitable for road and construction concurrently with some soil erosion and treatment measures for slope and its stability. Certain specifications for road construction particularly full details of the cross section must necessarily include this clause. The Chief Engineer may also take up this issue with the Forest Department in view of adequate treatment taking into consideration the area required for slope stability and treatment while laying roads in mountainous areas.

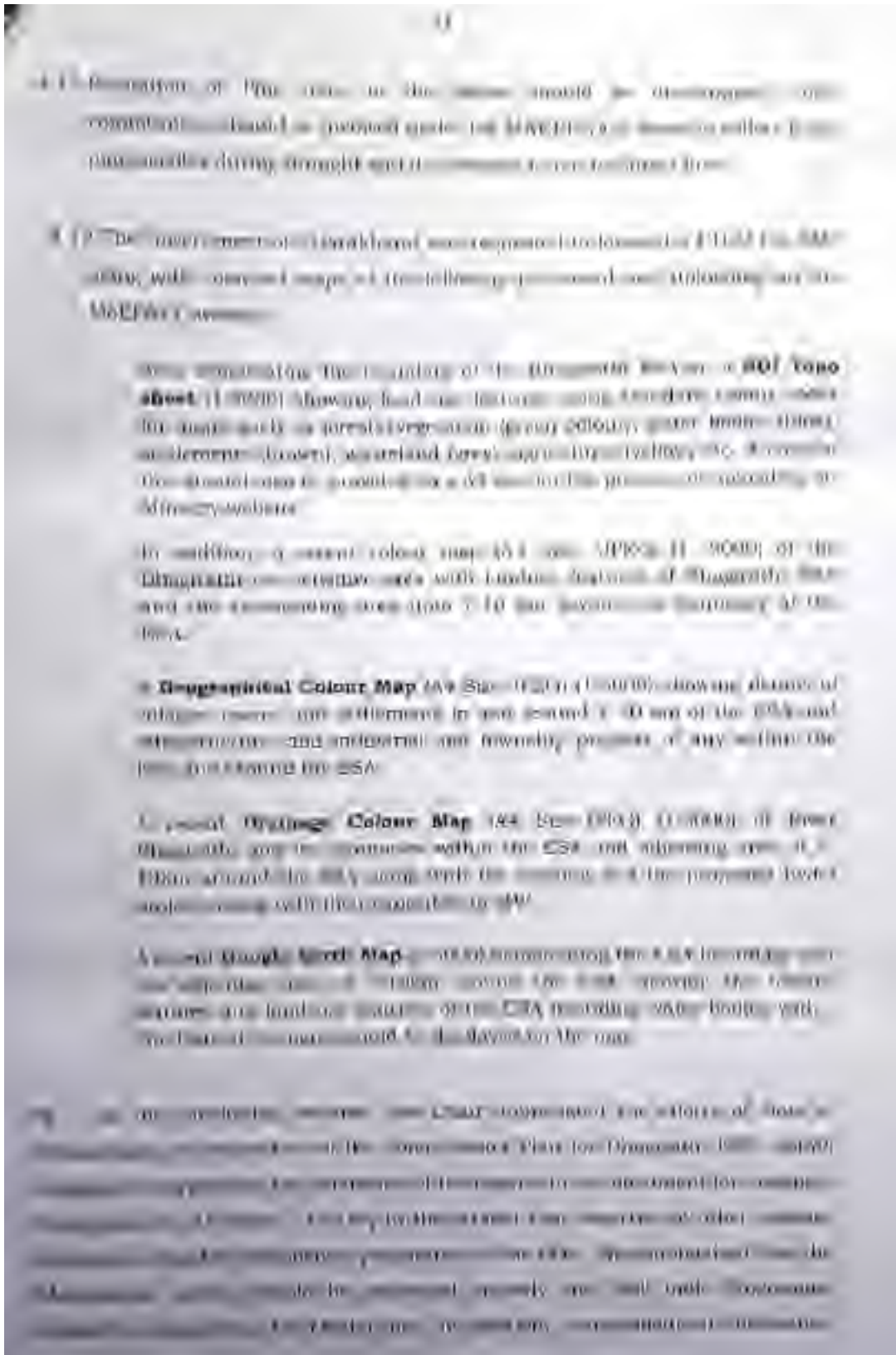
4.5 **Man-Animal Conflict:** There is pronounced man-animal conflict despite the high level of forest and protected areas. Wildlife Management Plans and strategies need to comprehensively address all aspects of the problem of forest loss, poaching, prey base, suitable areas for forest fires and also assessing and monitoring wildlife corridors for the free movement of wild animals.

4.6 **Biodiversity Conservation:** Conserving and upgrading the biodiversity zones across the forest as proposed by the forest reservation and encroachment. The Forest Department may apply for specific and detailed report and also conduct detailed survey of forest for preparation of Wildlife Management Plan and Wildlife Reservations.

As necessary Management Plan (MPP) is required for reservation and conservation of forest resources and their sustainable use by the people. The Forest Department may apply for specific and detailed report and also conduct detailed survey of forest for preparation of Wildlife Management Plan and Wildlife Reservations.

Forest Management

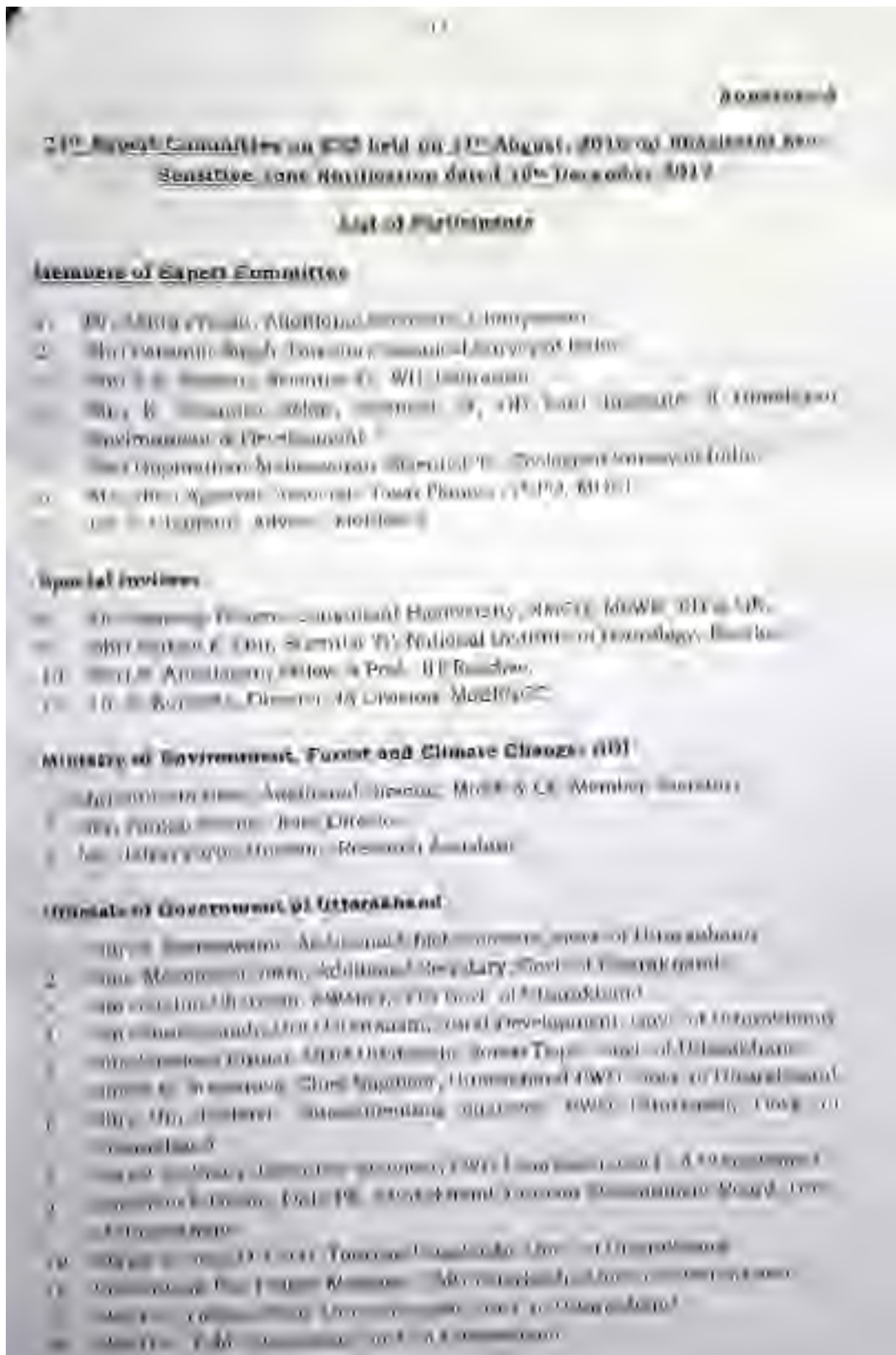
The Forest Department may apply for specific and detailed report and also conduct detailed survey of forest for preparation of Wildlife Management Plan and Wildlife Reservations.



Dissemination and Awareness, Education and Communication should also be included.

On the issues relating to the Hydro Power project in the 'Bhagirathi' ESZ, she mentioned that a scientific basis is needed for proceeding further. Accordingly, she asked the State Government of Uttarakhand for Commissioning a study on the 'carrying capacity' involving field experts. Based on the submission of the report of the study on carrying capacity the expert committee would take a decision. She also suggested that Evaluation and Monitoring of the activities under the ESZ should be taken up.

6. The meeting ended with vote of thanks to the Chair.



13. Shri Rajendra S. Jadhav, Govt. of Uttarakhand.
14. Shri M.S. Tomer, C.A.O. Agriculture, Govt. of Uttarakhand.
15. Shri R.K. Mishra, Director, UJNE Lab., Govt. of Uttarakhand.
16. Shri Harsh Bangotra, DDM & JML, UJNE Lab., Govt. of Uttarakhand.
17. Shri Ajay Patel, DM (SPP, HJNE Lab.), Govt. of Uttarakhand.
18. Shri Manoj Keshwani, S.E., UJNE Lab., Govt. of Uttarakhand.
19. Shri Jitendra S. Rawat, Environment and Social Welfare (UJNE Lab.) Govt. of Uttarakhand.
20. Shri Ajay Verma, Chief Engineer, Irrigation Dept., Govt. of Uttarakhand.
21. Shri Narendra Yadav, Central Horticulture office, Horticulture Dept., Govt. of Uttarakhand.
22. Shri Sakendra K. Yadav, DMPS, NMDCI, Govt. of Uttarakhand.
23. Shri M. Mohammad Hussain, AECOM, Govt. of Uttarakhand.
24. Shri Anand Ashwan, Geotechnical Engineer, AECOM, Govt. of Uttarakhand.
25. Shri Anil Kumar Singh, M.Sc., NRIU/L, Dehradun.
26. Shri Anand Singh, B.E. IITPA, Dehradun.
27. Shri Laxman Singh, Geotechnical Engineer, AECOM.
28. Shri B. Dutt, Project Analyst, SWA/AL.
29. Dr. D. S. Negi, Director Horticulture & Food Processing, Govt. of Uttarakhand.
30. Shri Praveen Kumar, Manager (SPP), MUE/SC.

Annexure No. 6

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
PRINCIPAL BENCH, NEW DELHI
Original Application No. 60 of 2010

IN THE MATTER OF:

Nehar Singh Panwar & Ors

PETITIONER

Versus

Union of India & Ors

RESPONDENT

INDEX

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4.	Annexure-III Letter from Counsel for the applicant giving comments on the ZMP for Bhagradhri ESC	535 - 536

Filed on behalf of
Date: 23.11.2010

(Signature)

(Name of Counsel for Petitioner) M/S. M/S. 10-1111

(Address of Counsel for Petitioner)

57

BEFORE THE NATIONAL GREEN TRIBUNAL SITTING
AT NEW DELHI

ORIGINAL APPLICATION NO. 80 OF 2015

IN THE MATTER OF

Kumar Singh Jaiswal & Others Appellants

Vs

Union of India and Others Respondents

AFFIDAVIT ON BEHALF OF MINISTRY OF ENVIRONMENT &
FORESTS & CLIMATE CHANGE AND MINISTRY OF WATER
RESOURCES, RIVER DEVELOPMENT & GANGA REJUVENATION
IN COMPLIANCE OF THE ORDER DATED - 18.11.2015

1. Dr. C.V. Brahma Rao Son of Late Sri C. V. Sastry working as Joint
Secretary and Deputy Director General in the National Office for Clean
Ganga, Ministry of Water Resources, River Development & Ganga
Rejuvenation, ~~and~~ hereby solemnly affirm and submit as under:

2. That the present affidavit is being filed on behalf of Ministry of
Environment & Forests & Climate Change and Ministry of Water
Resources, River Development & Ganga Rejuvenation in compliance of
the order dated 18.11.2015 issued by the Hon'ble Tribunal in the above
matter;

3. That the deponent is duly authorized and competent to submit the
affidavit;



2. Background:

- 1- That, on the second meeting of National Council of Ministers (NCFM) held on 01-11-2003 under the chairmanship of Hon'ble Prime Minister, it was decided that the river in the Patala River Ganga from the origin place (Lamaha) to ... should be declared and developed as an "ecotourism zone" (ESZ) of ESZ (activities will be allowed in a planned manner to preserve the environmental integrity of the river) to ensure the sustainable development of the area.
- 2- That, on 18-11-2003 the resolution of ... of Government of Himachal Pradesh to provide a special status ... under ... from the date of promulgation of ... guidelines/ objectives of the resolution. However, the ... Committee delayed the formation of the ... in ... Hon'ble ... Government. ... was submitted to ... in Feb 2004.
- 3- The ... has been ... and ... compliance ... from ... to ... with reference to the ... as ... through ... to ... to ... their ... about ... and ... for ... of ... from the ... you reply from ... is hereby ... and ... to ANNEXURE-1.
- 4- That, ... 1998 ... and ... of ... 2500 ... of the ... for the ...

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though water flow has declined and annual precipitation at Ganga is of less than 100 cm, the current GWP and preservation of the fragile ecology of the water of the Ganga is to maintain ecological sustainability, fostering Ayudh and spiritual connectivity will be the most important efforts in ensuring Ganga as a sustainable and healthy river generation. That will ensure the of the flow of river Ganga is contributed to the good health and diversity in order to ensure the river is the most sensitive of being water source for all living organisms.

5. In large number of HPP (hydroelectric power projects) constructed and under construction at Almora, Bageshwar, Garo, Kumaon and Uttarakhand have severely impact the river ecology and environment since their construction and operation. Many of them are built in steep and rocky hills of Almora and Garo and about 50% of their turbines have been damaged and some even have been destroyed.

6. Considering the difficulties in executing the open access of the Ganga, AMRPAEC has recommended a priority list of ESE implementation and from immediately commencing in the state govt. asking the local authorities for their implementation in the conformity and construction of AMRPAEC from AMRPAEC to the state govt. and the project has been listed in **Annexure 2**

7. That after one year from the publication of notification of Dec. 2012, the state completely failed to start any programme under AMRPAEC and was not completed to provide the AMRPAEC project the water of the river Ganga and was submitted in Feb 2015 to

programme initiated by the state was done in 11th round of AICRPCC and a revised ZMP has been submitted by the state of Uttarakhand in May 2016. Both the ZMPs were then reviewed, the views are summarised below.

Views on the ZMP submitted by the state of Uttarakhand.

• This state the various constraints faced by Haridwar Hydroal reported that under the 10th round ZMP of national Jawahar Nala Nirmal Yojana (NNY) for Uttarakhand were submitted. As part of Uttarakhand has been identified a quantum of 2,000 EAC and 2,000 EAC (E) and have the following constraints:

(i) **Lack of fundamental studies.** That is, the state has not undertaken through its plan 2, 4, 6, 7 & 8 that the ZMP should be based on a scientific approach. The entire study of the watershed approach was completed. The Haridwar Hydro-geological study related to surface and ground water, groundwater recharge, quality of the water resources, water quantity, consistency of the water flow, etc. were done. In addition, there have been studies done on the past hydro-geology and quality of water resources. Conservation of existing water bodies, treatment of domestic waste, and management of industrial effluents are particularly vital to the growth of the ZMP. The studies required for the conservation of water resources & ground water mapping, land use zoning, forest cover, etc. were not undertaken by the ZMP. A commitment from

consideration of the design, construction and maintenance of the project.

4. Incomplete/un satisfactory submission on guidelines

Several guidelines of the Commission have not been fully considered. For example, clause 2.10 for working with the Council, progress and final use are not fully planned for the utility, given technology, protection of water supply, low level of customer based initiatives etc. which were not fully planned or provided. Section 2.10 of the RSP has not been sufficiently elaborated. A plan for identification, assessment and control of potential health and safety risks has not been given due importance in RSP. A satisfactory plan for assessment of environmental impacts is not provided in RSP.

5. Surviving capacity study, regulation of vehicular traffic

The survival capacity study of road infrastructure in RSP has been inadequately limited by the scope of the study. The study has been done which is not the specific load of total existing infrastructure. It does not take into account capacity, environmental impacts, health and safety, and capacity of infrastructure. The study has not been done for the road infrastructure. The study has not been done for the road infrastructure.

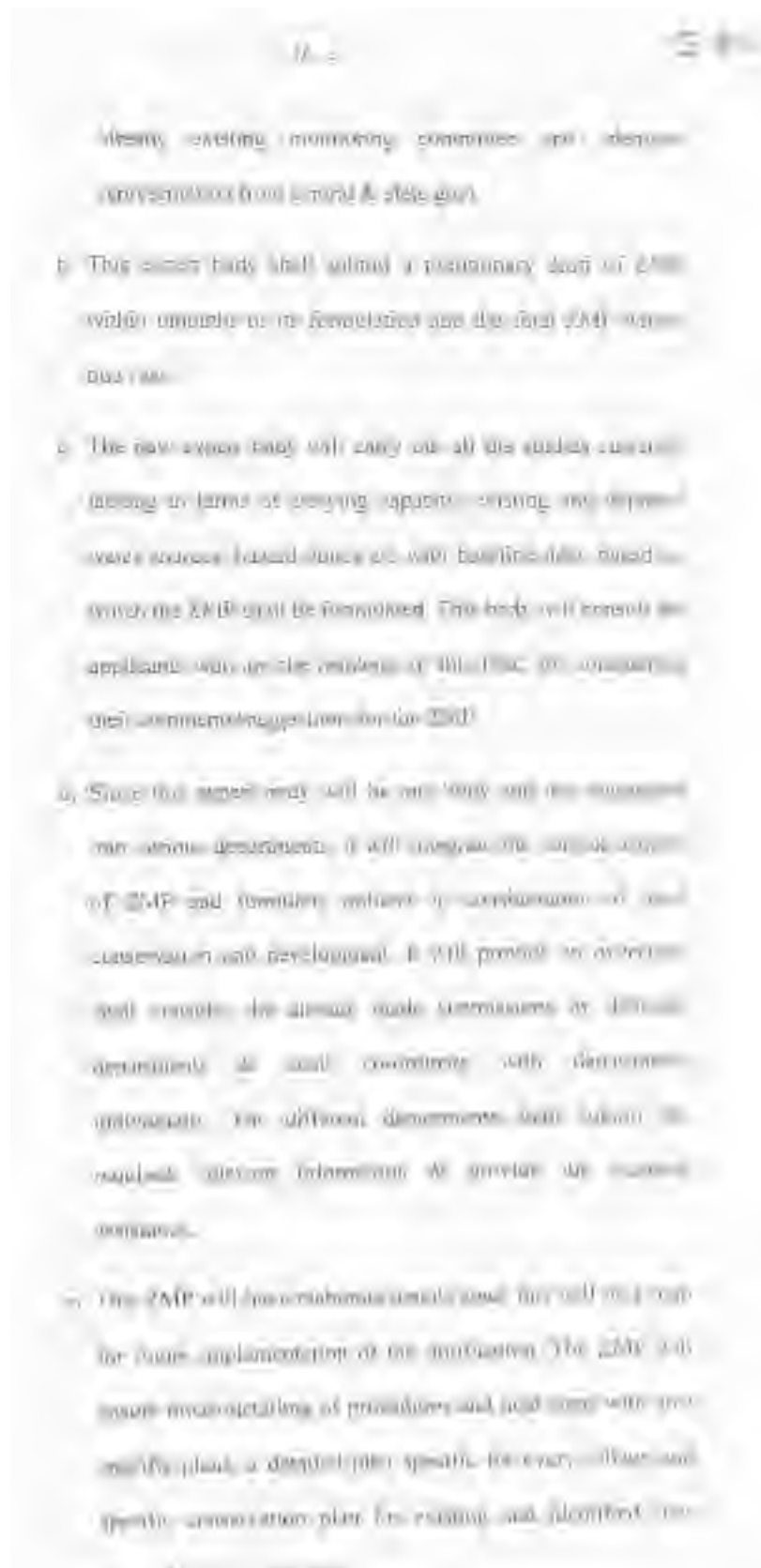
Comments/suggestions from the applicants: As per the order of the Hon'ble Member, a copy of comments/suggestions from the applicant, Shri. Singh Manwar & Others, has been referred to the authority and a decision has been taken and marked as **Annexure-3**.

5. That in consideration of the above made submissions, it is concluded that:

1. The said paper has submitted by the said Government has outlined the procedure of the certificate & has not complied with the guidelines of the ES&I formulated in the proposal. It ignores under the fundamental background, namely the requirements for implementation & sustainability of various components and overall for a sustainable and successful implementation of the activities.
2. The ZMP was consistently delayed by the said Government and it was only with the constant intervention of the Hon'ble Tribunal that a ZMP was submitted by the time. The ZMP appears to be a collection of already existing/ proposed or under-implementation schemes/programmes of various departments of the State and Government of India. Plans, As per the guidelines of the Government of India, Ministry of Energy towards implementation of various projects and various requests for allocation of projects/energy, obtaining for the said developmental modules are processes concerning.
3. The submitted ZMP document lacks any suggested approach/plan for target department and is devoid of an comprehensive long-term sustainable development program for the ZMP area.

Additionally, fundamental issues with evidence base, methodology and the fit of costs suggested in ZMP are mentioned in subsequent submissions.

- A. There is an absence of understanding of the spirit to the spirit of the Act that is inherent through the ZMP. With the absence of adequate studies, recommendations violating the guidelines for compliance of provisions, request for relaxation of provisions and lack of much details, the purpose of formulation of MRF has been evaded and the notification has been commenced. The CRP in subject State is therefore incomplete, unworkable and not implemented in its present form.
- B. Thus considering the delay in introduction of ZMP in the notification of the submission to the State of Himachal Pradesh and also submits the following:
 - (i) That in order to fulfill the spirit of a comprehensive ZMP in the DSZ, M&F&CE and M&W&P&R, various and its interdependence. Expert body may be constituted for formulating comprehensive ZMP for M&F&CE, M&W&P&R, and Forests taking into spirit of comprehensive national theme.
 - (ii) The expert body may have the following Terms:
 - a. The expert body may be comprise of experts from the field of hydrogeology, geology, climatology, air pollution, biodiversity, etc. etc. from agencies, academia, community, local representative, of Himachal Pradesh and the field of Environment, the non-governmental members of the



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3. Since the ZMP has been delayed for a period of 2 years the Ministry of India is also concerned about the ongoing works in the west end of the guidelines of the mission are being violated in those works. The government assigns the Hon'ble Tribunal to direct the state monitoring committee of ESC to submit a report on the ongoing works and any violation observed there.

4. For the proper implementation of the ZMP a long term monitoring is required. Since the expert body will possess an in-depth knowledge of the details & specifics of the ZMP the committee's role should be of a long term monitoring body instead of a help to the full implementation of the ESC commission.

[Signature]
Chairman

Verification

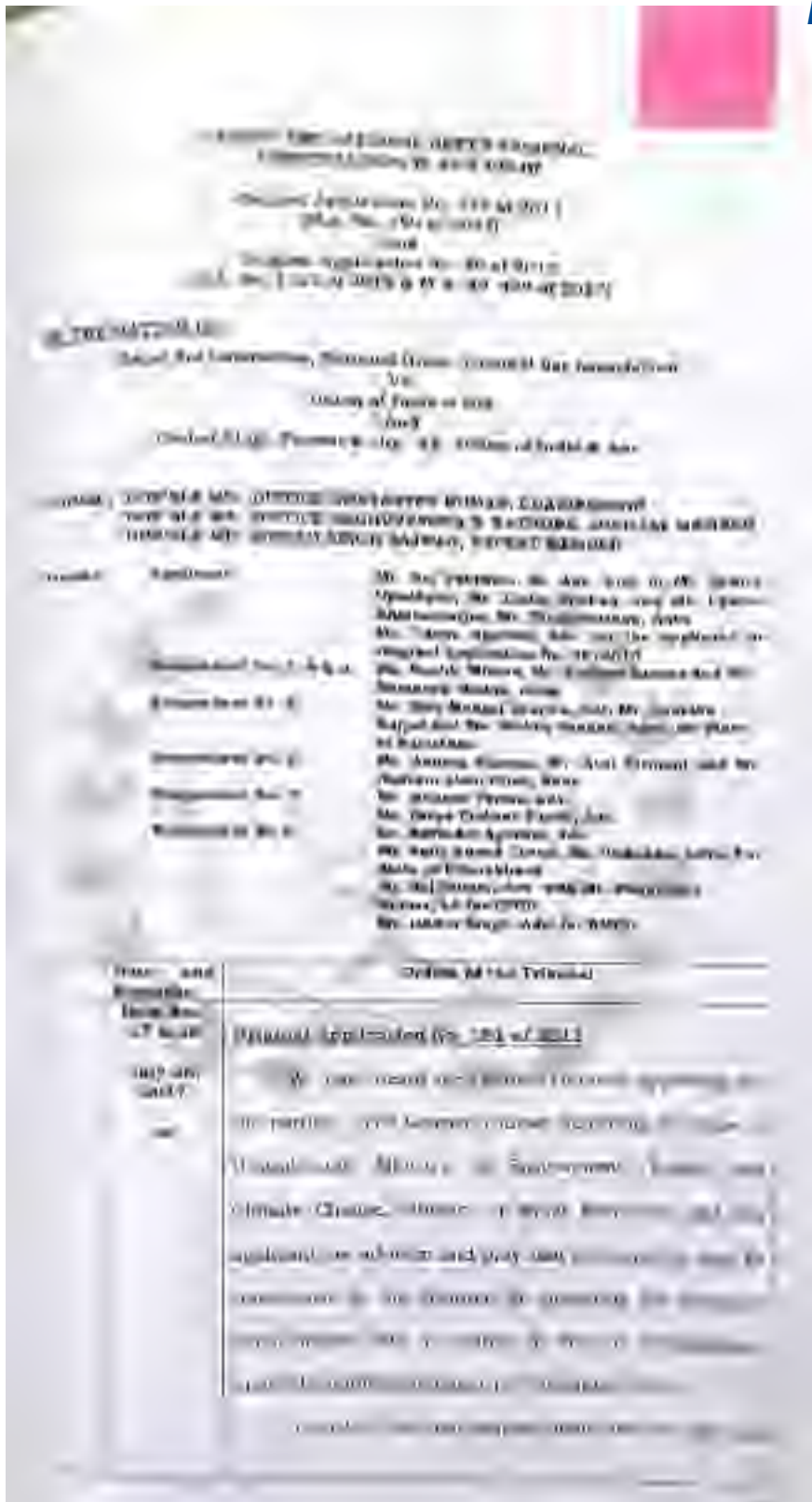
Verified on this day of December, 2015 that the contents of the above affidavit are correct in the best of my knowledge and belief and nothing material has been concealed therefrom.

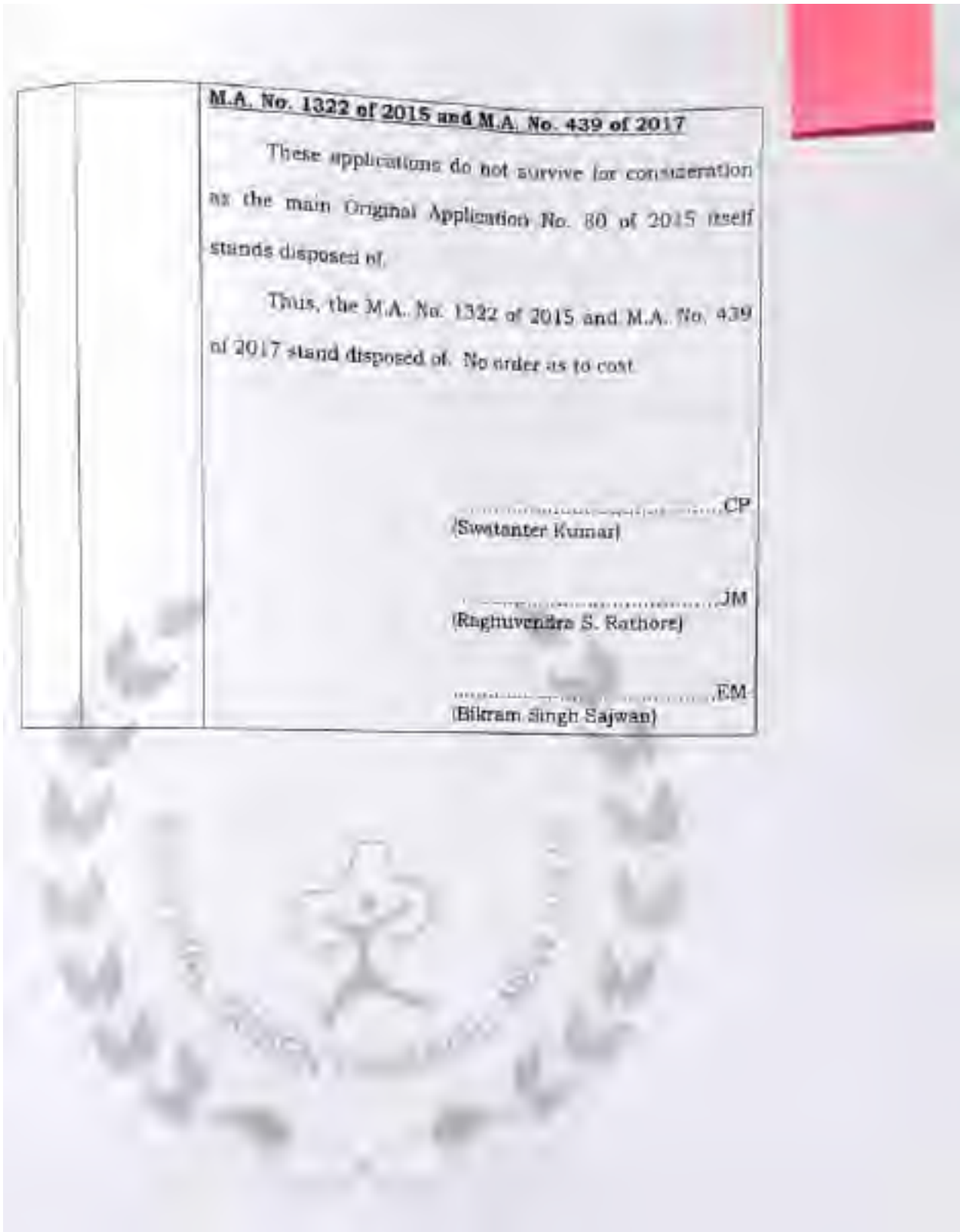
[Signature]
Chairman

ATTESTED
[Signature]
U. S. DHAVALA
Joint Public Officer

11/12/2015

Annexure No. 7









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1. The Government of India has decided to set up a National Council for Educational Research and Training (NCERT) to coordinate, improve and develop the school education in India. The Council will be a body of experts in the field of education and will be responsible for the following functions:

- (a) To coordinate, improve and develop the school education in India.
- (b) To coordinate, improve and develop the school education in India.
- (c) To coordinate, improve and develop the school education in India.
- (d) To coordinate, improve and develop the school education in India.
- (e) To coordinate, improve and develop the school education in India.
- (f) To coordinate, improve and develop the school education in India.
- (g) To coordinate, improve and develop the school education in India.
- (h) To coordinate, improve and develop the school education in India.
- (i) To coordinate, improve and develop the school education in India.
- (j) To coordinate, improve and develop the school education in India.



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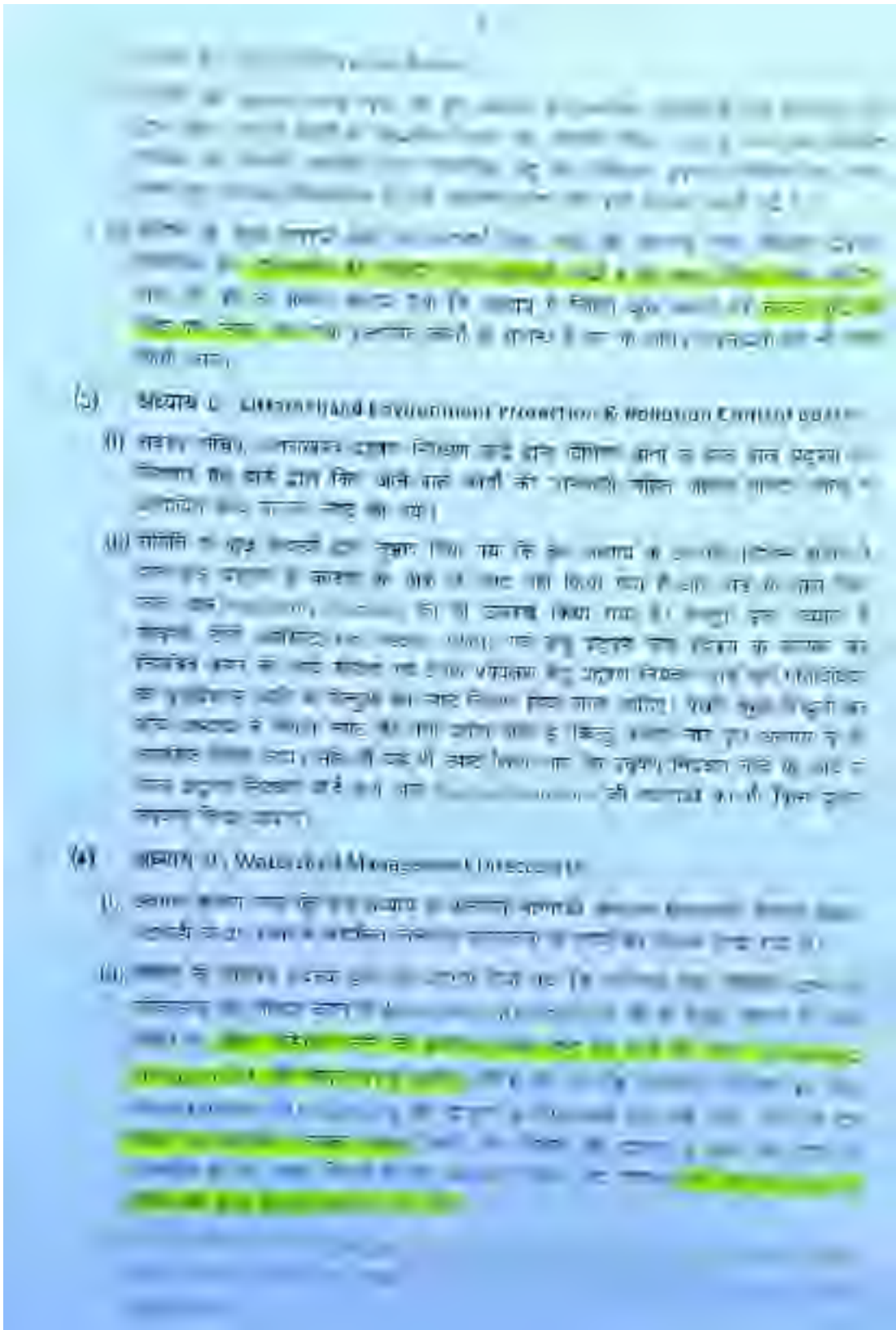
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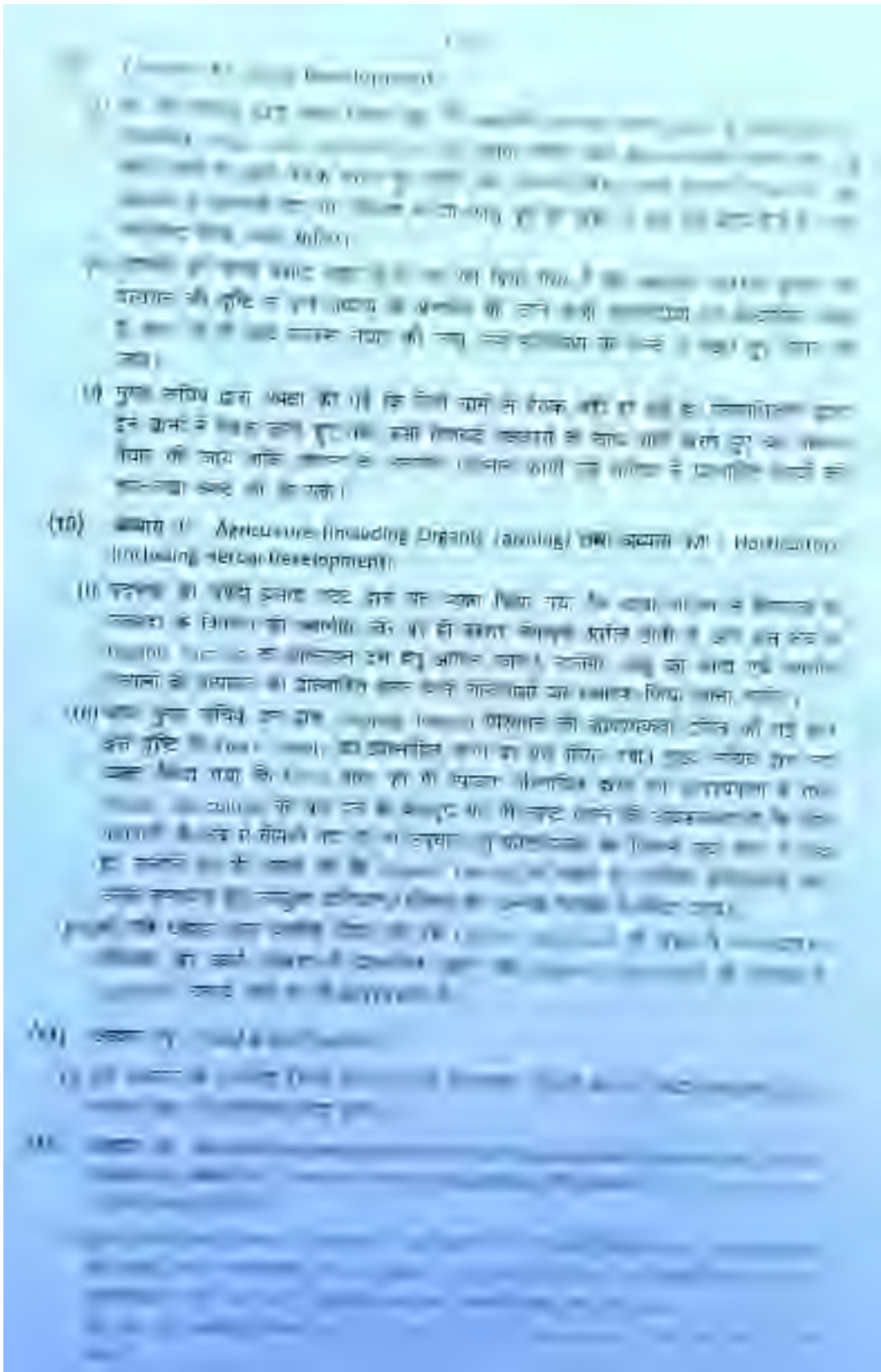
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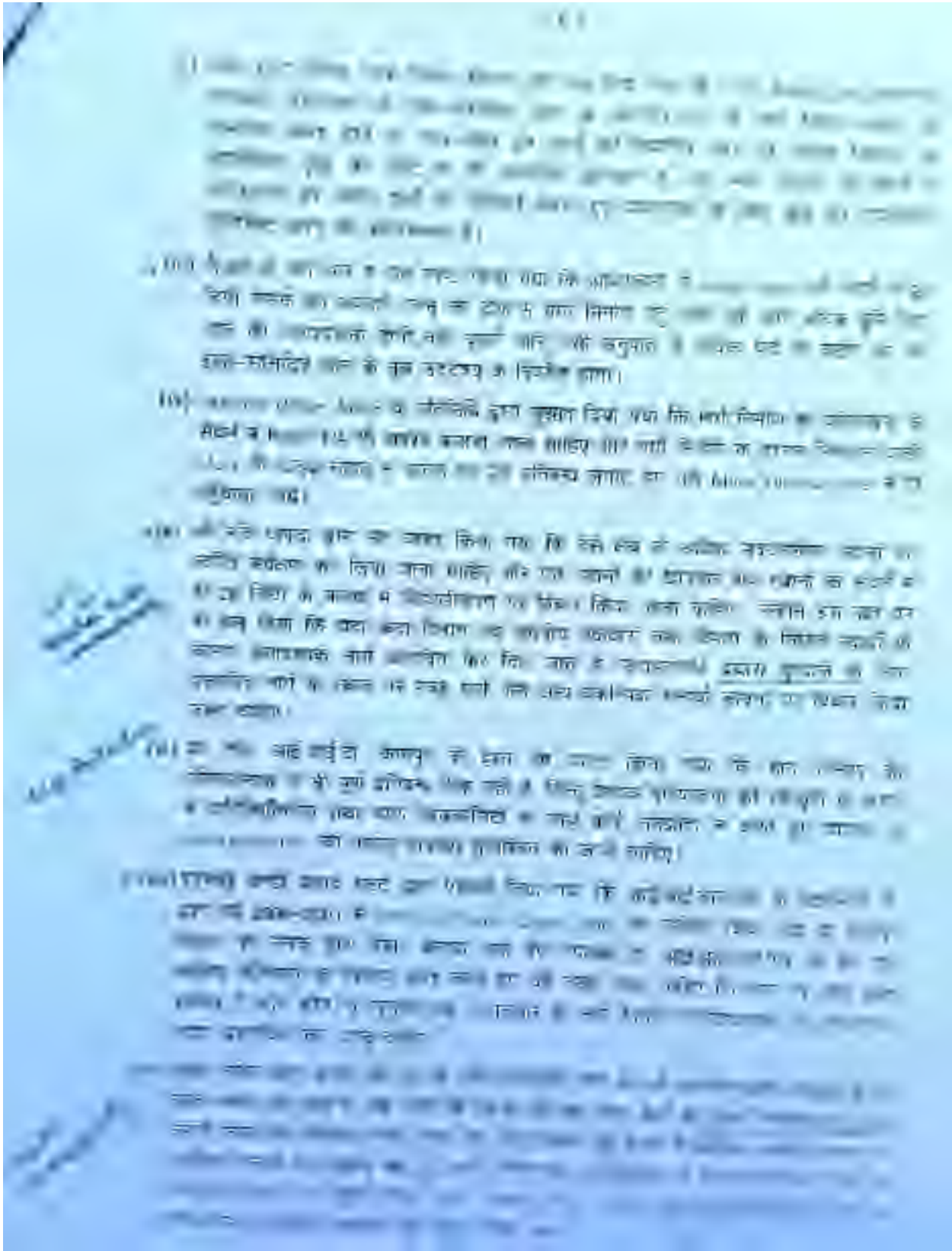
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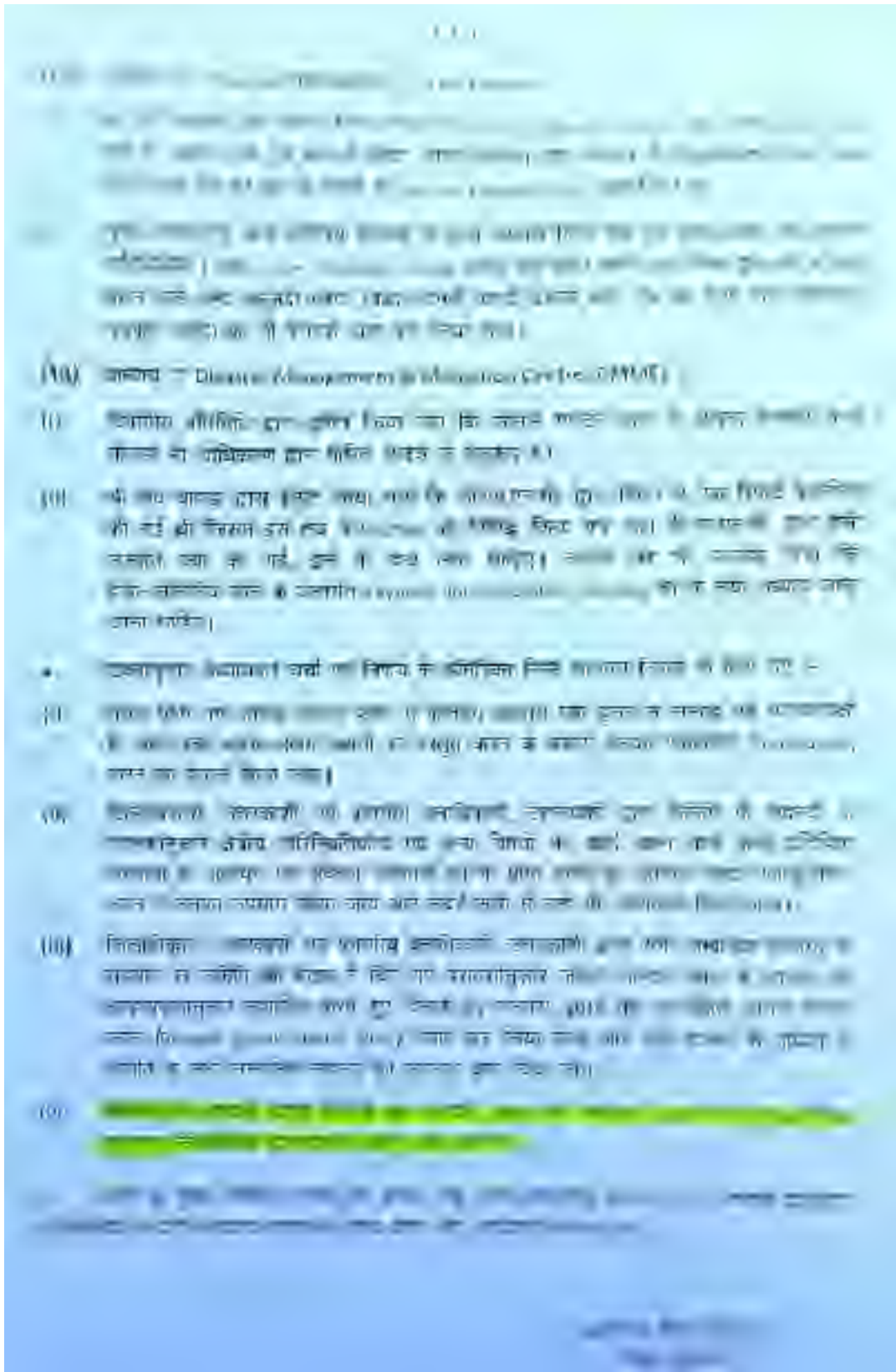
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Annexure No. 10

State of Glaciers in the Bhagirathi Eco-sensitive Zone

(Report of Wadia Institute of Himalayan Geology with inputs from National Institute of Hydrology)

Background

Glaciers occupy about 10% of the earth's land surface (~ 16 million km²) and hold roughly 77% of its fresh water; more than 96% of glacier ice lies in the Polar Regions, Antarctica & the Arctic regions. The lofty mountains of the Himalayas is home to the largest ice mass outside the polar regions, aptly termed as Third Pole. There are about 9575 glaciers with an estimated area of 37,466 Km² in the Indian administrative part of the Himalayas (Raina and Srivastava, 2008; Sangewar and Shukla, 2009). They are perennial source of fresh water to the three great rivers of India – the Indus, the Ganga and the Brahmaputra. The distribution of glaciers are uneven and are 5262 in the Jammu & Kashmir (55%), 2736 in the Himachal Pradesh (28%), 968 in the Uttarakhand (10%); 449 in the Sikkim (5%), and 161 in Arunachal (2%). They are not only perennial fresh water resource but also sensitive to climate.

Uttarakhand Himalaya

The state of Uttarakhand (28°43'–31°27'N and 77°34'–81°02' E) extends between Kali Ganga in the east bordering Nepal to Trans-Yamuna with Himachal Pradesh in the west nearly 325 km. The total area of the state is 53,484 km². Out of the total area, 92% area is mountainous and hilly and only 8% falls in the plains with the elevation ranges from 210 to 7817m above the sea level. The state is covered ~10% area of its total area by snow, ice and glaciers and are a perennial source of fresh water for four major river systems viz. Yamuna, Bhagirathi, Alaknanda and Kali. There are 968 glaciers covering 2,857 km² with the approximately 277.47 Km³ volume. The maximum 407 glaciers are located in the Alaknanda river catchment followed by Kali Ganga (272), Bhagirathi (238) and Yamuna (50) (Fig. -1). These glaciers generally extend between 6500 m (head) and 3800 m (snout). However, the regional snow-line fluctuates between 5000 and 5100m above the sea level and the winter snowline descends up to 2200–2500 m above the sea level. The Uttarakhand Himalayas is climatically dominated by both the monsoon (ISM) and westerly (WD) and is fed by summer monsoon and winter snow precipitation. However, maximum snowfall occurs in the regions between December and March, mostly due to western disturbances

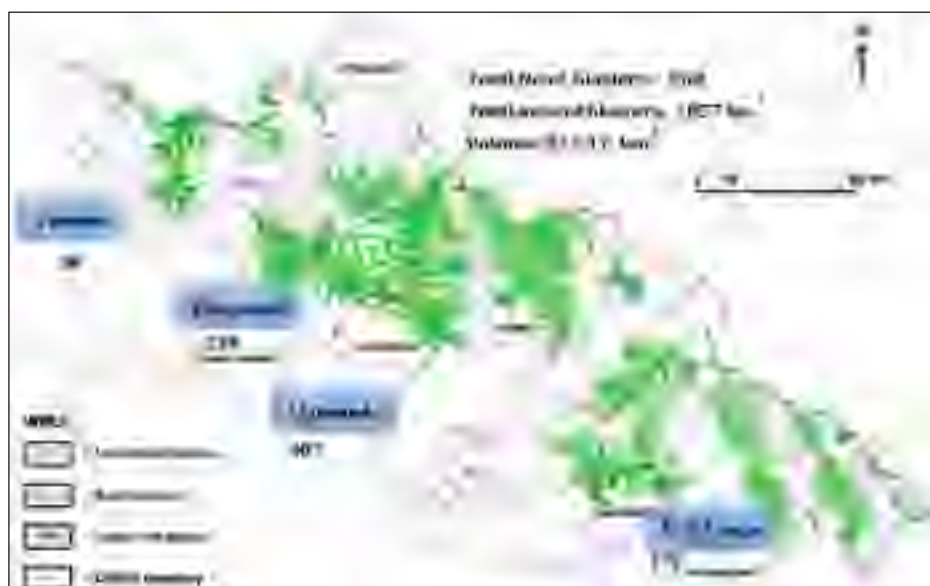


Fig. 1. Distribution of Glaciers in Different River Basin of Uttarakhand Himalayas (Raina and Srivastava, 2008).

Bhagirathi river basin

Bhagirathi river basin ($78^{\circ}15' - 79^{\circ}20' \text{ E}$ and $30^{\circ}07' - 31^{\circ}15' \text{ N}$), a source of River Ganga is one of the major drainage systems in the Uttarakhand Himalayas (Fig.-2). The total catchment area is about 7120 km^2 of which 86% area is mountainous and forms a huge snow gathering ground. The area is encompassing by mountain slopes bears an altitudinal range between 2000 and 6900m above the sea level. The Bhagirathi is the main river that originates from Gangotri glacier (4000m, asl) and flows about 200 km before it emerges with Alaknanda at Deoprayag. The Jahnvi, Jalandhri, Pilang, Bhilangana (glacierised basin) and Kaldigad (non glacierised basin) are the major sub-drainage basins in the area. The waters from these glaciers merge into the Bhagirathi river at different altitudes and form a great river system in the area (Fig.-2). The glaciers in this region generally lie between altitude 6600 (Head) and 3800m above sea level (snout) and are mountain valley type.

The total glacierised area of the Bhagirathi river basins is 755.43 km^2 , which is about 12% of the total basin area (7120 km^2). In addition 25 to 30% of the seasonal snow cover occupied during the winter. It is estimated that every 1 km^2 land area is glaciated to the extent of 0.12 km^2 . The permanent snow/firn line fluctuates between the altitude 4900 and 5200m (Dobhal et al., 2011).

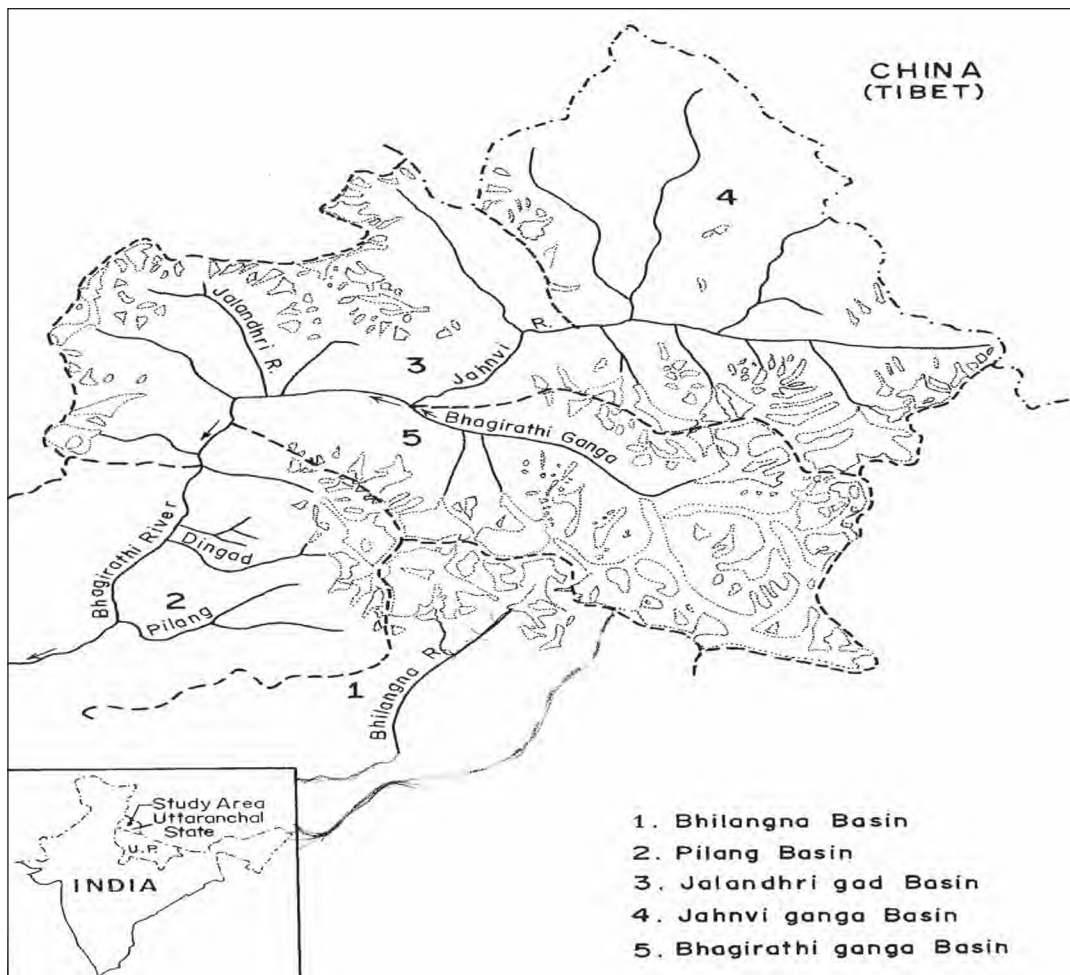


Fig. 2. River system and glacier regime of Bhagirathi basin (Raina and Srivastava, 2008).

Glaciers distribution

A total of 238 glaciers have been identified (Raina and Srivastava, 2008) in the five drainage basins (Fig-2) and are distributed as follows: Bhagirathi (78), Jahnvi (60), Jalandhari (64), Pilang (23) and Bhilangana (13). Bhagirathi is the single largest glacierised basin occupying about 50% of the total glacierised area, whereas the Pilang basin is occupied by a small glacierised area of about 48.54 km² (6.4%) in the region. Bhilangana is a large drainage basin in the valley but it has a small glacierised area with less number of glaciers. Jalandhari and Jahnvi are high glacierised basins contributing 104.99 km² and 136.43 km² glacial areas to the basin respectively (Fig. 3 & 4). The uneven distribution of glaciers within the valley span may be due to topographic and micro-climatic variations. The Bhagirathi, Jahnvi and Jalandhari basins contain higher concentration of glaciers whereas Bhilangana and Pilang occupied comparatively less 13 & 23 glaciers respectively.

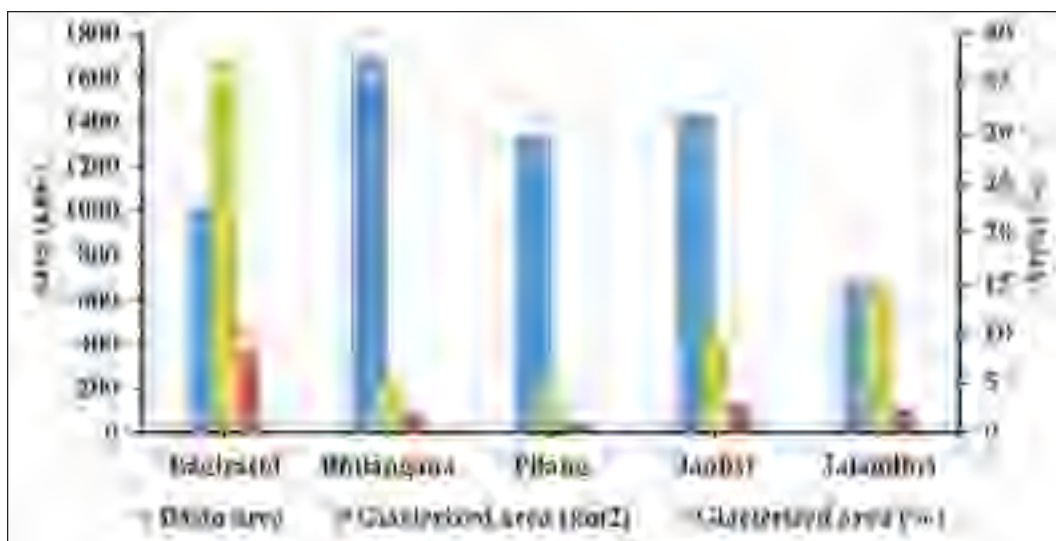


Fig. 3. Relationship of between basin area, glacierised area and glacierised area % in different river basins of Bhagirathi river.

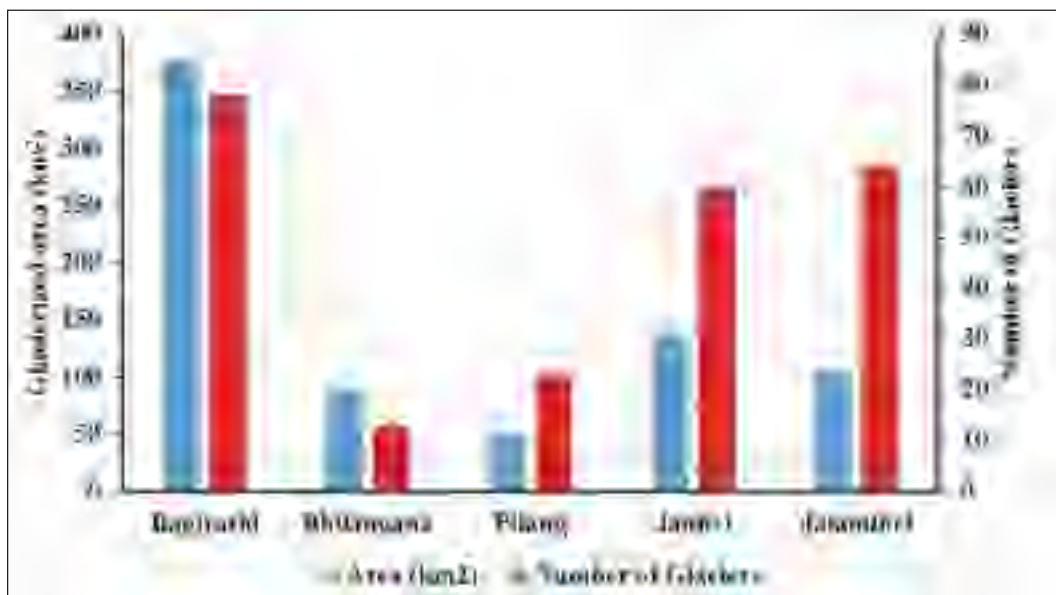


Fig. 4. Glacierised area and number of glaciers in individual basin of Bhagirathi river catchment.

The glaciers in the Bhagirathi river basins extended between altitudes 6700m (head) and 3800m (snout), but the small (mountain) glaciers (cirques, niche and ice-apron, ice cliff /glacierete) are mostly located above the 4400m of altitude. The altitude of the regional snowline is fluctuating between 4900 and 5200m. Out of 238 glaciers majority of small glaciers are less than 5 km (70 %) is more than large glaciers (more than 10km). Gangotri is the largest glacier (30km) in the basin followed by Khatling 11.7 km and Jaonli 09 km. The characteristic features of these glaciers are thick debris covered ablation area ranges from 30 to 60% (Dobhal et al., 2013b). In addition altitude and aspects are a fundamental controlling factor (temperature and precipitation) for the gain or loss of the glacier mass. Gangotri glacier is one of the largest glaciers in the basin (147km²) and containing more than 60% ice volume of total ice volume of the basin. The Gangotri glacier is not a single ice body, several large tributary glaciers such as Kirti (9.77km) Ghanohim (4.55km), Swachhand (8.17 km), Maiandi (4.80km), Chaturangi (21.88 km), Raktvarn (12.66 km), Meru (6.26km) and few small glaciers (2-4 Km) join the main trunk glacier and formed a huge glacier system in the basin. A summarized statistics of glacier distribution in the Bhagirathi basin is given in Table-1

Table-1: Summarized statistics for the glaciers in Bhagirathi river basins

Basins/ Parameters	Bhagirathi	Bhilangana	Pilang	Jahnvi	Jalandhri
Basin area (km ²)	1014.58	1700 .00	1335.4	1439.53	693.75
Glacierised area (km ²)	377.70	88.20	48.60	136.35	105.11
Glacierised area %	37.23	5.19	3.63	9.46	15.13
No of glaciers	78	13	23	60	64
Length					
>5km	09	04	02	07	06
<5km	69	09	21	53	59
Area					
>5 km ²	08	05	03	06	07
<5 km ²	70	08	20	54	57
Types: (%)					
Valley	41	62	48	73	58
Mountain	59	38	52	27	42
Largest glacier	Gangotri	Khatling	Jaonli	Unnamed	Unnamed
a) Length, km	30.2	11.7	09	11.5	10.75
b) Area, km ²	143.58	44.45	17.98	19.9	13.7
c) Thickness, m	200	50		100	70
Elevation (m,msl)			6600		
Maximum	7100	6900	4200	6600	6300
Minimum	4000	3800		4200	4300
Relief ratio	0.10	0.26	0.26	0.20	0.18
Snout elevation (m, msl)	4040	3865	4230	4240	4300

Recession trend of glacier in Bhagirathi basin

The glaciers fluctuations are in direct response to climate variations and considered to be the best tools for assessment of the health of glacier. It is a well-established fact that glaciers are retreating worldwide. It is a self-regulating mechanism which is controlled by the glacier's shape, geometry, bedrock topography and climate of the area. Enhanced recession rates of glaciers during the recent years has initiated widespread discussions, especially in context of global warming. The glaciers in Himalayas are well known for their recession on various time scales and have fluctuated between the wide limits. Pindari Glacier was the first glacier in the region that was monitored in 1845 and has retreated by about 2840m during the period from 1845 to 1966. Systematic glacier snout observation was initiated during the International Hydrological Decade (1965-74). Since then a

continuous recession have been reported in different parts of the Uttarakhand Himalayas. In the Bhagirathi glacierised basins, out of 238 glaciers only two glaciers namely Gangotri and Dokriani have long term records of changes in their length and area and short term study of Khatling glacier (Fig.-5). A satellite based studies (Bhambri *et al.* (2011) of 82 glaciers in Bhagirathi and Alaknanda river for the period 1968 -2006 indicates that there has been 4.2% reduction in the glacierised area. The study also indicates around 6% reduction associated with Alaknanda basin and around 3% in Bhagirathi basin.

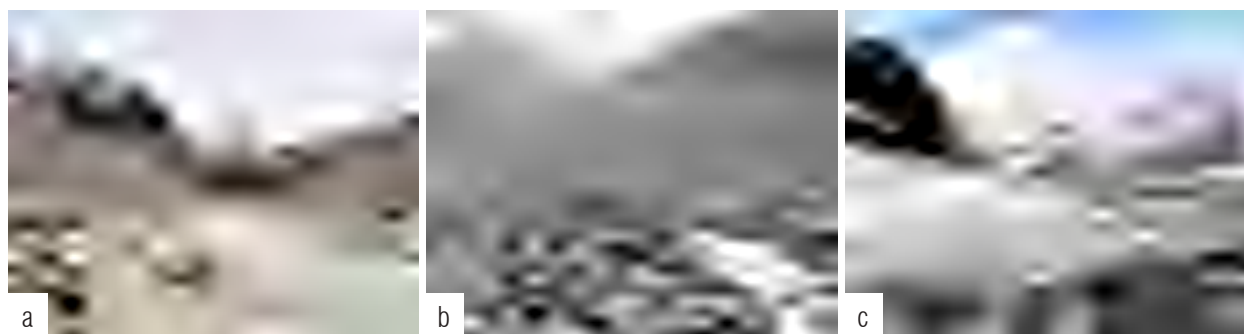


Fig. 5. (a) Frontal view of Gangotri (b) Dokriani and (c) Khatling glaciers in Bhagirathi river basin.

Gangotri glacier

Gangotri glacier is one of the best documented glaciers in the Indian Himalayas as far as its snout position demarcation is concerned. The snout of the glacier “Gaumukh” is about 18km from the holy shrine of Gangotri. The glacier has been under the state of continuous recession since 1935 (Auden, 1937). Geological survey of India has monitored the glacier since 1935 till 1996. The data reveal that the glacier has retreated by 1147 m, with an average rate of 19 m/year between 1935 and 1996. The total area vacated by the glacier during 1935 to 1996 is estimated to be 5, 78,100 m² or 0.58 km² (Srivastava, 2004). Various studies have been summarised in Table-2.

Table-2: Recession rate of Gangotri glacier snout since 1935

Period	Annual snout retreat (m)	Average annual surface area vacated (sq m/year)	Reference
1935-1956	4.35 (small cave) 10.16 (large cave)	2500	Jangpangi (1958)
1956-1971	27.33	10032	Vohra (1971)
1971-1974	27.34	594	Puri & Singh (1974)
1974-1975	35.00	13975	Puri (1984)
1975-1976	38.00	8900	Puri (1984)
1976-1977	30.00		Puri (1984)
1977-1990	28.08	15096	Puri (1991)
1990-1996	28.33	22370	Sangewar (1997)
1990-2001	12.55	-	Singh et al., 2017
2004-2005	12.10	-	Kumar et al. 2008
2001-2015	10.0	-	Singh et al., 2017

The measurement and monitoring of snout using field data, SOI toposheets and multi-date satellite data indicate that the rate of retreat of the Gangotri glacier is continuously decreasing from 38 m/year in 1975 to 12 m/year in 2005 to 10 m/year in

2015 (Singh et al. ,2017). In addition length fluctuation and area changes of Gangotri glacier based on remote sensing have been carried out for the period between 1965 and 2006 and suggests that the glacier retreated 819 m with an average rate of 6 m/y from 1965 to 1968 and 27 m/y from 1968 to 1980. Further, between 1980 and 2001 it retreated 21 m/y (Fig.- 6). During the period 1965-2006 the glacier has lost 0.41 km² (~ 0.01 km² y⁻¹). The recession rate declined during 2001-2006 and it receded at a rate of 7 m/y. From 2001 to 2006, the recession of Gangotri glacier has declined compared to the previous observation during the study period. However, it does not imply that Gangotri glacier recession has ceased as length changes show only the indirect and delayed response of a glacier to climate change, in contrast to glacier mass balance.



Fig. 6. Snout recession trend of Gangotri glacier between 1965 and 2006 (Bhambri et al. 2012).

Dokrani glacier

Dokrani (7 km²) in Din Gad valley of Bhagirathi river basin is another glacier in the region which have been regularly monitored since 1991 by fixed date annual measurement. The glacier has retreated about 480.1m during the period 1962-63 to 1991. Field observation carried out during the period 1991-2000 showed that the glacier has receded about 161.5m with an average rate of 17.8 m/yr. (Dobhal et al., 2007). Further during the period 2000-2007 the glacier has retreated about 110.2m with average rate of 15.7m/yr. Based on the above-observed data, it can be assumed that the glacier is continuously retreating and characterized by the different rate that is calculated during the period 1962-2007. It is clear from the data the retreating process is not always same patterned, it is always fluctuating. During the field study from 1991 to 2000 the glacier is receding at the rate of 17.8m/yr and after 2000 the average retreating rate calculated about 15.7m/yr (Dobhal and Manish, communicated)) can be considered as the present rate of glacier recession. The study also observed that during the course of study period there is no advancement recorded in the glacier snout, while the glacier has been showing continuous recession since the measurement has been made (Fig. 7). during the period 19962-1991 and 1991-2007 (Dobhal et al., 2004, Dobhal and Manish, 2008). The

study show that the glacier has receded about 440m between 1962 and 1991, 161m from 1992 to 2000 and 110m from 2000 to 2007 with an average rate of 16.7m/yr, 17.8m/yr and 15.5m/yr respectively. Between 1962 and 2007, the glacier volume is estimated to have been reduced by about 20% and frontal area is vacated by 10% and receded 751m in last 45 years with an average recession rate of 16.6m/yr. Ground based study on Dokriani Glacier suggest that the glacier has lost about 9.5% area during 1962–2007 and retreated (Dobhal and Mehta 2010). The study also suggest that during the course of study period there is no advancement recorded.



Fig. 7. Recession trend of Dokriani Glacier (1962 to 1912),

Khatling glacier

Khatling glacier ($30^{\circ} 50' 80''$ N, $78^{\circ} 54' 100''$ E) is the largest glacier in the Bhilangna basin, originated from the Janoli (6632 m asl) and Bhetiara Ka Danda (5748 m asl) peaks. The length of glacier is 11.7 km cover an area of 44.45 km². Although, there is no long term records of its recession, however a study carried out using remote sensing data and total recession measured along the central flow line of the glacier shows that the glacier snout receded 4340 ± 17.1 m and lost about 10% of the total glacier area during 1965 to 2014 (Babu, 2011). It is also observed that the recession resulted mainly due to fragmentation of the glacier and converted into multiple compound basin glaciers and simple glaciers

The study of few glaciers out of the 238 glaciers support that glaciers are in general state of decline during recent time, some exceptional results indicate the complexity of both regional to local scale climate. It has also been observed that the recession rates for both small glaciers (less than 5 km) and large (more than 10 km) glaciers are more or less same, whereas the majority of small glaciers (~70%) are more than the larger glacier in the Bhagirathi basin. Out of total 238 glaciers, 208 glaciers are less than 5km² and out of 208 glaciers 147 are less than 1km². The study indicates that rate of recession (area change) in the small glaciers are more than the larger glacier (Fig. 8).

Glacier melt water discharge

Discharge from the Gangotri glacier, the largest glacier in the Bhagirathi basin is calculated 565×10^6 m³ and 479×10^6 m³ in 1999 and 2000 respectively (Kumar et al. 2001). Similarly the measurements made during 1998, 1999 and 2000 show that Dokriani glacier (7km²) which is a significantly small glacier in the Bhagirathi valley contributed 52.3×10^6 m³, 42.7×10^6 m³ and 56.1×10^6 m³ respectively (Thayyen et at, 2007). Out of total annual discharge about 60% was recorded in July August alone

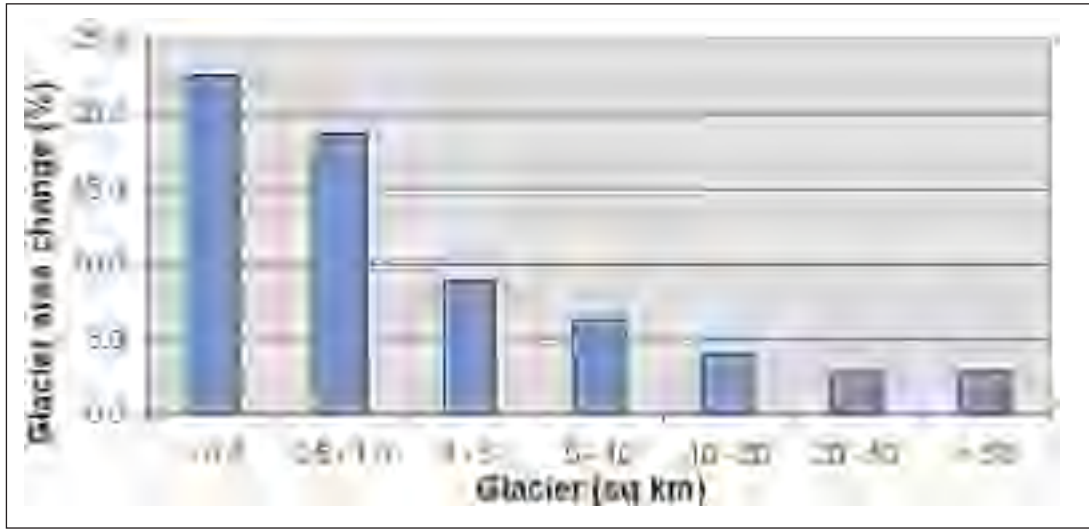


Fig. 8. Recession trend of different size glaciers (area in %) in Bhagirathi and Alaknanda basins (Bhambri et al., 2011a).

and 40% discharge occurred in the remaining months. Melt water streams, originating from a glacier, carry sediment load partly in suspension and partly as bed load. In general glacier melt stream, from even a small glaciers (5km^2), can transport as much as 4,000-5,000 tonnes of suspended sediment during the high discharge period of the melt season. On an average, sediment load producing capacity of the glacier ice in the Himalayas has been found to be of the order of 30 tonnes per day per km^2 of ice during the melt season in a granite / gneissic terrain, which is rather very low when one compares it with those of the glaciers in Alps (Raina 2009). The snow ice melt water discharge during the different seasons from a glaciers basin are shown in Figure-9.

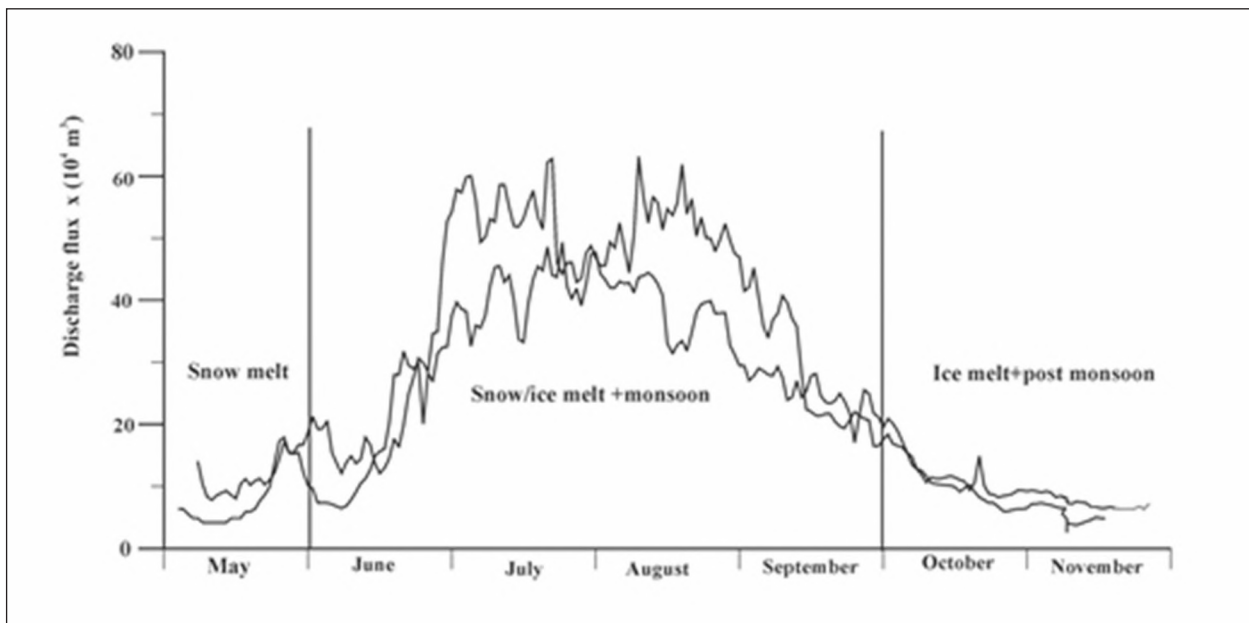


Fig. 9. Contribution of discharge from glacierised area. An example from Dokriani glacier, Bhagirathi river basin.

Impact of glacier retreat (*An environmental appraisal*)

Snow ice and glaciers are perennial resource of fresh water and lifeline of people living in the down valley. They are not only important for drinking and agriculture use but have a vast potential for hydro power generation. The rapid recession of the glaciers is dramatic and has numerous ecological consequences. In the region, the glaciers are generally located above an altitude of 3800 m and close proximity to treeline. There is an important interaction which exists between the snowline and treeline/timberline. Upward shift of glaciers snout leads to the formation of open rock landscape (moraines). These moraines provide a nursery for pioneer life, and open new habitats and pioneer species, which have invaded the glacial environment. On decadal and longer time-scale, the altitudinal distance between the upper tree-line and glacier terminus will be reduced and many changes in vegetation species would occur. Impact of deglaciation on forest ecosystems include shifts in forest boundaries by altitude and upward movement of treelines, changes in species, composition and vegetation types.

For the mountain ecosystem, the rapid recession of glaciers is a highly visible reflection of ecosystem-wide change. For instance, the reduced snow packs that lead to glacier recession also allow high-elevation trees to become established above the current treeline and in subalpine meadows. These tree invasions will reduce the diversity of herbaceous plants in open areas. Shrinking of glaciers will change cold air drainages, reduce moisture in glaciated basins during the late summer, and increase stream temperatures, thus affecting temperature-sensitive aquatic invertebrates (Fagre et al. 1997).

Glacier retreat provides new areas for plant colonization and alters sediment transport in streams. Continuous retreat of glaciers also reflects on other climate-related ecosystem changes, such as changing soil moisture, altered fire frequency, forest growth, and distribution changes in vegetation. Shrinking of glaciers especially retreat and thinning may give rise to catastrophic hazards, like debris flow and landslides. A growing concern is the potential for glacial lake outburst floods is one of the hazards to human population in the lower valleys. Mountaineering and trekking may be affected adversely by reduced snow and glacier cover and increase in natural hazards, endangering transportation on high-altitude routes. The shrinkage of glaciers provides powerful evidence of environmental change and an important means of tracking that change.

Hydrological and Water management Perspective

Himalayan snow and glaciers are apex natural water resource reservoirs and release large quantity of freshwater year round. From west to east the Himalayan glaciers can be divided into three segments according to their latitudes and topographic features: Western Himalayas, the Central Himalayas and the Eastern Himalayas. Broadly rivers originating from the Himalayan region can be grouped in three main river systems; the Indus, the Ganges and the Brahmaputra. Glaciers are one of the most sensitive indicators of climate change as they grow and shrink in quick response to changing air temperature. The Himalayan glaciers are huge storage and very important source of fresh water. Snow and glacier melt runoff studies will help improve management of available water resources in the region. In the Himalayan region long term series of temperature and precipitation are available at low altitude ranges. Also stream flow data and snowfall distribution availability is very limited. The lack of data availability in Himalayan region is one of the major constraints in projecting changes in runoff due to melt water and making a viable management programme for Himalayan rivers. More long-term observations and regional climate modelling studies are required for the Himalaya region to study global warming and its regional impacts.

The climatic change/variability in recent decades has made considerable impacts on the glacier life cycle in the Himalayan region. As a result, many big glaciers have melted, forming a large number of glacial lakes. Due to an increase in the rate at which ice and snow have melted, the accumulation of water in these lakes is increasing. Sudden discharge of large volumes

of water with debris from these lakes potentially causes glacial lake outburst floods (GLOFs) in valleys downstream. Recent declines in SCA in the months of February through August have resulted in (1) a shift in the month of maximum SCA from February to January; (2) a statistically significant decline in annual mean SCA; and (3) a shift towards earlier spring melt by almost two weeks in the 1972 to 2000 period (Dye, 2002).

Guideline & Suggestions

- For the assessment of sustainability of mountain ecosystem long term glacier monitoring studies are needed.
- Snow cover mapping and assessment alongwith the pattern of maximum snow cover during winter and repeated inventory of glaciers at least decadal scale.
- Strengthening of real time monitoring system for short and long term bases via-vis glacier recession, mass volume changes, snowline fluctuations, and Network of Automatic Weather Station (AWS) and melt water discharge monitoring stations in the entire Bhagirathi basin.
- Some important glaciers (like the Gangotri) in basin may be declared as “Bench Mark sites” for carrying out detailed studies on all glaciological aspect and weather & climate related parameters.
- Database on glacier recession, hydrological and climatologically be prepared. The integration of the collected data can subsequently be utilized for flash flood and water discharge monitoring.
- The available glacier inventory to be superimposed on the habitat map to identify most glacial hazard prone areas. The glacial lakes which are developed in front and margin of a glacier are more potential to the glacial lake outburst flood (GLOF) need to be addressed.
- Restricting anthropogenic activities and tourist movement in Gangotri glacier area as identified as vulnerable. Generation of guidelines and public awareness material for glacier related hazards.
- Enhance scientific knowledge on mountain eco-system and climate related disaster risk management of the state level and communities.
- Encouragement to use of green technologies for construction of roads, buildings and other large infrastructure projects and must be made mandatory.
- Integrating all the information generated for Himalayan glaciers under Geographical Information System (GIS) environment. This would eventually help in effective management and planning.

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The Gangotri glacier is a valley type glacier system with total glacierized area of about 286 km². Total catchment area of the Gangotri glacier (elevation range from 4000 to 7000 m) and melt stream up to the discharge-gauging site of NIH is about 556 km². The Gangotri glacier system (shown in Figure-1) most commonly known as Gangotri glacier, is a cluster of many glaciers comprising of main Gangotri glacier (86 km²) as trunk part of the system with major glacier tributaries as Raktvarn glacier (55.30 km²), Chaturangi glacier (67.70 km²), Kirti glacier (33.14 km²), Swachand glacier (16.71 km²), Ghanohim glacier (12.97 km²), Meru glacier (6.11 km²), Maindi glacier (4.76 km²) and few others having glacierized area of about 3.08 km².



Fig. 1. A map of the Gangotri glacier system.

National Institute of Hydrology (NIH) has established a hydrological observatory little downstream of the snout of the Gangotri glacier (Gaumukh) at Bhojwasa and is maintaining it since the year 2000. Data set at the observatory includes rainfall, temperature, humidity, wind speed and direction, sunshine hours, radiation, evaporation, discharge and suspended sediment. An AWS has also been installed at Bhojwasa site.

Some salient hydro-meteorological observations at the site include: mean temperature (May to October): 9.11°C, mean seasonal rainfall: 260 mm, mean pan evaporation: 598 mm, and mean daily sunshine hours: 5.5 hours. Total seasonal volume of water during 2000 to 2016 has been observed to vary from 680 to 1114 MCM. The individual concentration in stream flow from snow/glacier melt, rainfall and sub surface flow is found to be 85%, 3% and 12% respectively. The distribution of observed runoff indicates maximum runoff in July (33.39%) followed by August (29.46%). The strong storage characteristics of the Gangotri glacier are reflected by the comparable magnitude of runoff observed during daytime and night time. Daily mean concentration of suspended sediments varies between 34 to 11093 ppm. The plot of flow observations for the 16 years of record signifies a decreasing trend as shown in Figure-2.

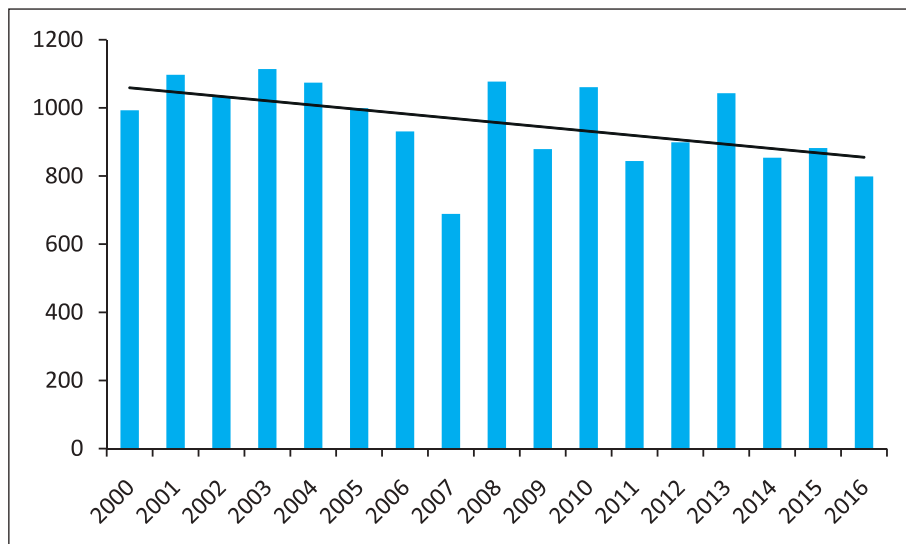


Fig. 2. Trends in seasonal flow (May – October) at Bhojwasa gauging site of NIH.

with a view to protecting ecosystems and maintaining optimum conditions of the riparian habitat.

- (vi) **River valley projects:** Further up to Two (2) MW being 20 MW capacity, of over 42.5 MW capacity, water-use related projects in streams of 10% minimum depth of 10% and with some different system of management and implementation should be allowed as a stream bed project.

- (vii) **Mining of Minerals and Stone quarrying and crushing:** Quarrying and stone plants, many stone plants should be permitted for re-construction and strengthening, as an upgrade of existing infrastructure.

Excavation and picking up of RBW up to a depth of 2.0 meters from the top bed should be permitted for streambank stabilization and to prevent channel flow and mitigate its adverse impact, as per the existing rules and regulations.

Limited stone quarrying and crushing should be allowed in an excavation, provided that such activities are not done in existing deep hill slopes or areas with high degree of erosion, spring flow and ground water recharge areas.

The State Government should be the authority to grant such special permits.

- (viii) **Extraction of ground water:** Extraction of ground water should be permitted only for the agriculture and domestic consumption of the living and working of the village and had for institutions of public utility.

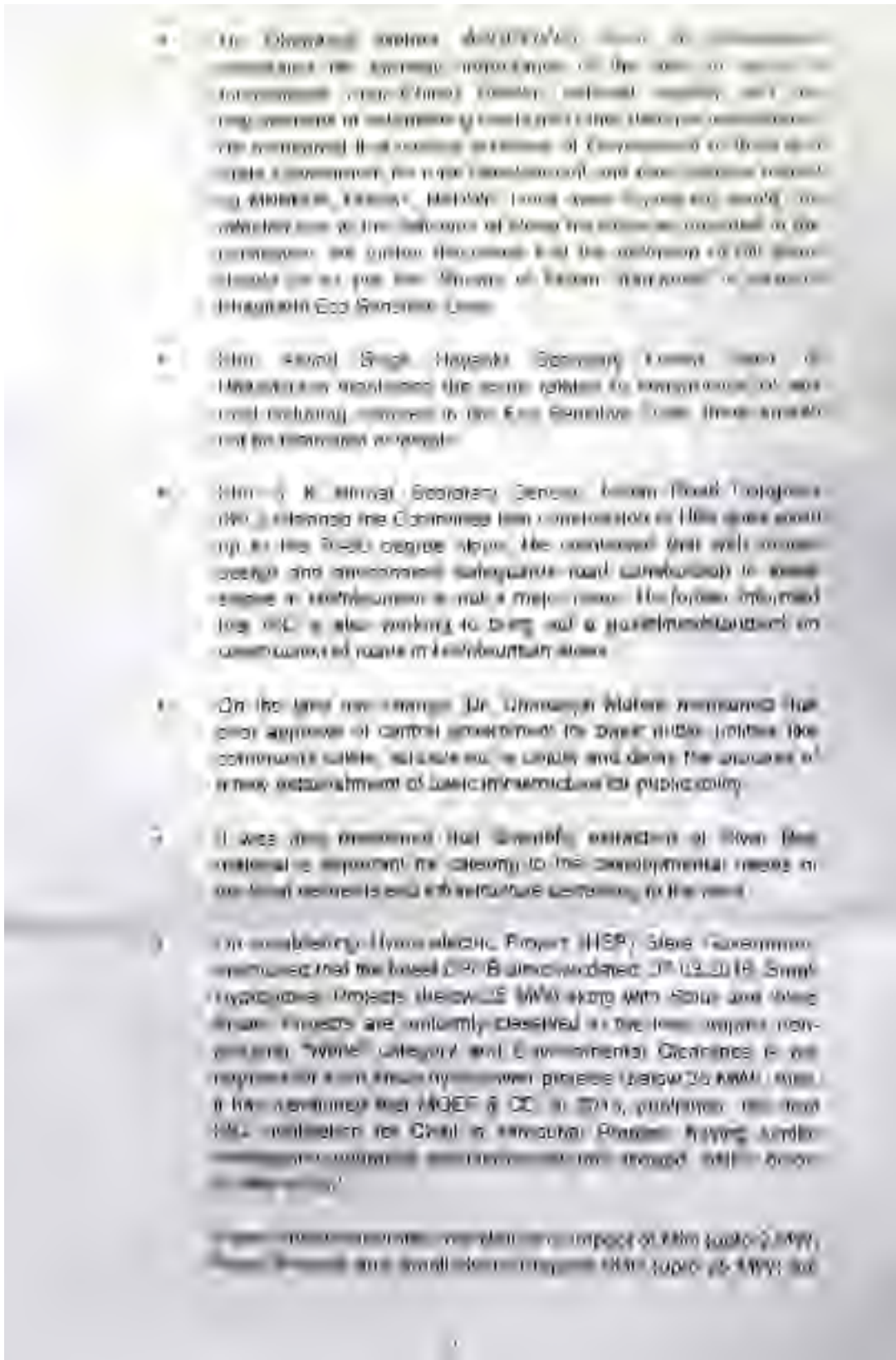
The sale of ground water should not be permitted except with the prior approval of the State Ground Water Board.

- (ix) **Laying of Electric cables:** Laying of Electric cables, setting up of sub-stations, transformers and other related infrastructure and establishment of transmission infrastructure shall be permitted.

- (x) **Infrastructure and other WAs related to rural/urban water supply:** In rural/urban areas, which had no dams and the local and regional security infrastructures may be permitted in the riparian zone of the river.

4. Therefore, Annexed documents follow:

1. Final Summary Agreement between the Government of Karnataka and the Government of Karnataka for the development of the 20 MW hydro power projects in the 25th Ward, Bangalore Urban District and the Government of Karnataka.



proceedings in relation to the proposed development of the...
 (The text is significantly blurred and difficult to read.)

1. The design for construction of hydraulic structures...
 (The text is significantly blurred and difficult to read.)

2. The Project File...
 (The text is significantly blurred and difficult to read.)

3. Based on the provisions of the...
 (The text is significantly blurred and difficult to read.)

Original ESE Clause	Existing text of the ESE Modification	ESSE Proposed by Maharashtra Govt	Recommendation by the ESE Expert Committee
2.11c	No change of land use... (The text is significantly blurred and difficult to read.)	For removal of land use from... (The text is significantly blurred and difficult to read.)	With the... (The text is significantly blurred and difficult to read.)

[Section] [Title] (Chapter)	Existing Text in the Bill	Amendments Proposed By	Recommendation of the Expert Committee
	[Section] [Title]	[Section] [Title]	
[Section]	[Section] [Title]	[Section] [Title]	[Section] [Title]
[Section]	[Section] [Title]	[Section] [Title]	[Section] [Title]
[Section]	[Section] [Title]	[Section] [Title]	[Section] [Title]

207 Expenditure Committee Meeting on 5-12 held on 16th December, 2017

List of Participants

Members of Expend Committee

1. Mr A. K. Nanda, President Society, Chairman
2. Mr. K. K. Singh, Advisor, MCD, DC
3. Mr. A. P. Vaswani, DIG (M), MCD, DC
4. Shri B. Satish Kumar, Scientist, V. WI, Ekhaan, Allahabad
5. Mr. P. Ram Singh, Director, National Survey of Insect, Kolkata
6. Dr. Anand Chandra, Director, ICR, Kolkata
7. Shri Anand Kumar, Director, WAF, New Delhi
8. Shri C. K. S. Man, Scientist, ICAR, Pusa Institute of Horticulture, Environment & Environment, Varanasi
9. Dr. Ananta Prasad, Scientist, ICR, Lucknow, Lucknow
10. Shri V. S. Ravi, AIC, Climate Change, ICAR, Delhi
11. Shri. Satish Kumar, Director, National Survey of Insect, Kolkata
12. Dr. Sarvesh Kumar, Associate TCP, Town & Country Planning, Government, Lucknow
13. Dr. Manoj Kumar, Scientist, Saltin, All Genes & Ornithology and Herpetology, SACDN
14. Shri. Anand Kumar, AD, Central Pesticide Control Board, Lucknow
15. Dr. Ramesh Kumar, Director, ICAR, MCD, DC, Member Secretary.

Special Invitee

16. Shri S. K. Nanda, Secretary General, Indian Fruit Commission, Lucknow
17. Shri D. P. Singh, Director, Central Insect, Ministry of Food, Transport and Highway, Lucknow

Officers of Government of Uttar Pradesh

18. Shri. Mohd. Haniff, Joint Secretary, Dept. of Agriculture
19. Shri. Pradeep Kumar, Joint Secretary, Dept. of Agriculture, Lucknow
20. Shri. Anand Kumar, Joint Secretary, Dept. of Agriculture, Lucknow
21. Shri. Anand Kumar, Joint Secretary, Dept. of Agriculture, Lucknow
22. Shri. Anand Kumar, Joint Secretary, Dept. of Agriculture, Lucknow
23. Shri. Anand Kumar, Joint Secretary, Dept. of Agriculture, Lucknow

16. Shri S. S. Armani, Senior Research Officer, Uttarakhand Tourism
17. Shri D. V. A. Khera, PCCF Uttarakhand, Govt. of Uttarakhand
18. Shri. Suresh Prakash (Jaiswal), Assistant Engineer, Irrigation Dept. Uttarakhand
- Shri. Tandeep Singh, Junior Engineer, HWD Bhatwari, Govt. of Uttarakhand
19. Shri. Vinod Kumar Pant, Chief Engineer, Uttarakhand Irrigation Dept.
20. Shri. A. K. Datta, E.W.C. Uttarakhand Irrigation Dept.
21. Shri. S. R. Verma, MD, UJNL, Dehradun
22. Shri. P. S. Purohit, S. E., Irrigation Dept. Uttarakhand
23. Shri. A. S. Khatri, Executive Engineer, P. D. (P.W.D.) Bhatwari, Uttarakhand
24. Shri. D. S. Pandey, E. P. W. D., Tihari Zone, Uttarakhand
25. Shri. S. L. Patil, Additional Director, Mining, Geology & Mining, Dept. of Uttarakhand.
26. Shri. B. C. R. Mishra, MD, UPCL, Dehradun
27. Dr. Harish Bakshi, DGM, UJNL

Ministry of Environment, Forest and Climate Change, Govt. of India

18. Shri Parula Verma, Joint Director (SO/D7) MoEF & CC, New Delhi

रजिस्ट्री सं० डी० एल०-33004/99

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सत्यमेव जयते

भारत का राजपत्र

The Gazette of India

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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय**अधिसूचना**

नई दिल्ली, 16 अप्रैल, 2018

का.आ. 1656(अ).—केन्द्रीय सरकार ने, भारत के राजपत्र, असाधारण, भाग 2, खंड 3, उपखंड (ii) में, सं. का. आ. 2930 (अ) द्वारा तारीख 18 दिसंबर, 2012 को प्रकाशित भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना (जिसे इसमें इसके पश्चात् उक्त अधिसूचना कहा गया है) द्वारा 4179.59 वर्ग किलोमीटर के क्षेत्र में आने वाले गौमुखी से उत्तरकाशी तक भागीरथी नदी के लगभग 100 किलोमीटर फैलाव के संपूर्ण जलभराव क्षेत्र को पारिस्थितिकी संवेदी जोन के रूप में अधिसूचित किया था जिसके द्वारा उक्त जोन में कतिपय श्रेणियों के क्रियाकलापों को प्रतिषिद्ध, विनियमित किया गया था या उन्हें अनुमति प्रदान की गई थी;

भागीरथी पारिस्थितिकी-संवेदी जोन में पर्यावरणीय संरक्षण सुनिश्चित करते हुए प्रोत्साहन योग्य विकास को बढ़ावा देने वाले क्रियाकलापों की अनुमति देने के लिए विभिन्न पणधारकों से कई अभ्यावेदन प्राप्त हुए हैं;

और, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उप-नियम (4) उप-नियम (3) में अंतर्विष्ट किसी बात के होते हुए भी, जहां केन्द्रीय सरकार को यह प्रतीत होता है कि लोकहित में ऐसा करना है तो वह पूर्वोक्त नियम के उप-नियम (5) के खंड (क) के अधीन सूचना की आवश्यकता अपेक्षा को समाप्त कर सकेगा;

और, केन्द्रीय सरकार की यह राय है कि उक्त अधिसूचना को संशोधन करने के लिए उपरोक्त नियमों के नियम 5 के उप-नियम (3) के खंड (क) के अधीन सूचना की आवश्यकता को समाप्त कर दिया जाए।

अतः, अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 5 के उपनियम (3) के खंड (घ) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 3 की उपधारा (2) के खंड (v) के साथ

पठित उपधारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, उपरोक्त अधिसूचना में निम्नलिखित संशोधन करता है, अर्थात्:-

(I) पैरा 2 में,

(अ) खंड (12) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:- "(12) आंचलिक महायोजना में भूमि उपयोग से हरित उपयोगों जैसे बागवानी क्षेत्रों, कृषि, चाय बागान, उद्यान और अन्य जैसे स्थानों गैर-हरित उपयोगों में कोई परिवर्तन नहीं किया जाएगा, सिवाय इसके कि आंचलिक महायोजना को इस तरह की भूमि को सख्ती से सीमित रूपांतरण को पूरा करने की अनुमति हो सकती है बड़े पैमाने पर लोकहित और राष्ट्रीय सुरक्षा सहित नागरिक सुविधाओं और अन्य बुनियादी ढांचों के विकास के साथ-साथ राज्य सरकार की पूर्व अनुमति के साथ पर्यावरणीय प्रभावों के अध्ययन और उनके उपरांत विकल्पों के साथ पालन करके अंतिम रूप देना होगा।"

(आ) खंड (14) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:-

"(14) अधिसूचना के खंड (12) और वन संरक्षण अधिनियम, 1980 (1980 का 69) में अंतर्विष्ट उपबंधों के अधीन रहते हुए हरित क्षेत्र जैसे वन क्षेत्र, कृषि क्षेत्र आदि में कोई परिणामिक कमी नहीं होगी।"

(इ) खंड (16) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:-

"(16) पहाड़ी ढलानों का विकास और संरक्षण:

(i) आंचलिक महायोजना पहाड़ी ढलानों के क्षेत्रों को निर्दिष्ट करेगा जहां विकास की अनुमति नहीं दी जाएगी।

(ii) "किसी भी ढलान वाले क्षेत्रों में कोई भी विकास नहीं किया जाएगा या ऐसे क्षेत्र जो अपूर्ण या खतरा जोन या वसंत रेखाओं में आने वाले क्षेत्रों पर आते हैं और राज्य सरकार द्वारा उपलब्ध वैज्ञानिक साक्ष्यों के आधार पर पहचान की गई प्रथम ऑर्डर सरिताएँ या कटाव की उच्च डिग्री वाले ढलानों और आपवाहिक मामलों में समुदाय के लाभ के लिए अवसंरचनात्मक संकर्मों को पर्यावरणीय प्रभावों के समुचित अध्ययन के साथ किया जा सकेगा और लोक परामर्श सहित केंद्रीय सरकार के लाइन मंत्रालयों के परामर्श से इस तरह के विकास से उत्पन्न होने वाले उचित उपायों को किया जा सकेगा।"

(iii) पर्यटक रिसोर्ट और वाणिज्यिक काम्प्लेक्स में अधिशेष जल और बिजली वाले क्षेत्रों में ग्राम सभा और विद्यमान उपयोगकर्ताओं के साथ परामर्श और राज्य पर्यावरण संघात निर्धारण प्राधिकरण की अनुमोदन के साथ स्थित होगा।

(iv) पारिस्थितिकी-संवेदी जोन के स्थानों में जहां पहाड़ी कटाव से पारिस्थितिकी क्षति और आसन्न क्षेत्रों में ढलान अस्थिरता हो जाती है, ऐसे कटावों को पर्यावरणीय प्रभावों के समुचित अध्ययन से लिया जाएगा और सार्वजनिक क्षेत्र सहित केंद्रीय सरकार के लाइन मंत्रालयों के साथ परामर्श में उचित उपचारात्मक उपायों को लिया जाएगा।

स्पष्टीकरण- "इस अधिसूचना के प्रयोजनों के लिए," खड़ी पहाड़ी ढलान" का वही अर्थ होगा जो आईएस 14496 (भाग 2) 1998 में वर्गीकरण में दिया गया है: पर्वतीय क्षेत्र-दिशा-निर्देशों में भूस्खलन खतरे क्षेत्रीय मानचित्र की तैयारी के लिए भारतीय मानका";

(ई) खंड (19) में, उप-खंड (I) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:-

(i) "आंचलिक महायोजना में शामिल होने के अध्यधीन रहते हुए विद्यमान सड़कों का विस्तार या चौड़ाई सहित पारिस्थितिकी संवेदी जोन में अनारक्षित सड़क सहित किसी भी सड़क के संनिर्माण के लिए है।"

"आंचलिक महायोजना में शामिल होने के अध्यक्षीन रहते हुए विद्यमान सड़कों का विस्तार या चौड़ाई सहित पारिस्थितिकी संवेदी जोन में अनारक्षित सड़क सहित किसी भी सड़क के संनिर्माण के लिए है।"

(II) पैरा 3 में:-

(अ) खंड (क) में, उप-खंड (v) के स्थान पर, निम्नलिखित खंड रखा जाएगा, अर्थात्:-

"(v) नई आरा मिलों की स्थापना।";

(आ) खंड (ख) में,

(i) उप-खंड (i) के स्थान पर, निम्नलिखित उप-खंड रखा जाएगा, अर्थात्:-

(i) जल.-(1) "भूजल की निकासी की अनुमति केवल भूखंड के प्रामाणिक उपभोक्ता के कृषि और घरेलू उपभोग के लिए और सार्वजनिक उपयोगिता संस्थानों और भूजल की बिक्री के लिए भी अनुमत होगी, राज्य भूमिगत जल बोर्ड के पूर्व अनुमोदन के अलावा अनुमति नहीं दी जाएगी।";

(ii) उप-खंड (vii) के स्थान पर, निम्नलिखित उप-खंड रखा जाएगा, अर्थात्:-

"(vii) विद्युत केबल्स का निर्माण, उप-स्टेशनों, ट्रांसफार्मर और अन्य संबंधित बुनियादी ढांचे की स्थापना और संचार संरचना की स्थापना पर्यावरणीय संघात के उचित अध्ययन के साथ स्थापित की जाएगी और उनके उपरांत विकल्पों के साथ पालन करना होगा।";

(ग) खंड (ग) में, उप-खंड (vii) के पश्चात्, निम्नलिखित खंड अंतःस्थापित किया जाएगा, अर्थात्:-

"(viii) पुनर्निर्माण, आपदा निवारण, लिफ्ट सिंचाई, अस्पतालों, स्कूलों, खाद्य प्रसियां और अन्य सामाजिक और राष्ट्रीय सुरक्षा अवसंरचना से संबंधित कार्यों को पर्यावरणीय संघात के उचित अध्ययन के साथ और उनके उपरांत विकल्पों के साथ पालन किया जाएगा।"

[फा.सं. ए. 25/3/2010 ईएसजेड (डब्ल्यूओएल-1)]

ललित कपूर, वैज्ञानिक 'जी'

टिप्पण- मूल अधिसूचना भारत के राजपत्र, असाधारण भाग II, धारा-3, उप-धारा (ii) में का.आ. सं.2930 (अ) द्वारा तारीख 18.12.2012 को प्रकाशित की गई थी।

MINISTRY ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 16th April, 2018

S.O. 1656(E).—Whereas by notification of the Government of India in the erstwhile Ministry of Environment and Forests published in the Gazette of India, Extraordinary, Part-II, Section 3, Sub-section (ii), vide number S.O.2930(E), dated the 18th December, 2012 (hereinafter referred to as the said notification), the Central Government notified entire watershed area of about 100 kilometres stretch of the river Bhagirathi from Gaumukh to Uttarkashi covering an area of 4179.59 square kilometres as the Eco-sensitive Zone thereby prohibiting, regulating or permitting certain categories of activities in the said Zone;

Whereas, a number of representations have been received from various stakeholders to allow activities that promote sustainable development while ensuring environmental protection in the Bhagirathi Eco-sensitive Zone;

And whereas sub-rule (4) of rule 5 of the Environment (Protection) Rules, 1986 provides that notwithstanding anything contained in sub-rule (3), wherever it appears to the Central Government that it is in public interest to do so, it may dispense with the requirement of notice under clause (a) of sub-rule (5) of the aforesaid rule;

And whereas the Central Government is of the opinion that it is in public interest to dispense with the said requirement of notice under clause (a) of sub-rule (3) of rule 5 of the aforesaid rules for amending the said notification.

Now, therefore, in exercise of powers conferred by sub-section (1) read with clause (v) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) read with clause (d) of sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following amendments in the aforesaid notification, namely:-

(I) in paragraph 2,

(A) for clause (12), the following clause shall be substituted, namely:- “(12) No change of land use from green uses such as horticulture areas, agriculture, tea gardens, parks and others like places to non green uses shall be permitted in the Zonal Master Plan, except that strictly limited conversion of such lands may be permitted to meet the local needs including civic amenities and other infrastructure development in larger public interest and national security with the prior approval of State Government with due study of Environmental Impacts and complying with their mitigation options and subject to finalisation of Zonal Master Plan”;

(B) for clause (14), the following clause shall be substituted, namely:-

“(14) There shall be no consequential reduction in Green area such as forest area, agricultural area, etc. subject to the provisions contained in clause (12) and the Forest Conservation Act, 1980 (69 of 1980) as applicable.”;

(C) for clause (16), the following clause shall be substituted, namely:-

“(16) Development and Protection of hill slopes:

- (i) The Zonal Master Plan shall indicate the areas on hill slopes where development shall not be permitted.
- (ii) No development shall be undertaken in areas having a steep slope or areas which fall in fault or hazard zones or areas falling on the spring lines and first order streams or slopes with a high degree of erosion as identified by the State Government on the basis of available scientific evidence and in exceptional cases infrastructural works for the benefit of community may be undertaken with proper study of the Environmental Impacts and taking appropriate mitigation measures arising out of such development in consultation with the line Ministries of the Central Government including Public Consultation.
- (iii) Tourist resorts and commercial complexes shall be located in areas with surplus water and electricity, in consultation with Gram Sabha and existing users and with due approval of State Environment Impact Assessment Authority.
- (iv) The places in the Eco-sensitive Zone where cutting of hills causes ecological damage and slope instability in adjacent areas, such cuttings shall be undertaken with proper study of the Environmental Impacts and taking appropriate mitigation measures in consultation with line Ministries of the Central Government including Public Consultation.

Explanation- “For the purposes of this notification, “steep hill slope” shall have the same meaning as assigned to in categorization in IS 14496 (part 2):1998: Indian Standard for Preparation of Landslide Hazard Zonation Maps in Mountainous Terrains-Guidelines.”;

(D) in clause (19), for sub-clause (i), the following sub-clause shall be substituted namely:-

“(i) for construction of any road including un-tarred road in the Eco -sensitive Zone (including the extension or widening of existing roads subject to inclusion in the Zonal Master Plan.”;

(II) in paragraph 3,-

(A) in clause (a), for sub-clause (v), the following sub-clause shall be substituted, namely:-

“(v) Setting up of new saw mills.”;

(B) in clause (b), -

(i) for sub-clause (i), the following sub-clause shall be substituted, namely:-

“(i) Water. - (1) The extraction of ground water shall be permitted only for the agricultural and domestic consumption of the bona fide occupier of the plot and also for institutions of public utility and the sale of ground water shall not be permitted except with the prior approval of the State Ground Water Board”;

(ii) for sub-clause (vii), the following sub-clause shall be substituted namely:-

“(vii) Erection of Electric cables, setting up of sub-stations, transformers and other related infrastructure and establishment of communication infrastructure shall be established with due study of Environmental Impacts and complying with their mitigation options.”;

(C) in clause (c), - after sub-clause (vii), the following sub-clause shall be inserted, namely:-

“(viii) Works related to re-construction, disaster mitigation, lift irrigation, hospitals, schools, food godowns and other social and national security infrastructures shall be carried out with due study of Environmental Impacts and complying with their mitigation options.”.

[F. No. 25/3/2010-ESZ (Vol-I)]

LALIT KAPUR, Scientist ‘G’

Note: The Principal notification was published in the Gazette of India, Extraordinary Part II, Section-3, Sub-Section (ii) vide S.O. No. 2930(E) dated 18.12.2012.



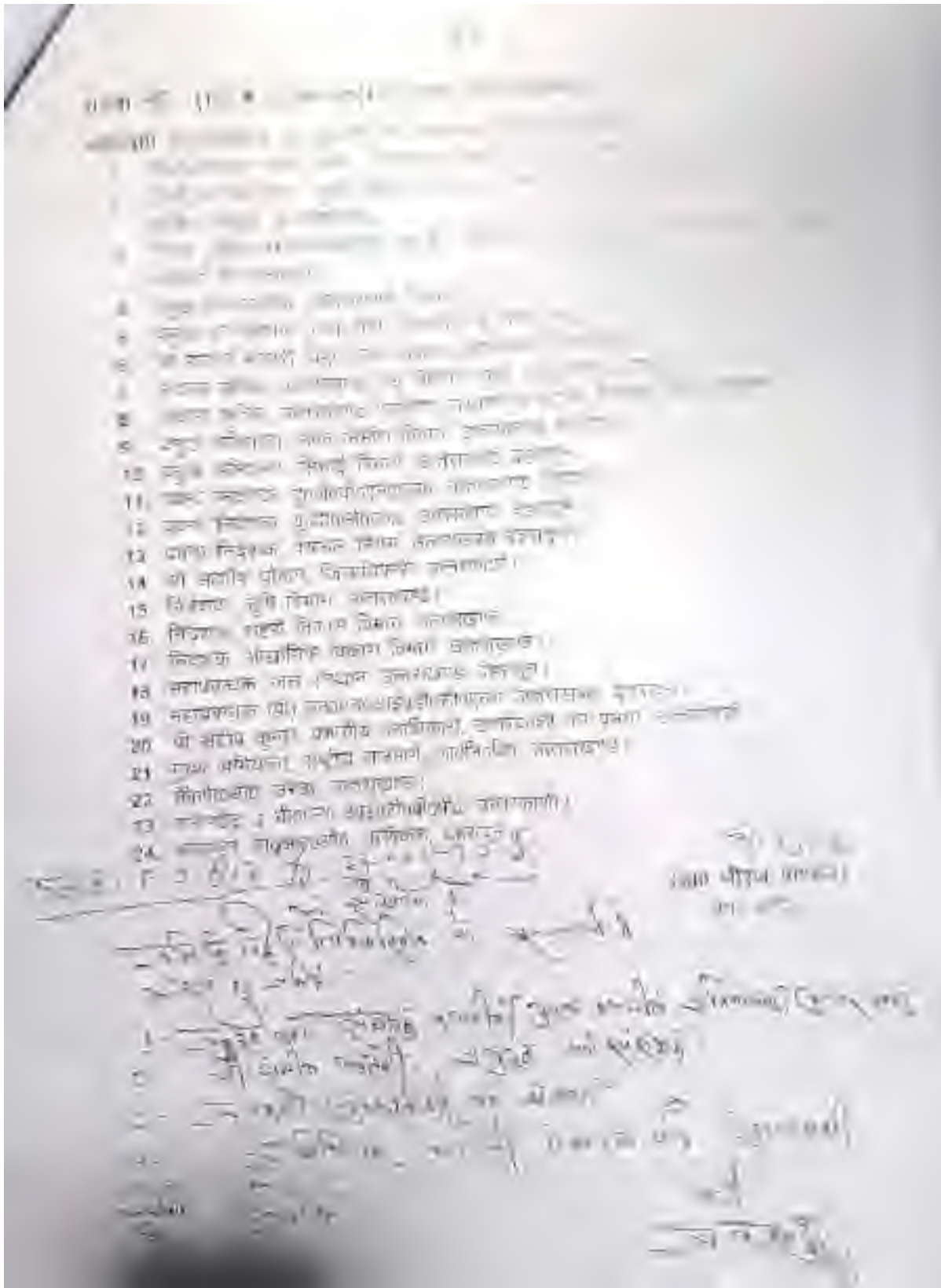
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प्रतिनिधि निम्नांकित प्रतिगणित्यां विशेष आवाजित) को सुकनार्थ एव उल्लेख्यक सम्प्रेषणी हेतु :-

- (1) श्री बी.वी.एन.श्यामी प्रमुख जन शिक्षक, मन्थली, उत्तराखण्ड।
- (2) श्री एम.पी. सुबुडि, सदस्य सचिव, पर्यावरण संरक्षण एवं प्रशासन विभाग, डोई रोड, देहरादून।
- (3) लोक ए.के.एच. 2 आई.सी. 36 डी.डी.एफ. उत्तराखण्ड।
- (4) श्री राजेश सिंह, अध्यक्ष, निदेशक, पर्यटन विभाग, उत्तराखण्ड, देहरादून।
- (5) श्री प्रकाश चन्द, जूडी महायुक्त, डी.एम.ए.आई. उत्तराखण्ड।
- (6) श्री सुरेश बहुगुणा, डी.जी.एम. (ग्रामीण), यु.एन.डी.एन.एन.एन.एन. उत्तराखण्ड।
- (7) श्री आर.सी. पुताहि, मुख्य अभियन्ता, लोक निर्माण विभाग, उत्तराखण्ड, देहरादून।
- (8) श्री आशीष बोहान, जिलाधिकारी, उत्तराखण्ड।
- (9) श्री शश्वत कुमार, ज्येष्ठ निदेशक, गौरीडी लक्ष्मी पर्वत, उत्तराखण्ड।
- (10) श्री सन्दीप कुमार, प्रभाषीय जनाधिकारी, उत्तराखण्ड।
- (11) श्री जनाज कुमार, एच.ओ.पी.ओ. परदा, उत्तराखण्ड।
- (12) श्री ए.के. त्यागी, सी.पी.ओ. उरड़ा, उत्तराखण्ड।
- (13) श्री जितेंद्र सिंह रावत, पर्यावरण विभाग, उत्तराखण्ड जन विद्युत निगम लि।
- (14) श्री एम.एल. चोमर, सी.ए.ओ. नृपति विभाग, उत्तराखण्ड।
- (15) श्री पिडान्न व्यामी, प्रमुख विशेषज्ञ, पर्यावरण न्यायि मम, एन.डी.एन.एन.एन. देहरादून।
- (16) श्री बी.डी. टण्डा, डी.डी.डी.ओ, पर्यटन विभाग, उत्तराखण्ड।
- (17) श्री वी.पी. निश्रा, यू.पी.सी.एल, उत्तराखण्ड, देहरादून।
- (18) श्री डी.पी. डभाल, विंग, देहरादून।
- (19) श्री सन्दीप सिंघल, निदेशक, जलो विभाग, देहरादून।
- (20) श्री लक्ष्मण कुमार सिंह, डी.डी.ओ, ग्रामीण विकास विभाग, उत्तराखण्ड।
- (21) श्री जी.डी. मित्तल, अधिशासी अभियन्ता, सिंचन विभाग, उत्तराखण्ड।
- (22) श्री क.के. मेहता, महायुक्त अभियन्ता, एच.एच. 36 डी.डी.एफ. (पिंक), उत्तराखण्ड।

(शरद्विन्ध्य सिंह हत्याजी)
सचिव (प्रमारी)



F.No. 25-3/2010-RE (VOL-I)
GOVERNMENT OF INDIA/BHARAT SARKAR
Ministry of Environment, Forest and Climate Change
(ESZ Division)

PITAMBI TOWER, 2nd Floor
(New Patayalao Bhawan)
Along Jai Singh Road
New Delhi-110003

Dated: 28th February 2018

To,

All participants (28th Expert Committee Meeting on ESZ)

Subject: 28th Expert Committee on ESZ held on 18th December, 2017 on
Bhagirathi Eco-Sensitive Zone Notification dated 18th December 2012

Sir/Madam

Please find herewith a copy of minutes of the above meeting held on
18/12/2017 in Ministry of Environment, Forest and Climate Change is enclosed for
reference.

Yours faithfully,

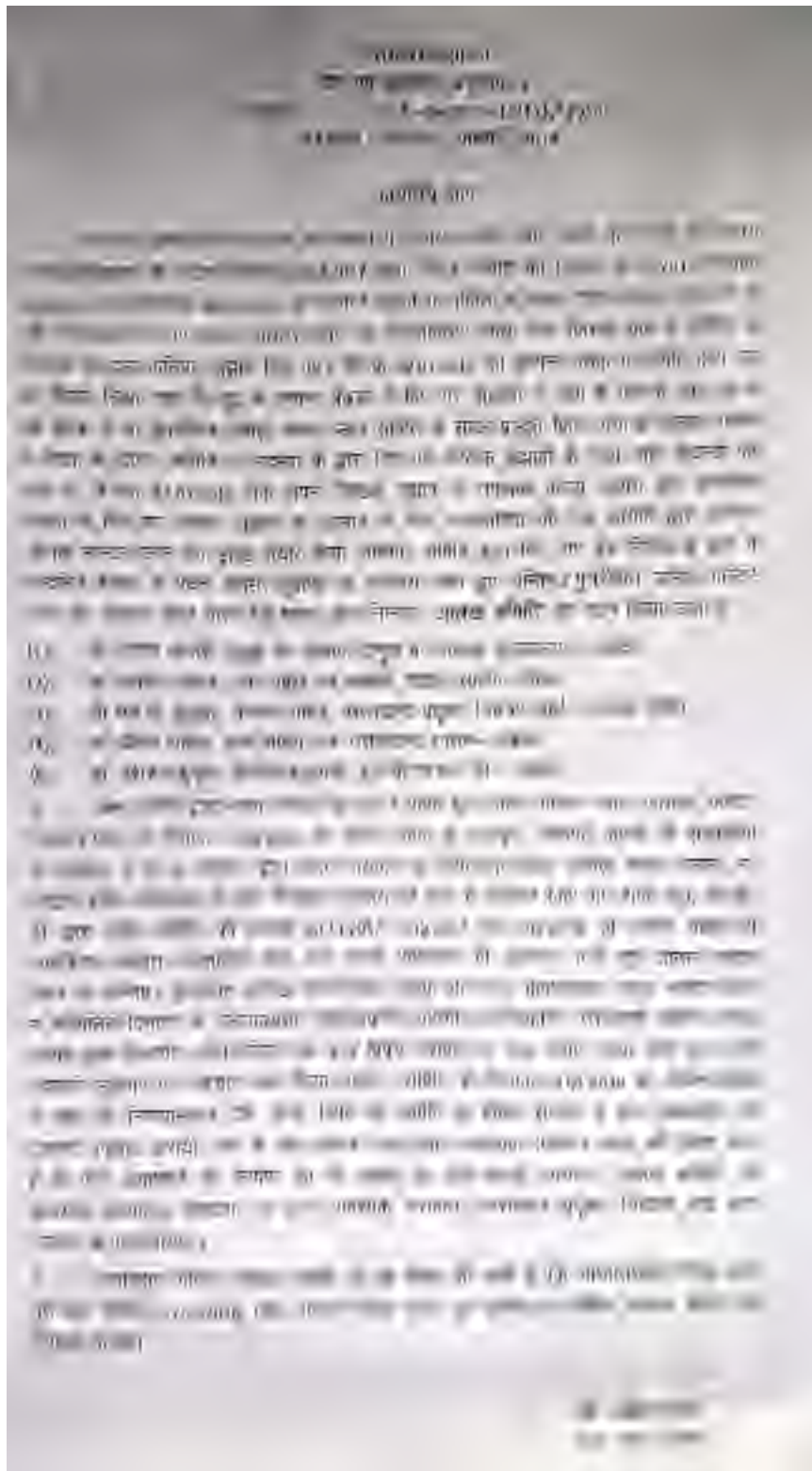
(Pankaj Verma)
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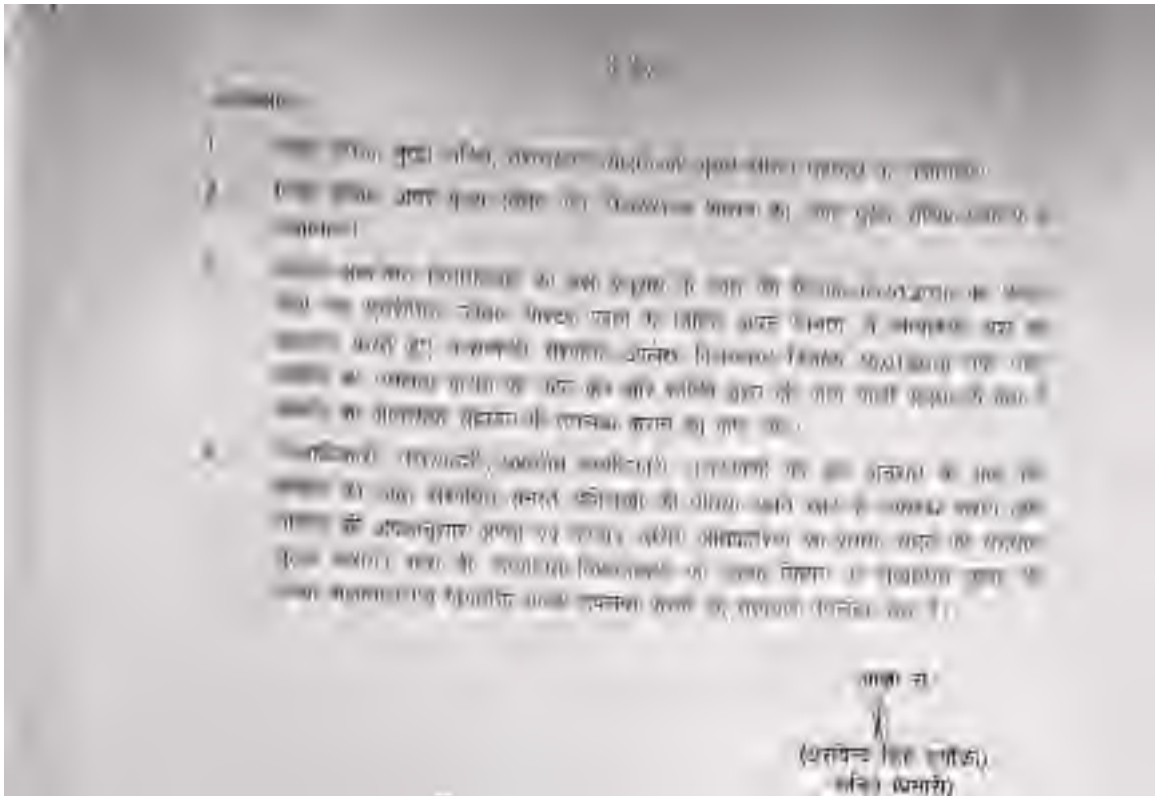
Telefax: 24695288 (O)

E-mail: pankaj.verma@nic.in

Encl: All above

Annexure No. 14





Sh. Chandi Prasad Bhatt, Environmentalist, Uttarakhand**Annexure No. 15(A)**

सेवा में,

सचिव,
उत्तराखण्ड शासन,
वन एवं पर्यावरण अनुभाग-3,
देहरादून।

माननीय महोदय,

भागीरथी ईको सेंसिटिव जोन के अन्तर्गत जोनल मास्टर प्लान तैयार करने हेतु दिनांक-1 जनवरी, 2018 को आहुत तृतीय बैठक में लिये गये निर्णय के अनुसार समिति के सदस्यों से अपने सुझाव देने का निर्णय लिया गया था।

अतः मैं अलग-अलग चैप्टरों से सम्बन्धित सुझाव संलग्न कर रहा हूँ। इन्हे जोनल मास्टर प्लान में सम्मिलित करने की कृपा करें।

धन्यवाद।

भवदीय

चण्डी प्रसाद भट्ट
चण्डी प्रसाद भट्ट 25/1/2018
सर्वोदय के.ए.
श्री वैशाली 302444
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संलग्न-

चैप्टर-1-2-3-7 में असहमति पत्र व वैकल्पिक उर्जा एवं-9-9A-10

प्रतिलिपि-

- 1- जिलाधिकारी उत्तरकाशी को सूचनार्थ संलग्न।।
- 2- उप वन संरक्षक, उत्तरकाशी को सूचनार्थ संलग्न।

वन से सम्बन्धित सुझाव-चैप्टर-1

जलागम प्रबंधन-चैप्टर-2

भागीरथी घाटी में मल्ला गाँव के बाद अधिकांश पहाड़ सीधे खड़े हैं इन्ही पहाड़ों के बीच में जहाँ भी समतल ढालदार भूमि है वहाँ बसासत है। अधिकांश बसासत भागीरथी के बाँये तरफ है। मुख्य रूप से मल्ला गाँव के बाद यह साफ देखा जा सकता है जंगलों के बारे में बाँयी तरफ जंगलों की सघनता है। दाँयी ओर जंगल या तो है ही नहीं या छितरे है। इसमें ढाल भी एक कारण हो सकता है। एक बड़ा कारण बार-बार आग लगना भी हो सकता है इसलिये वन विभाग की योजना में आग पर नियंत्रण को प्राथमिकता दी जानी चाहिये। इसमें प्रभावी नियंत्रण तभी हो सकता है जब जो कारक और परिणामभोक्ता होता है उसको केंद्र में रखा जाय जिसके चारों ओर यह हो रहा है।

वनाग्नि जैसे गम्भीर समस्या के लिए ग्राम स्तर पर ग्रामीणों द्वारा प्रबन्धन होना अति आवश्यक है जोनल मास्टर प्लान में जिला अग्नि प्रबन्धन योजना में ग्राम स्तरीय वन अग्नि समिति जिसमें अधिकांश महिलायें हो, हेतु स्पष्ट दिशा निर्देश उल्लिखित हो। इन समितियों की आर्थिक आपूर्ति हेतु कैम्पा मनरेगा, अन्य आपदा और ग्राम्य विकास मदों से धनावांटित किया जाय। जिला स्तरीय अग्नि समिति प्रत्येक वर्ष अपने कार्यवृत्त में इसका प्राविधान सुनिश्चित करें।

यह समिति आपदा चाहे वह जंगल में आग लगने की हो या अन्य आपदाओं में वह स्वतः स्फूर्त होकर काम करें। जैसे कि गाँव में आग बुझाने की पहले से परम्परा थी जो धीरे-धीरे समाप्त हो

सुनील कुमार

गई है। उसे पुर्नजीवित करने की आवश्यकता है। इसके लिये यह आवश्यक है कि इस समिति से वनों से सम्बन्धित परम्परागत वन उपज देने का यथा संभव अधिकार भी हो, जिससे कर्तव्य के साथ अधिकार भी दिये जाने से यह समिति सक्रीय होगी।

इस तरह अग्नि सम्बन्धित जिला स्तरीय सम्बन्धित कार्य योजना में इसका प्राविधान किया जाना चाहिए। लक्ष्य निर्धारित किया जाना चाहिये। साथ ही प्रोत्साहन राशि का भी प्राविधान रखा जाना चाहिए व जिम्मेदारियाँ तय की जानी चाहिए।

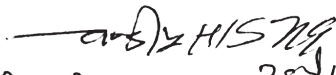
उत्तरकाशी जनपद का कुल भौगोलिक क्षेत्र 8016 वर्ग किलोमीटर जिसमें से सघन 570 घना 1778 तथा खुला 724 कुल 3012 वर्ग किलोमीटर यानी 38.32 प्रतिशत (वन सर्वेक्षण भारत, की रिपोर्ट 2015) एक चौथाई भूभाग खुले-छितरे है-इस प्रकार से इको सेंसिटिव जोन का टकनौर रेंज का भी बहुत सा भूभाग खुले छितरे वन के अन्तर्गत है। इस क्षेत्र का बड़ा भूभाग यानि आधे से भी अधिक क्षेत्र हिमाच्छदित-बुग्याल एवं चट्टानी है। विभिन्न विभागों द्वारा कराये जा रहे वन संवर्धन के कार्यों का एकीकरण करने की आवश्यकता है। इसका समय-समय पर मुल्यांकन भी हो।

गाड़-गदरों एवं जल स्रोतों के संरक्षण एवं संवर्धन में वानस्पतिक आवरण को ही प्राथमिकता दी जानी चाहिए। मशीनी कार्या कम से कम हो, पुर्नउत्पादन को प्रोत्साहित किया जाना चाहिए।

विभिन्न जल स्रोतों के जलागम क्षेत्र को स्थानीय परिस्थितियों को देखते हुए उपचार के वर्णित विभिन्न विधियों को प्रयोग में लाया जायेगा।

पुराने भूस्खलन एवं हिमोड़ के मलबों के ढेरों से गुजरने वाले नालों एवं गदरों के संरक्षण में बहुत सावधानी बरतनी चाहिये। इसके संरक्षण के लिये भी कार्य योजना में प्राविधान होना चाहियें।

नदियों एवं नदियों द्वारा बरसात एवं कृषि भूमि के कटाव से सुरक्षा के लिये भी नदियों के किनारों के बचाव मध्य स्थान से जहां से धारा परिवर्तन न हो सुरक्षावाला के लिए पत्थरों का उपयोग किया जा सकता है। लेकिन पहाड़ों को एवं नदियों के तटों को न खोदने को संरक्षण का प्राविधान किया जाना चाहिये।


श्री चण्डी प्रसाद भट्ट 28/1/2018

सदस्य, भागीरथी ईको सेंसिटिव जोन के अन्तर्गत जोनल मास्टर प्लान तैयार करने हेतु बनी समिति
(N.G.T.)

सर्वोदय केन्द्र गोपेश्वर, चमोली।

चैप्टर-3

भागीरथी इको सेंसिटिव जोन के अन्तर्गत कृषि बागवानी पर्यटन तथा आधारभूत संरचना किये जाने की आवश्यकता है।

कृषि व बागवानी

- 1-कृषि एवं बागवानी के सभी कार्यों हेतु किसान फेडरेशन/कॉपरेटिव का गठन किया जाय।
- 2-जैविक खेती खेत की उर्वरता बनाये रखने के लिए सबसे अच्छा तरीका है और जैविक उत्पाद बजार में किसान को बेहतर दाम भी दिला सकते हैं। इसलिए जैविक तकनीक जैसे कि वर्मी खाद, शिवांश खाद आदि का पुरे क्षेत्र में प्रसार एवं स्थापना शत प्रतिशत सुनिश्चित करने की आवश्यकता है और इससे सम्बन्धित जागरूकता एवं ज्ञान को निरंतर किसानों के बीच पहुंचाने की भी जरूरत है। इससे मृदा प्रबंधन स्वतः ही ठीक हो जायेगा और इसके लिए यह भी आवश्यक है कि समय-समय पर मृदा परिक्षण सुनिश्चित किया जाए।
- 3-स्थानीय फसलों के आधार पर खाद्य सुरक्षा हेतु पहाड़ की रीढ़ बारहनाजा (रामदाना, राजमा, मंडुवा, कोणी, भंगजीर, लोभिया, गहत, चीणा आदि) को कृषि विकास में पूर्णतः नजरअंदाज किया जाता रहा हैं, और यही अनाज है जो विषम परिस्थितियों में खाद्य सुरक्षा प्रदान कर सकते हैं। अतः इनके प्रति नाली उत्पादन को बढ़ाना अत्यन्त आवश्यक है।
- 4-इस क्षेत्र की प्रमुख फसल हर्षिल की राजमा के नाम से प्रसिद्ध है और यह पूरे उत्तर भारत में उचित दामों मे बिक्री होती है क्यों ना इसके उत्पादन को तीन से चार गुना बढ़ाकर इसे एक नकद आय का साधन बनाया जाए। क्योंकि इस क्षेत्र मे 70 से 80 प्रतिशत किसान इस खेती से

राजीव राणा

जुड़ा हुआ है और परम्परागत तरीके से खेती करता रहा है अतः किसानों को सतत वैज्ञानिक तकनीक की जानकारी दे कर इसका उत्पादन बढ़ाया जाए तो यह वहाँ के किसानों के लिए उपयोगी होगा। इस लक्ष्य को दो वर्षों में प्राप्त किया जा सकता है।

5-बाग प्रबंधन में किसानों के ज्ञान का अत्यन्त आभाव स्पष्ट दिखाई देता है तथा बगीचों में परागण प्रजातियों का भी नितान्त आभाव है। कीट एवं रोग प्रबन्धन, ग्रेडिंग व पैकेजिंग आदि विभिन्न तकनीकी जानकारी में यदि सुधार किया जाए और नयी प्रजातियों का भी रोपण या ग्रॉफ्ट किया जाए तो वर्तमान उत्पादन को दो से तीन गुना आसानी से बढ़ाया जा सकता है।

6-बशर्ते इन सारी बातों को योजना में शामिल किया जाए। आकड़ों से प्रतीत होता है कि इस क्षेत्र में 500 से अधिक किसान परिवार सेब की खेत से जुड़े हैं यह उनकी आजीविका का प्रमुख स्रोत है। परन्तु यह देखने में आया है कि अधिकतम बगीचों जीर्णोधार का इंतजार कर रहे हैं। जिसके लिए योजना में प्रत्येक वर्ष लगभग 250 बगीचों का जीर्णोधार/निर्माण करने का लक्ष्य भी निर्धारित किया जा सकता है। तीन वर्षों में यह कार्य पूरा किया जा सकता है।

7-हर्षिल में फेडरिक विल्सन द्वारा लगायी गयी सेब की प्रजाति है जो कि 159 साल बाद भी फल दे रहे हैं अतः सेब की इस प्रजाति का टिशू कल्चर तकनीक से संवर्धन करने की आवश्यकता है। खाद्य सुरक्षा के लिहाज से 800 मी० तक ऊंचाई वाले क्षेत्र के गाँव में सेब की अन्ना प्रजाति को लगाने की आवश्यकता है।

8-इस क्षेत्र की जलवायु शीतोष्ण फलों के लिए बहुत उपयुक्त है। बागवानी में विविधता लाने हेतु यहाँ पर सेब के साथ आड़ू, पुलम, अखरोट, खुमानी, बादाम, नाशपती, किवी, परिसिमन आदि

अस्युमिल

फलों का वैज्ञानिक तरीको से रोपण कर इनके बगीचों को बहुत आसानी से विकसित किया जा सकता है। इसके लिए प्रतिवर्ष 200 किसानों का लक्ष्य योजना में निर्धारित किया जा सकता है।

9-उन्नत प्रजातियों का ही उपयोग इस क्षेत्र के लिए किया जाए इसके लिए स्थानीय स्तर पर ही इन फलो (सेब, आड़ू, पुलम, अखरोट, खुमानी, बादाम, नाशपती, किवी, परिसिमन आदि) की उन्नत प्रजातियों की नर्सरी को तैयार की जाय। क्योंकि अच्छी पौध की किस्म से ही योजना के लक्ष्य की प्राप्ती की जा सकती है अन्यथा योजना अपने उद्देश्य से भटक सकती है।

10-आंकड़ों से यह भी प्रतीत होता है कि इस क्षेत्र के शत प्रतिशत किसान परम्परागत रूप से आलू की खेती से जुड़े हुए है जो कि इनकी खाद्य सुरक्षा एवं आय का एक मुख्य स्रोत है। परन्तु आलू के बीज में कई वर्षों से बदलाव न होने के कारण प्रतिवर्ष इसके उत्पादन एवं गुणवत्ता में कमी देखी जा रही है। अतः आलू के उन्नत किस्म के बीज जैसे की कुफरी, जोती आदि की वैज्ञानिक तरीके से खेती की जाए जिससे की इस क्षेत्र में आलू के उत्पादन में 2 गुना तक वृद्धि की जा सकती है। साथ ही आलू के बीज का उत्पादन कर अन्य पहाड़ी क्षेत्र मे उचित मुल्य में बेचा जा सकता है।

11-किसी भी योजना को दीर्घजीवी बनाने के लिए आवश्यक है कि एक तरफ किसानों को अच्छे उत्पादन से उचित आय सुनिश्चित हो साथ ही कृषि में भविष्य के निवेश हेतु किसानों को सीधे बैंक से जोड़ कर उन्हें योजनाओं का लाभ पहुंचाने का प्रयास किया जाए। योजना में किसानों को बैंक से जोडना एवं शत प्रतिशत किसानो को किसान क्रेडिट कार्ड जैसी योजना का लाभ दिलाने का कार्य जिला प्रशासन सुनिश्चित करें और यह सिर्फ किसान क्रेडिट कार्ड तक सीमित न रहे

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बल्कि युवा उद्यमियों/किसान फेडरेशन/कॉपरेटिव जो एग्री बेस्ड उद्यमों को लगाना चाहते हैं उन्हें बैंकेबल योजना बनाने हेतु एवं इस संदर्भ में प्रशिक्षण हेतु जिला प्रशासन इच्छुको को प्रशिक्षण सुनिश्चित करे जिससे बैंकों के साथ आसानी से कार्य किया जा सकें।

12—सुक्ष्म, लघु और मध्यम उद्यम मंत्रालय (एम0एस0एम0मी0) किसानों एवं युवाओं को उद्यमी बनाने हेतु विभिन्न प्रशिक्षण का आयोजन करता है अतः इन प्रशिक्षणों में यहाँ के इच्छुक युवाओं को प्राथमिकता दी जानी चाहिए।

13—खाद्य एवं प्रसंस्करण मंत्रालय, भारत सरकार द्वारा जिलों के लिए विभिन्न कार्यक्रम आयोजित किये जाते हैं जिसमें इच्छुक युवा उद्यमियों के लिए आर्थिक सहायता प्रदान करने का भी प्रावधान है। परंतु यह देखा गया है कि पहाड़ी जिलों के युवाओं के बीच जानकारी का आभाव है जिसके कारण युवा इन योजनाओं का लाभ नहीं उठा पा रहे हैं। अतः जिला प्रशासन इच्छुक युवाओं को जागरूकता एवं इस संदर्भ में वृहत परियोजना आख्या बनाने में पूर्ण मदद करे, जिससे की यहाँ कृषि प्रसंस्करण के अपार संभावनाओं का लाभ स्थानीय युवा भारी मात्र में उठा सके।


— वरुण लाल शर्मा
25/11/2018

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चैप्टर-7 असहमति पत्र

मेरा पहले से ही आग्रह रहा है कि भारत सरकार द्वारा 2012 में अधिसूचना जारी कर भागीरथी इकोसैसिटिव जोन के मास्टर प्लान बनाने के लिए स्पष्ट दिशा-निर्देश दिए हैं। अतः विचार विमर्ष मास्टर प्लान के लिए इन्हीं दिशा-निर्देश के अनुरूप होना चाहिए। मुख्य रूप से उर्जा से संबंधित योजनाओं को लेकर मेरा मानना है कि सुक्ष्म योजनाओं को ग्राम सभा के नेतृत्व में ही बनाया जाना चाहिए। इनका स्वामित्व ग्राम सभा या ग्राम समाज का होना चाहिए। बड़ी परियोजनायें इस क्षेत्र में सिर्फ खतरों एवं आपदाओं की बुलावा देने की तैयारी मानी जायेगी। इसलिए प्रस्तावित क्षेत्रीय महायोजना में वर्णित निम्नलिखित उर्जा की कम संख्या 5 से 14 तक की परियोजनाओं के निर्माण के बारे में मैं सहमत नहीं हूँ।

1. Assiganaga-I	(4500K M)	-UJVNL
2. Assiganga-II	(4500 K M)	-UJVNL
3. Kaldigad	(9000 K M)	- UJVNL
4. Limachagad	(3500 K M)	- UJVNL
5. Swarigad	(2000 K W)	-UJVNL
6. Songad	(7 MW)	-UJVNL
7. Pilangad-II	(4MW)	- Harshil Hydro Ltd.
8. Siyangad	(11.50 MW)	-Harshil Hydro Ltd.
9. Kakoragad	(12.50 MW)	-Harshil Hydro Ltd.
10.Jalandharygad	(24 MW)	- Harshil Hydro Ltd.


चण्डी प्रसाद भट्ट 25/11/2018

सदस्य

भागीरथी ईको सैसिटिव जोन के अंतरगर्त जोनल मास्टर प्लान तैयार करने हेतु समिति।

गेपेश्चर-चमोली, उत्तराखण्ड-246401

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भागीरथी ईको सेंसिटिव जोन के अर्न्तगत लघु जल विद्युत परियोजनाओं एवं वैकल्पिक ऊर्जा से सम्बन्धित इन योजनाओं को सम्मिलित किये जाने की आवश्यकता है।

1. लघु जल विद्युत परियोजना :-

(अ) क्षेत्र में पूर्व में निम्न परियोजनायें स्थापित हैं :-

क्र०स०	परियोजना का नाम	क्षमता (कि०वा०)	रिनोवेशन/क्षमता वृद्धि हेतु अनुमानित लागत (रु० लाख में)
1	केदारगंगा (गंगोत्री)	20	30.00
2	रुद्रगैरा (गंगोत्री)	150	50.00
3	हर्षिल	200	400.00

इन परियोजनाओं के सुचारु संचालन हेतु समय-समय पर आवश्यकतानुसार लघु जल विद्युत परियोजनाओं के रिनोवेशन एवं वर्तमान संरचना में बिना आधार भूत बदलाव किये बगैर क्षमता वृद्धि की संभावना होने पर क्षमता वृद्धि (02 मे०वा० तक) की जानी उचित रहेगी।

(ब) ईको सेंसिटिव क्षेत्र में निम्नलिखित स्थलों पर उपयुक्तता के आधार पर लघु जल विद्युत परियोजनाओं के सर्वेक्षण कराये जाने तथा इनका निर्माण स्थानीय ग्राम पंचायतों के सहयोग से कराये जाने की आवश्यकता है।

क्र०स०	परियोजना का नाम	क्षमता	अनुमानित लागत (रु० लाख में)
1	भैरीगाड	100	200.00
2	बसुंगागाड	100	200.00
2	सौरागाड	100	200.00
4	बंगोरीगाड	100	200.00
5	इन्द्रावतीगाड	100	200.00
6	स्वारीगाड	100	200.00
7	वरुणीगाड	100	200.00
8	हुलगूगाड	100	200.00
9	जलान्धरीगाड	100	200.00
10	खैरगाड	100	200.00

(स) ईको सेंसिटिव जोन क्षेत्र में स्थापित पारम्परिक घराटों का सुदृढीकरण/उच्चीकरण हेतु इनमें नई टरबाईनें/रनर स्थापित करने एवं इनसे विद्युत उत्पादन की सम्भावनाओं का सर्वेक्षण कर उपयुक्त स्थलों पर घराटों का उच्चीकरण किया जाना उचित होगा।

2. सौर ऊर्जा से सम्बन्धित योजनायें/उपकरणों की स्थापना :-

(अ) रूफटाप सोलर पावर प्लान्ट की स्थापना :- क्षेत्र में ग्रामवासियों द्वारा अपनी विद्युत आवश्यकता हेतु सौर ऊर्जा के प्रयोग को बढ़ावा देने एवं अतिरिक्त विद्युत उत्पादन को ग्रिड में प्रवाहित कर अपनी आजीविका/आय का एक स्रोत विकसित करने के दृष्टि से इस क्षेत्र में ग्रामवासियों के भवनो में आगामी 05 वर्षों में प्रतिवर्ष 500 इस प्रकार कुल 2500 न0 रूफटाप सोलर पावर प्लान्ट स्थापित कराये जाने उचित होंगे। क्षेत्र में अधिकतर ग्रामवासियों के पास सिंगल फेस विद्युत कनेक्शन हैं। इसके दृष्टिगत ग्रामवासियों को 04 कि0वा0 क्षमता तक के संयन्त्र दिये जाने पर विचार किया जा सकता है जिससे इनसे उत्पादित अतिरिक्त विद्युत को सिंगल फेस के माध्यम से ग्रिड में प्रवाहित किया जा सके। इस योजना के अर्न्तगत प्रथम चरण में सूखीटाप से उत्तर की तरफ अवस्थित 08 ग्रामों सूखी, झाला, जसपुर, पुराली, बगोरी, हर्षिल, मुखवा एवं धराली को एवं तदोपरान्त ग्राम नैताला, गणेशपुर, सैलाड एवं अन्य ग्रामों को लिया जाना उचित होगा। एक 04 कि0वा0 संयन्त्र की अनुमानित कीमत रू0 2.50 लाख आती है, इस प्रकार इन सयन्त्रों पर प्रतिवर्ष कुल रू0 50.00 करोड़ की धनराशि की आवश्यकता होगी।

(ब) सोलर कोल्ड स्टोर की स्थापना :- इस क्षेत्र में पैदा होने वाले विभिन्न कृषि/फल उत्पादों यथा सेब, खुमानी, आलू के समुचित संरक्षण की व्यवस्था न होने के कारण इन उत्पादों के खराब होने की सम्भावना होती है एवं किसानों को इसका समुचित मूल्य नहीं मिल पाता है। इसके दृष्टिगत क्षेत्र में प्रथम चरण में सौर ऊर्जा से संचालित 03 मोबाईल सोलर कोल्ड स्टोरेज स्थापित किये जा सकते हैं। संज्ञान में आया है कि 15-20 टन क्षमता के मोबाईल सोलर कोल्ड स्टोर भारतीय बाजार में उपलब्ध हैं एवं इनकी लागत लगभग रू0 20.00 लाख प्रति कोल्ड स्टोर है। प्रथम चरण में हर्षिल, मुखवा एवं झाला क्षेत्रों हेतु इस प्रकार के 1-1 मोबाईल सोलर कोल्ड स्टोर लिया जाना उचित होगा जिनका संचालन/रखरखाव स्थानीय स्तर पर गठित

(Handwritten signature)

- समितियों/संघों के माध्यम से कराया जा सकता है। इनकी उपयोगिता का अध्ययन कर भविष्य में इस परियोजना को विस्तारित किया जा सकता है। इस प्रकार 03 न0 कोल्ड स्टोर्स की स्थापना के लिये लगभग रू0 60.00 लाख की आवश्यकता होगी।
- (स) स्थानीय स्तर पर उत्पादित होने वाले कृषि/फल उत्पादों के संरक्षण हेतु इन्हें सोलर ड्रायर के माध्यम से सुखाकर संरक्षित करने एवं आफ सीजन पर इनसे अधिक मूल्य प्राप्त होने की सम्भावना के दृष्टिगत क्षेत्र में सोलर ड्रायरर्स की स्थापना हेतु सर्वेक्षण कर तदनुसार कार्यवाही की जा सकती है।
3. बायोगैस संयन्त्र :- क्षेत्र के कम उंचाई/घाटी क्षेत्रों में ग्रामवासियों जिनके पास पर्याप्त पशुधन हो के आवास पर 2-3 घन मी0 क्षमता के पारिवारिक बायोगैस संयन्त्र जिनकी लागत लगभग रू0 25,000.00 से रू0 30,000.00 होती है, स्थापित किया जाना उचित होगा इससे ग्रामवासियों की अपनी घरेलू ऊर्जा आवश्यकता की पूर्ति होगी एवं घरेलू ईंधन के रूप में उनकी जंगलो पर निर्भरता भी कम होगी। इसके साथ ही इस प्लान्ट से निकलने वाले गोबर (स्लरी) में उर्वरक तत्व (विशेषतः नाईट्रोजन तत्व) अधिक होने के कारण इसके उपयोग से उनकी कृषि उत्पादकता भी बढ़ने की सम्भावना होगी। इस प्रकार के 50 बायोगैस संयन्त्र प्रतिवर्ष इस प्रकार आगामी 05 वर्षों में 250 बायोगैस संयन्त्र स्थापित किये जा सकते हैं। इन पर प्रतिवर्ष लगभग रू0 12.50 लाख का व्यय आयेगा।



चण्डी प्रसाद भट्ट

सदस्य

ईको सेंसिटिव जोन कमेंटी

चैप्टर-9

पर्यटन

1-प्रकृति पर्यटन के लिए स्थानीय युवक-युवतियों को हिमनदों बुग्यालों वनस्पति एवं वन्य जंतु का ज्ञान एवं ऊंचाई वाले स्थानों में आरोहण के प्रशिक्षण हेतु नेहरू पर्वतारोहण संस्थान, वन अनुसंधान एवं वन्य जन्तु संस्थान के विशेषज्ञों द्वारा प्रशिक्षण देने का प्राविधान किया ^{गया}। इसके लिए वित्तीय प्राविधान होना आवश्यक है।



श्री चण्डी प्रसाद भट्ट 25/1/2018

सदस्य, भागीरथी ईको सेंसिटिव जोन के अन्तर्गत जोनल मास्टर प्लान तैयार करने हेतु बनी

समिति (N.G.T.)

- समितियों/संघों के माध्यम से कराया जा सकता है। इनकी उपयोगिता का अध्ययन कर भविष्य में इस परियोजना को विस्तारित किया जा सकता है। इस प्रकार 03 न0 कोल्ड स्टोरों की स्थापना के लिये लगभग रू0 60.00 लाख की आवश्यकता होगी।
- (स) स्थानीय स्तर पर उत्पादित होने वाले कृषि/फल उत्पादों के संरक्षण हेतु इन्हें सोलर ड्रायर के माध्यम से सुखाकर संरक्षित करने एवं आफ सीजन पर इनसे अधिक मूल्य प्राप्त होने की सम्भावना के दृष्टिगत क्षेत्र में सोलर ड्रायरर्स की स्थापना हेतु सर्वेक्षण कर तदनुसार कार्यवाही की जा सकती है।
3. बायोगैस संयन्त्र :- क्षेत्र के कम उंचाई/घाटी क्षेत्रों में ग्रामवासियों जिनके पास पर्याप्त पशुधन हो के आवास पर 2-3 घन मी0 क्षमता के पारिवारिक बायोगैस संयन्त्र जिनकी लागत लगभग रू0 25,000.00 से रू0 30,000.00 होती है, स्थापित किया जाना उचित होगा इससे ग्रामवासियों की अपनी घरेलू ऊर्जा आवश्यकता की पूर्ति होगी एवं घरेलू ईंधन के रूप में उनकी जंगलो पर निर्भरता भी कम होगी। इसके साथ ही इस प्लान्ट से निकलने वाले गोबर (स्लरी) में उर्वरक तत्व (विशेषतः नाइट्रोजन तत्व) अधिक होने के कारण इसके उपयोग से उनकी कृषि उत्पादकता भी बढ़ने की सम्भावना होगी। इस प्रकार के 50 बायोगैस संयन्त्र प्रतिवर्ष इस प्रकार आगामी 05 वर्षों में 250 बायोगैस संयन्त्र स्थापित किये जा सकते हैं। इन पर प्रतिवर्ष लगभग रू0 12.50 लाख का व्यय आयेगा।



चण्डी प्रसाद भट्ट

सदस्य

ईको सेंसिटिव जोन कमेंटी

चैप्टर-9

पर्यटन

1-प्रकृति पर्यटन के लिए स्थानीय युवक-युवतियों को हिमनदों बुग्यालों वनस्पति एवं वन्य जंतु का ज्ञान एवं ऊंचाई वाले स्थानों में आरोहण के प्रशिक्षण हेतु नेहरू पर्वतारोहण संस्थान, वन अनुसंधान एवं वन्य जन्तु संस्थान के विशेषज्ञों द्वारा प्रशिक्षण देने का प्राविधान किया ^{21/21} गया। इसके लिए वित्तीय प्राविधान होना आवश्यक है।


श्री चण्डी प्रसाद भट्ट 25/11/2018

सदस्य, भागीरथी ईको सेंसिटिव जोन के अन्तर्गत जोनल मास्टर प्लान तैयार करने हेतु बनी समिति (N.G.T.)

चैप्टर-9

पर्यटन

1-प्रकृति पर्यटन के लिए स्थानीय युवक-युवतियों को हिमनदों बुग्यालों वनस्पति एवं वन्य जंतु का ज्ञान एवं ऊंचाई वाले स्थानों में आरोहण के प्रशिक्षण हेतु नेहरू पर्वतारोहण संस्थान, वन अनुसंधान एवं वन्य जन्तु संस्थान के विशेषज्ञों द्वारा प्रशिक्षण देने का प्राविधान किया गया। इसके लिए वित्तीय प्राविधान होना आवश्यक है।

— श्री चण्डी प्रसाद भट्ट 25/1/2018

सदस्य, भागीरथी ईको सेंसिटिव जोन के अन्तर्गत जोनल मास्टर प्लान तैयार करने हेतु बनी

समिति (N.G.T.)

चैप्टर-9 A

आधारभूत संरचना (इन्फ्रास्ट्रक्चर)

1-योजना के अर्न्तगत 90 प्रतिशत अनुदान वाले सौर उर्जा पैनल को पहले चरण में उपत्ता तकनौर के 8 गाँवों में लगाया जाए।

2-हर 20 कि०मी० में बिजली के सब स्टेशन का निर्माण किया जाए ताकि हर्षिल क्षेत्र में वर्ष भर बिजली की सुनिश्चिता बनी रहे। जिससे कि पर्यटक तथा स्थानीय लोगों को रोशनी के साथ कुटीर उद्योगों को बढ़ावा देने में मदद मिल सके।

3-बज़ार क्षेत्र में दूर संचार एवं इन्टरनेट सेवाओं के बेहतर नेटवर्क की जरूरत है जिससे की स्थानीय लोग एवं पर्यटक आवश्यक सुविधाओं का लाभ उठा सके जैसे कि बैंक, पोस्ट ऑफिस, होटल आदि। संचार एवं इन्टरनेट की सुविधा से वहाँ की स्थानीय लोगों को अपनी आर्थिक गतिविधिओं को बढ़ाने में सहूलियत मिलेगी। आज के युग में दूर संचार व इन्टरनेट किसानों को सीधे बज़ार से जोड़ने के लिए एवं एक सफल सप्लाई चैन विकसित करने हेतु अति आवश्यक है अतः जिला प्रशासन सरकारी व गैर सरकारी दूर संचार कम्पनियों से सम्पर्क कर इस सुविधा को क्षेत्र में सुदृढ बनाने हेतु प्रयास करें।

4-हल्के आसान तकनीकी वाले ग्रेविटि रोपवे का प्रयोग स्थानीय स्तर पर होना चाहिए जिससे सड़क से दूरी वाले गाँव से कृषि बागवानी उत्पाद को सड़क तक आसानी से पहुंचाया जा सके । अतः योजना में इस प्रकार के तकनीकी हस्तक्षेप कर कम लागत वाले इन उपयोगी यंत्रों का लाभ स्थानीय लोगों के बीच पहुंचाने की जरूरत है।

— MISHRA
25/11/2018

बैटर-10

सड़कों का विस्तार

- 1-सभी मोटर मार्गों ~~की~~ आधा कटान आधा भरान से तैयार किया जाय। कटान के अवशेष मलबे के निस्तारण का सुरक्षित प्रबन्ध सुनिश्चित किया जाना जरूरी है ताकि ढलान पर स्थित वनस्पति एवं कृषि भूमि की क्षति को रोका जा सके।
- 2- सड़क निर्माण में नाली एवं स्कपर के नीचे नदी गाड़ गदरे की ओर बहते पानी के वेग को नियन्त्रित करने के लिए सीढ़ीनुमा खडिन्जा बनाने का प्रावधान किया जाना चाहिए।

—
25/1/2018

Annexure No. 15(B)

9/9/2018

Gmail - Ngt related matter



forest section <forestsection3@gmail.com>

Ngt related matter**Chandi Bhatt** <cpb.gopeshwar@gmail.com>

Sat, Jan 27, 2018 at 11:13 AM

To: forest section <forestsection3@gmail.com>, sandy140284@gmail.com

कृपया ईको सेन्सिटिव जोन की प्रस्तावित महा योजना मे इसे भी सम्मिलित किया जाय।
चैप्टर 10 ... सड़कों का निर्माण

झाला से धराली... जांगला.. भैरों घाटी तक वर्तमान मे दो तरफा यातायात चल रहा है। इस मार्ग को और चौड़ा करने से हजारों देवदार एवं अन्य चौड़ी पत्ती के पेड़ पेड़ काटे जायेंगे। जबकि भागीरथी के दायी ओर के जसपुर मुखबा हरसिल और जांगला तक गांवों के लिए सड़क का निर्माण हो रहा है।

अतः झाला से जसपुर मुखबा हरसिल से जांगला तक के मार्ग के रूप मे निर्मित करने का प्रावधान किया जाय। जिससे की हजारों देवदार के वृक्ष बचाये जा सके।

चण्डी प्रसाद भट्ट
27/01/2018

[Quoted text hidden]

9/9/2018

Gmail - Re: Zonal master plan meeting on held on 9.1.18 at DDun.



forest section <forestsection3@gmail.com>

Re: Zonal master plan meeting on held on 9.1.18 at DDun.

P.S. Negi <negi_pyarsingh@rediffmail.com>
To: forest section <forestsection3@gmail.com>

Wed, Jan 17, 2018 at 5:11 PM

Dear Sir,

I am attaching a copy of comments/observations on aforesaid subject for necessary inclusion in plan draft.

Thanks

Have a nice time

Dr.P.S.Negi
Scientist
Wadia Institute of Himalayan Geology
(An Autonomous Institution of DST)
GOVT.OF INDIA
33, Gen.Mahadeo Singh Road
Dehra Dun, Pin code-248001.INDIA.
phones +91-135-2525406,2525100.
Fax +91-135-2625212,2525200

From: forest section <forestsection3@gmail.com>


Sent: Fri, 05 Jan 2018 10:24:23

To: psiddoon@gmail.com, Sarvesh Chandra Katiyar <sckatiyar@gmail.com>, negi_pyarsingh@rediffmail.com, int.nihr@gov.in, bhakuniss@rediffmail.com, cpb.gopeshwar@gmail.com, ssk@wii.gov.in, skj.nihr@gov.in, Vinod Tare <vinod@iitk.ac.in>

Subject: Legal aid committee meeting on 09 January, 2018

Sir,

Please attachment file

 **comment_for_meeting_.docx**
15K

Annexure No. 16(B)**Dr. P.S.Negi, Scientist
Wadia Institute of Himalayan Geology****Comments**

Developmental activities, especially road construction involves abrupt landscape change due to slope cutting and consequential debris generation besides forest felling in the micro-watershed. Slope cutting in geologically inappropriate or fragile areas triggers landslides, soil erosion and generates huge debris. The debris material transported into rivers during rainy season and increases sediment depth to accelerate floods. The massive forest felling also results loss of virgin forest wealth, bio-diversity and ecosystem services.

In order to mitigate these side effects of road construction and other similar/allied activities we need to cut slopes on the basis of geological formations. Geologically appropriate areas may have slope cutting with desirable degree for road construction. While the area having geologically fragile formation need to use cut-and-fill method or elevated road options for road construction /road expansion. Wherever possible, road on ridge-top method may be used to avoid unnecessary slope disturbance or debris generation. If any locally useful water spring disturbed during road construction, its utility needs to be ensured with proper drainage system. Some of the developmental activities involve forest felling which need to be compensated by generation of forest of similar floristic composition well in advance.

The Zonal master plan is intend to conserve the natural resources and ecosystem by putting restrictions on various developmental activities. Therefore, existing and traditional rights of inhabitant related to sustenance need to be protected fully along with the development of employment opportunities for socio-economic amelioration.

Dr.P .S.Negi
Scientist
Wadia Institute of Himalayan Geology

9/11/2018

Gmail - New Doc 2018-01-16



forest section <forestsection3@gmail.com>

New Doc 2018-01-16

Sarvesh Chandra Katiyar <sckatiyar@gmail.com>
To: forest section <forestsection3@gmail.com>

Wed, Jan 24, 2018 at 12:29 PM

Dear Sir,

As a follow up of the discussions held during the meeting under the chairmanship of the Chief Secretary, State of Uttarakhand on 09.01.2018 for finalization of the Zonal Master Plan of BESZ, I would like say that in Chapter "General Overview" under caption "Hydrology" it is clearly mentioned that "Development Projects like Hydropower projects, road cuttings etc. may have irreversible impacts on perennial aquifer sources in the region. Many road cutting sites also cut into aquifer source thereby disturbing the overall balance tremendously. The ESZ terrains are part of an integrated and interconnected system. Preserving these terrains in situ is essential. Hydrogeological connectivity of entire basin is very crucial and can not be ignored.....".

Further, in Chapter 1- Forest and Wildlife under Caption "Fish Diversity" it is mentioned that " river basin serves as migrated route for golden masheer and snow trout, whose abundance has become now very low.....On account of the presence of existing dam across Bhagirathi river near Uttarkashi, the upward movements of masheer and snow trout species have also been reduced or stopped".

In view of the above, it is once again reiterated that development of only micro and mini hydro power projects (up to 2 MW) only should be considered within the BSEZ. As such, 9 out of 10 projects of UJVNL as listed in ZMP should be de-listed. Also, Rapid EIA for part of Chardham all weather road falling within the jurisdiction of BSEZ as suggested by the undersigned during the earlier meeting should also be considered before its implementation to minimize environmental impact of this activity.

[Quoted text hidden]

--

With Warm Regards!***Yours Sincerely,*****Dr. S. C. Katiyar, Additional Director (S),
Ministry of Environment, Forests and Climate Change,
Regional Office (North Central), 25, Subhash Road,
Dehradun-248001****+911352713014 (O)****+911352653010 (F)****+919412051205 (M)**

Annexure No. 17(B)

**Dr. S.C. Katiyar, Additional Director (S),
Ministry of Environment, Forests and Climate Change,
Regional Office, Dehradun.**

Comments

As a follow up of the discussions held during the meeting under the chairmanship of the Chief Secretary, State of Uttarakhand on 09.01.2018 for finalization of the Zonal Master Plan of BESZ, I would like say that in Chapter "General Overview" under caption "Hydrology" it is clearly mentioned that "Development Projects like Hydropower projects, road cuttings etc. may have irreversible impacts on perennial aquifer sources in the region. Many road cutting sites also cut into aquifer source thereby disturbing the overall balance tremendously. The ESZ terrains are part of an integrated and interconnected system. Preserving these terrains in situ is essential. Hydrogeological connectivity of entire basin is very crucial and can not be ignored.....".

Further, in Chapter 1- Forest and Wildlife under Caption "Fish Diversity" it is mentioned that " river basin serves as migrated route for golden masheer and snow trout, whose abundance has become now very low.....On account of the presence of existing dam across Bhagirathi river near Uttarkashi, the upward movements of masheer and snow trout species have also been reduced or stopped".

In view of the above, it is once again reiterated that development of only micro and mini hydro power projects (up to 2 MW) only should be considered within the BSEZ. As such, 9 out of 10 projects of UJVNL as listed in ZMP should be de-listed. Also, Rapid EIA for part of Chardham all weather road falling within the jurisdiction of BSEZ as suggested by the undersigned during the earlier meeting should also be considered before its implementation to minimize environmental impact of this activity.

9/9/2018

Gmail - Ngt related matter



forest section <forestsection3@gmail.com>

Ngt related matter

Sharad K Jain <skj.nihr@gov.in>
To: forest section <forestsection3@gmail.com>
Cc: dfouttarkashifd@gmail.com, Int.nihr@gov.in

Fri, Jan 26, 2018 at 3:53 PM

Sir,

The comments from NIH on "Chapter 2: Watershed Management" are attached along with some material on Gangotri glacier.

Regards

Sharad Jain

Director, NIH

From: forest section [mailto:forestsection3@gmail.com]
Sent: Friday, January 26, 2018 10:44 AM
To: Ravi Chopra <rachop@gmail.com>; cpb.gopeshwar@gmail.com; Vinod Tare <vinod@iitk.ac.in>; nilya20may@yahoo.co.in; Sarvesh Chandra Katiyar <sckatiyar@gmail.com>; skj.nihr@gov.in; dean@wii.gov.in; dm-utt-ua@nic.in; dfouttarkashifd@gmail.com
Subject: Ngt related matter

Dear sir,

please find attachment

2 attachments **Suggestions-Chapter 2.docx**
15K **Gangotri_description.docx**
752K

Annexure No. 18(B)

DIRECTOR NATIONAL INSTITUTE OF HYDROLOGY, ROORKEE**COMMENTS****CHAPTER-2 : WATERSHED MANAGEMENT**

- All the material related with watershed management may be compiled under the heading Watershed Management at one place. Currently, considerable material pertaining to watershed management has been placed in the section on Water Resources Management.
- **Water Resource Management** section needs strengthening. Under this section, just after the heading, a brief write up, say one para, about water resources management can be added. Please also state the objectives of water resources management with special reference to the Bhagirathi Eco-Sensitive Zone.
- The **Water Resources Management** section should also detail the water availability, present usage, issues in management and how these could be resolved, the future management plans, disasters and their mitigation, etc.
- A write-up on **Gangotri glacier** has been also attached which can be included under the Gangotri glacier paragraph in the report. There is a section: Impact of glacier retreat (An Environmental appraisal). A section detailing hydrological and water management perspective will add value to the report.
- In reference list: **Singh 2017** reference cited in the text is missing
- Some corrections are marked (as stick notes) in the draft report (attached) and these may be taken into account.
- Also, Reference may be included: Rishitosh Sinha, Jain, Sanjay, Ahluwalia, R. S., Estimation of retreat of snout of Gangotri glacier using multi temporal remote sensing images, International Symposium on Cryosphere and Climate change 2012, Manali, Pg 42, 2-4 April, 2012.
- Overall, the chapter requires copy editing to take care of formatting, grammar, spellings and language.

9/18/2018

Gmail - Ngt related matter



forest section <forestsection3@gmail.com>

Ngt related matter

Dr Vinod Tare <vinod@iitk.ac.in>

Mon, Jan 29, 2018 at 5:26 PM

Reply-To: vinod@iitk.ac.in

To: forest section <forestsection3@gmail.com>

Cc: Ravi Chopra <rachop@gmail.com>, cpb.gopeshwar@gmail.com, Vinod Tare <vinod@iitk.ac.in>, nilya20may@yahoo.co.in, Sarvesh Chandra Katiyar <skatiyar@gmail.com>, skj.nihr@gov.in, dean@wii.gov.in, dm-utt-ua@nic.in, dfouttarkashifd@gmail.com

Please find my comments/suggestions as "sticky notes" in the attached ".pdf" file. I will be happy to elaborate on the same in the forthcoming meeting scheduled on February 8, 2018 if there is an opportunity.

Thank you.

Vinod Tare

[Quoted text hidden]

--

Dr Vinod Tare

Professor and Founding Head, CGanga

Environmental Engineering and Management Programme

Department of Civil Engineering

IIT Kanpur

KANPUR - 208 016

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F: +91-512-259-7395

M: +91-9651969695

 **ZMP_Comments_Vinod_Tare_2018_01_28_Reduced Size.pdf**
6812K

Annexure No. 19(B)

**Dr. Vinod Tare, Professor in Indian Institute of Technology,
Kanpur**

COMMENTS**GENERAL OVERVIEW.**

There should be provision in ZMP of setting up a multi-stakeholder project team with inputs from concerned experts (individual/agencies) for reviewing DPRs of each project prior to seeking approval/funds from concerned agencies. The composition of such team should form part of ZMP. Site specific Micro- level hydro geological studies are important before undertaking any interventions.

CHAPTER 1

Different projects proposed in the Bhagirathi ESZ may lead to increase in Man – Animal conflict, and proper provisions for its redressal. Regarding RBM mining up to a depth of 2m, it is suggested that this should be done based on what is available without impacting the river and not based on demand. The Status of Monitoring Committee constituted under the Chairmanship of **Chief Secretary** vide Office Memorandum No. 25/3.2010- RE dated October 10, 2013 of the Gol, should be clarified whether it is an ongoing committee or is its term over.

CHAPTER 2

The chapter on State of Glaciers in BESZ should be a part of annexure. The Para related to future management should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure.

CHAPTER 3

Present Status of Agriculture and allied sector should be a part of Annexure. Future Strategy Section should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexed.

CHAPTER 4

Regarding change of land use from “green” to “non-green” and use of land from “tribal” uses to “non-tribal” uses may be permitted in a strictly limited way with the prior approval of the Chief Secretary, it is suggested that instead of modifying the notification, permission should be sought case by case basis as a special case.

CHAPTER 5

SWM and Town Planning @ This section should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/

agencies need to be reviewed by the multi-stakeholder Project. Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure.

Under Swachh Bharat Mission, emphasis should be on how decentralized solutions will be planned and executed. Something on how to make it sustainable.

CHAPTER 6

Same comments as for previous chapters.

CHAPTER 7

The Carrying capacity Studies for 10 HEP's should be reviewed by multi-stakeholder group including WII, FRI and Clean Ganga. Insert words "within the river space" at Clause 2(6) as per corrected pdf. Same comments as for previous chapters. Boundary conditions (longitudinal, lateral and vertical connectivity of rivers/streams, proper tunneling techniques, disposal of debris) for development of hydropower projects should be clearly stated upfront in this chapter). Same comments as for previous chapters.

CHAPTER 8

The Para related to future management should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure.

CHAPTER 10

With regard to the proposed modification in 20 Degrees "Steep Hill Slopes" as mentioned in Para-16 of the Bhagirathi ESZ Notification, instead of modifying the notification, permission should be sought case by case basis as a special case.

Annexure No. 20(A)

9/9/2018

Gmail - Comments on Bhagirathi ESZ Plan Forest and Biodiversity by WII



forest section <forestsection3@gmail.com>

Comments on Bhagirathi ESZ Plan Forest and Biodiversity by WII

1 message

S Sathyakumar <sathyakumar1103@gmail.com>

Sun, Feb 4, 2018 at 10:34 AM

To: sandeep kumar <sandy140284@gmail.com>

Cc: ssk@wii.gov.in, forestsection3@gmail.com, ahyanki@gmail.com

Dear Mr. Sandeep,

I have gone through the Forest and Biodiversity Chapter of Bhagirathi Ecosensitive Zone Plan and have made a few minor edits and a couple of comments / suggestions in the draft using track mode.

In addition to that, I propose that specific "Wildlife Protection and Habitat Management Plans" be included in any developmental works/projects such as road widening, construction etc that have potential to impact wildlife distribution, movement and their habitats in the Bhagirathi ESZ as this area is rich with the presence of many highly endangered wildlife species.

Kindly incorporate these changes and this chapter should be fine.

Regards
S.Sathyakumar

 **Chapter 1 final-SSK comments+edits.docx**
6344K

**Dr. S. Sathya kumar, Scientist G,
Wildlife Institute of India.**

COMMENTS

- Specific "Wildlife Protection and Habitat Management Plans" be included in any developmental works/projects such as road widening, construction etc that have potential to impact wildlife distribution, movement and their habitats in the Bhagirathi ESZ as this area is rich with the presence of many highly endangered wildlife species.
- All Scientific names of the species to be written in Italics.
- Add "Habitat improvement in identified corridors through water and soil conservation, weed eradication and restoration activities" in Wildlife Management section


Annexure No. 21(A)

Ravi Chopra <rachop@gmail.com>
 To: forest section <forestsection3@gmail.com>
 Cc: dfo uttarkashi <dfouttarkashfd@gmail.com>

Thu, Feb 1, 2018 at 9:22 AM

Dear Sandeepji: I have been remiss in mailing my comments on the draft ZMP. I have had too many pressures to deal with but I do not want to keep you waiting indefinitely. So I am attaching my comments for the first three chapters and the preliminary text. You will notice that they are fairly detailed and the result of careful reading of the text. You can start incorporating these. I will mail you comments on the next three chapters tomorrow morning and the remaining on Saturday. Pl do not circulate these pages yet. You can do so after you receive the entire set of comments. I will also call you shortly. Warm regards..... Ravi Chopra

[Quoted text hidden]


 **ZMP Comments 20180128.docx**
30K

Ravi Chopra <rachop@gmail.com>
 To: forest section <forestsection3@gmail.com>, dfo uttarkashi <dfouttarkashfd@gmail.com>

Tue, Feb 6, 2018 at 7:04 AM

Dear Sandeepji: I have finalized my comments for the first six chapters. These may be circulated to the Committee members. I am working on the remaining chapters and hope to finish the entire lot before the meeting. If you have any questions, pl do not hesitate to call me. Warm regards..... Ravi Chopra

[Quoted text hidden]

 **ZMP Comments 20180203.docx**
45K

9/11/2018

Gmail - Suggestion by Dr Ravi Chopra



dfo uttarkashi <dfouttarkashfd@gmail.com>

Suggestion by Dr Ravi Chopra

2 messages

dfo uttarkashi <dfouttarkashfd@gmail.com>
 To: eepwdbhatwari@rediffmail.com

Tue, Feb 20, 2018 at 9:27 AM

----- Forwarded message -----

From: **Ravi Chopra** <rachop@gmail.com>
 Date: Saturday, February 17, 2018
 Subject: Last six Chapters in Word Format
 To: dfo uttarkashi <dfouttarkashfd@gmail.com>

Dear Sandeepji: Attached are my comments on Ch 10. It has taken me a long time because I am not familiar with many of the roads. I am trying to study the district map more carefully and get some more information. I may raise some additional points at the Experts Committee meeting. Warm regards..... Ravi Chopra

On Thu, Feb 15, 2018 at 6:52 AM, Ravi Chopra <rachop@gmail.com> wrote:
 Dear Sandeepji: Attached are my comments on Ch 11. Warm regards..... Ravi Chopra

On Wed, Feb 14, 2018 at 9:06 AM, Ravi Chopra <rachop@gmail.com> wrote:
 Dear Sandeepji: Attached are my comments on Ch 9. Warm regards..... Ravi Chopra

On Tue, Feb 13, 2018 at 1:23 PM, Ravi Chopra <rachop@gmail.com> wrote:
 Dear Sandeepji: I finally began work on the remaining chapters this morning. Following your suggestion, I will mail each chapter one-by-one today as it gets done. Sincere apologies for the delay. Attached are my comments on Ch 8. Warm regards..... Ravi Chopra

On Thu, Feb 8, 2018 at 7:38 PM, dfo uttarkashi <dfouttarkashfd@gmail.com> wrote:
 Dear sir, Kindly find the last six chapters in MS Word

Thanks
 Regards
 Sandeep kumar
 DFO Uttarkashi

 **Edited Ch 10 Road Infrastructure.doc**
3016K

Dr. Ravi Chopra,
Director People's Science Institute, Dehradun

COMMENTS**GENERAL REMARKS**

- (1) An attempt has been made in some chapters to comply with some of the earlier comments. But the document requires editing by a competent professional. Standard nomenclature (e.g.,ha for hectares) should be followed throughout the document.

There is a need to standardize the presentation of numerical data. Basic land use data differ from chapter to chapter. For example, in Table 3 of the General Overview chapter, agricultural area is given as 52.24 km² (5224ha). But it is shown as 4631ha on p.25 of chapter 2 and 4531.01ha in chapter 3. The figure for total agricultural area in the Uttarkashi Forest Div. given at the end of the table on p.31 of chapter 2 is simply wrong.

Some data are presented differently in different chapters, confusing the reader. On p.1 of chapter 1 it is said that the area under reserved and/or protected forests is 4106.9 ha (sic!) or 98.27% of the total area of the BESZ. The non-reserve forest area is 72000 ha (720km²) on p. 25 of chapter 2. While both figures may be correct, the significance of the latter figure is not obvious.

Attention should also be paid to the matter of significant digits. In general, two significant digits after the decimal point are adequate.

- (2) The ZMP draft lacks a clear statement of its overall goals, specific objectives and the principles it adheres to. Relevant statements must be introduced in the General Overview chapter. The section on Vision & Objectives in the Forest & Wildlife chapter is one example.

The overall goal may be simply stated as "To ensure ecological and livelihoods security in the BESZ." The basic developmental principle must be to enhance productivity in a sustainable and equitable manner through participatory processes. Specific objectives can be highlighted in the different chapters.

It will be helpful to follow a standard format for each chapter. It could begin with a brief situation analysis highlighting the major issues (zonal needs) and present activities. This can be followed by (i) the departmental vision and objectives for the ZMP; (ii) proposed future activities; (iii) time schedules and (iv) cost estimates.

- (3) Several departments have included a variety of activities and projects that are already sanctioned and/or funded from existing schemes. They can be summarized with the help of charts and tables. It would be useful to highlight separately in each of these chapters, what activities and projects are to be done with funds sought specifically under the ZMP.
- (4) The ZMP provides an opportunity to the state of Uttarakhand to raise resources from the Centre, in addition to existing central schemes and funds (see introductory comment in the chapter on Forest & Wildlife). A separate chapter on Payment for Ecological Services may also be added to the document.

(More may be added here later)

PREFACE**Page i, para 1, line 3**

".....and also continuous and phenomenal increase in human and cattle population;" May read as "and also continuous and phenomenal increase in transient human and cattle population, particularly due to rapidly increasing number of tourists;"

Page iii, item 4,

4. *“Wide range of consultations.....Bhagirathi Eco-sensitive Zone.”* A more correct statement would be, “Wide-ranging consultations with local villagers could not be held successfully due to disruptions by elements opposed to the Bhagirathi Eco-Sensitive Zone.”

GENERAL OVERVIEW**Physiography section**

Para 2, last sentence: *“The largest earthquake.....in 1991.”* This statement is factually incorrect. The sentence may read, “Uttarkashi district was hit by a strong earthquake in 1991, with its epicenter at Agoda village in the Bhagirathi Eco-Sensitive Zone (BESZ), leading to loss of over 650 human lives, livestock and property.”

Hydrology section

First para: *“In addition to it..... has also been included.”* Needs editing.

“However site specific.....are highly recommended.” May state: “Site-specific micro hydrogeological studies are recommended for critical water bodies.”

Third para: *“The interwoven upper catchment..... and many springs.”* May be modified as, “The Himalayan upper catchment of River Ganga, including the BESZ, is richly endowed with many tributaries and springs.”

The list of tributaries of the Bhagirathi given in this section is highly incomplete, e.g., Kanaujiya Gad, Pilang Gad, etc. are missing among other important tributaries. This list may be eliminated and reference can be made to the detailed list in Ch. 2.

Para on Gangotri Glacier : The sentence, *“In the last 3-4 years..... to a mere 24.50 km”* is inaccurate. It should be corrected in consultation with a knowledgeable glaciologist.

Table 4

Will this Table be modified in the light of changes being made in the present draft or does it specifically refer to the work done in September-October 2016 by the GoJ? If it refers to the latter, an appropriate explanatory statement should precede the Table.

Item 1 : The remark in the Addressal column is disputable. A clear objective of the BESZ notification is the provision of livelihoods security for the local people. The draft document has not specified this aspect in the later chapters. In several chapters the estimated number of jobs to be created, or mandays of employment to be generated, or the number of beneficiary families, etc. can be highlighted. (PI also read the general remark number (2) above in this context.)

Item 12 : The comment of the Expert Committee is too general and so is the addressal. The latter suggests that a monitoring station will be set up. Such a station can only monitor some specific parameters at a particular location. What was the objective/nature of the monitoring desired by the MoEF & CC Expert Committee? How is that proposed to be complied with?

Chapter-1 : FOREST & WILDLIFE

This chapter requires an important amendment. Under plantation activities, it refers solely to existing schemes and the present draft working plans of the Division. In the last meeting on January 9, 2018, however, a major proposal was made and accepted that instead of plantation, an Assisted Natural Regeneration (ANR) approach should be used in the ZMP. This needs to be highlighted separately in this chapter.

The Ten Year Plantation Plan for UFD (p.31) targets an area of 5035 ha over a 10-year period, under the existing schemes. This is only about 5% of the estimated wasteland area in the BESZ mentioned in Table 3 of the General Overview chapter.¹ Since plantations can lead to major ecological and livelihoods benefits, this area could be increased through the ANR approach. Appropriate costs could be sought under the ZMP. The estimate should be made of the number of man days of employment generated. Even a rough estimate of the annual benefits/product flows (seeds, herbs, soil conserved) would be helpful in securing the required funds.

Page 1, last para

The reserved and/or protected forest area is 4106 sq kms, not ha, as mentioned in the first sentence. Mention may also be made here of the degraded and treatable area and the area under Van Panchayats.

Table on pages 2 and 3

This Table provides an excellent opportunity to summarize and highlight the proposed actions in the chapter, as done in Table 4 of the General Overview chapter. A fourth column briefly identifying the relevant action(s) may be added. The statement preceding the Table may be appropriately amended.

Pages 33-38 on Wildlife Management and Ecotourism

An innovative approach to wildlife management by involving local people and creating livelihood opportunities -- particularly for young people -- could be considered here. Project Campfire of Zimbabwe, among others, provides instructive lessons on what to do and what to avoid. The WII representative may advise.

(A little more may be added here)

Chapter-2 : WATERSHED MANAGEMENT

The Watershed Management team must be complimented for presenting new information in the form of the report on the State of Glaciers in the BESZ, and maps and lists of streams and lakes in the BESZ. But the overall chapter contents reflect a limited vision of watershed management.

Objectives

The stated objectives limit the vision of Watershed Management to managing soil and moisture conservation activities. The activities detailed later focus only on forest areas.

In recent decades, however, it has been recognized and accepted all over India that watershed management is more effectively implemented with the active involvement of the local communities. Uttarakhand state also subscribes to this approach as reflected in the table of watershed works, under the current SWP VI phase of the IWMP, summarized on pages 21 and 22. Hence the vision and objectives statement at the start of the chapter needs to be expanded, even if the future community-based activities for directly enhancing the livelihoods, incomes and well-being of the rural households are left to the agriculture and allied activities and rural development departments.

Given that a participatory approach can provide direct benefits to the local households and that the Watershed Management department is already engaged in such projects in 25 villages of the BESZ under SWP VI phase of IWMP, it should seek funds under the ZMP to expand the same approach and activities to new areas (villages).

¹ There is no mention of any proposed plantation area in the later section on Gangotri National Park.

State of Glaciers in the BESZ Report

WIHG has submitted a brief but very important report on the subject. It offers a basic situation analysis and makes very important recommendations at the end.

The report, however, has been included in the chapter as a stand alone section, without prefacing remarks or even concluding comments on its observations and recommendations.

Note must be taken of the impacts of the recession and thinning of the BESZ glaciers (most of which -- 209 out of 238-- are small, <5km²), particularly their fragmentation leading to enhanced hazards of GLOFs. The chapter must make a commitment to the need to prioritize glacier conservation activities and operationalize regulations based on the WIHG's recommendations.

Future Soil & Water (Moisture) Conservation/Catchment Treatment Measures

- (1) Guidelines have been proposed for conservation/management of aquifers, streams and lakes. But how some of these will be operationalized is not clear. For example, "No domestic or any type of sewage shall be allowed to drain in the natural water resource." Who will monitor this? Who will ensure it? Or, "Dumping of solid waste in the catchment of the streams will be regulated." But no regulations or procedures for establishing regulations are proposed. It is suggested that non-actionable proposals be minimized in the ZMP.
- (2) It is stated on p.48 of chapter 2 that, "Most of the upper catchment of the streams is free from human interference/anthropogenic activities and inaccessible." Some lakes like Vasuki Tal, KedarTal, Janak Tal, etc. listed in the Table, pp32-34, are very high altitude lakes in permanently snowbound areas. Regulating the trekking traffic in all such areas may be an adequate conservation measure. Several hundred crore rupees in treatment costs are thus avoidable.
- (3) The estimated treatment costs shown in the Tables pp 49-52 lead to widely varying unit costs. But not much explanation is given for them. They appear to be rough estimates.

Chapter-3 : AGRICULTURE & ALLIED SECTORS

This chapter requires a substantial revision in terms of editing and content.

Introduction

A comprehensive but brief situation analysis of agriculture in the BESZ is required since it is the primary livelihood in the zonal villages. The text on p.5 is at best a brief statement of the problems of agriculture in these villages. There is also a need for a proper assessment of the potential of agriculture to provide remunerative livelihoods to families in different socio-economic categories.

The vision, objectives and therefore the proposed activities should flow from this analysis. The objectives stated on pp.1-3 are repetitious and need to be rationalized. Given that the BESZ notification emphasizes the twin objectives of ecological and livelihoods security, a desirable vision could be to develop agriculture in the BESZ villages in a remunerative and sustainable manner so that it serves as a model for the mountain regions of Uttarakhand state.

Present Status

This section accounts for about half the chapter text. But it simply consists of brief descriptions of the various schemes that are operating in the zonal area and village-wise tables on the land use patterns, apples production and livestock resources. A village-wise table of per cent net irrigated agricultural area would help in setting priorities for irrigation development.

There is no discussion of the targets, achievements and outcomes, despite the fact that some of the schemes have been operating for several years now. A short analysis of which schemes are popular or effective would be helpful in planning future directions, e.g.,

would rainwater harvesting tanks improve irrigation potential, are barbed wire fences more effective or are nets more useful, which classes of farmers have benefitted the most from the present schemes.

There is a lack of compatibility between the different schemes. Thus while some schemes highlight sustainable agriculture, others promote the use of chemical fertilizers and pesticides. Some data may have to be rationalized or restated, e.g., average land ownership.²

Future Strategy

The proposals are presented within the framework of resources available from the existing schemes. Therefore a large number of activities have emerged, indicating an attempt to garner maximum resources from the available schemes. A focus on fewer effective activities emerging from the situation analysis and based on clear goals may be more desirable. The ZMP offers an opportunity to mobilize the extra resources required for this.

Some comments based on the physical and financial outlays are mentioned below:

- The text on p. 29 has proposed an admirable goal of converting all the agricultural land to organic cultivation. The outlays table does not reflect achievement of this goal.
- Paddy and wheat cluster demonstrations, including SRI, is proposed only for 600 ha. The System of Crop Intensification increases land and water productivity (more crop per drop). It is organic and more resilient to extreme weather events. It has enhanced productivity of other crops like maize, rajma, other pulses and some vegetables in several parts of Uttarakhand.³ Hence this approach should be extended to cover a much larger area than just 600 ha.
- It is proposed to distribute high yielding seeds for a variety of crops. Will they require inorganic chemical fertilizers or will they also give high yields with organic bio-fertilizers?
- Roof rain water harvesting is proposed under PMKSY. The water yield will be inadequate. Farm ponds for direct rain water harvesting and irrigation tanks to use streams/springs discharges would be more effective. Roof rain water harvesting would be more effective to augment availability of water for household use.
- The coverage of lift irrigation, power weeders/tillers, farm machinery banks and custom hiring centres and marketing support could be increased. CSR support may be available for this.
- There is no mention of institutional support systems like farmers' interest groups and federations. A focused knowledge extension programme could also be more effective.

Chapter-4 : RURAL DEVELOPMENT

General Remarks

The chapter is full of proposals for works but lacks focus. It is appreciated that the rural development department is engaged in a variety of activities. It would be better; however, if for the ZMP the department was to focus on a few critical activities so that it can deliver good results.

The introduction needs to be a brief situation analysis report that highlights critical issues of rural development in the BESZ, instead of arguing the importance of RD in India. The vision and objectives should be spelled out specifically for BESZ. The activities proposed should be directly related to the objectives. It is desired that a few focused activities with significant impact be undertaken, with a special focus on Nelong and Jadong villages under BADP. Among the activities that can be left to other agencies are tourism and micro-hydel.

² P5 states that the av land holding is 0.70 ha. If the zonal agricultural area is 4531 ha and the total number of farmers is 3000 (p.16), then the av land holding should be about 1.5 ha.

The Physical & Financial Outlays as presented are confusing. For example, the column on the status of activities on 1.1.16 is not clear. It is also not clear whether the cost estimates given in column 10 of these tables are for the five year or ten year period.

Finally, it may be mentioned that there are several good voluntary organizations in the state whose experience can be called upon as mentioned later.

Proposed Activities (pp. 3-13)

Though the text proposes to build houses for BPL families, this activity is not included in the Physical and Financial Outlay table. Several buildings for community use are proposed. Details of the size of these facilities need to be given and the nature of construction should adhere to the guidelines specified in para 2 (7) of the BESZ notification.

Regarding road construction, it was agreed at the January 9th meeting of the Experts Committee that only one road linking a village to a National/State highway should be considered, with all the necessary precautions in place, in order to minimize the cutting of trees. There can be no blanket approval for all roads. Construction details of each road may be proposed and reviewed by the Monitoring Committee on its merits, after a site visit.

A critical activity that is missing from the proposals is the need for reviving springs near habitations that have dried up or are drying rapidly. This may be done under item 3 (p.5). Poor families can be selected to raise nurseries for the afforestation works rather than purchasing saplings from the Forest Department or commercial vendors.

Under Agriculture and Allied Sectors (Item 4, p.6) it is mentioned that, "in the process of developing agriculture the agriculture pattern will not be changed sharply." It may, however, be more desirable to raise pulses like rajma that are more remunerative or horticultural crops (vegetables, spices) than the traditional grains. With the enhanced incomes, BPL families may be better off buying staple food grains from the ration shops.

Two play grounds are proposed. These may be located in the Jadganga valley in Nelong and Jadong.

SHGs and FIGs (farmers' interest groups) are very important village level institutions. Their establishment (with appropriate rules and regulations), orientation and training for specific activities would be very useful. Dairy development led by women has been successfully promoted in Uttarakhand by Himmatan, with whom the GoU has a memorandum of understanding, and BAIF. Their support can be sought if necessary. Lift irrigation pumps using solar energy may be experimented with. These can be part of Farmers Managed Irrigation Systems. The RD department can involve UREDA to establish micro hydel units. These too can be most profitably used for lifting water for domestic supply or irrigation.

Specific comments related to the activities under the Border Areas Development Programme are summarized below.

S. No.	Activity Proposed	Remarks
1.	Several structures are proposed to be built.	Precautions highlighted in the BESZ notification para 2 (7) regarding such structures need to be kept in mind
2.	Special area scheme. (BADP item 3)	May be prepared for Nelong and Jadong villages in the Jadh Ganga valley – school buildings, play grounds, PHC/CHC, etc.
3.	Social sector (BADP item 6)	Several types of structures are proposed. The above mentioned precautions should be followed. The government of India has allocated funds for two crore toilets in the FY '19 budget. These funds could be sought from Gol.
4.	Education (item 8 BADP)	Several educational buildings such as schools, labs, hostels etc. are proposed. Unfortunately, however, teachers, posts in many of the remote areas lie vacant.

Several brief comments that emerge from the Physical and Financial Outlays are listed in the table below. These may be appropriately responded to in the revised ZMP.

S. No.	Activity Proposed	Remarks
1	Most activities	Their current status is simply described as 'in progress'. It is not a clear description.
2	Disaster preparedness and water harvesting under MGNREGS	Specific works should be cited. The water harvesting costs appear high for the 5-yr period.
3	Afforestation (MGNREGS, 6)	Unit not stated. Costs may be high.
4	MGNREGS item 8	Some description about the types of water bodies is necessary to judge the appropriateness of the costs.
5	Linkages with other departments	No costs are mentioned.
6	Panchayati Raj proposals	Figures given under the 5 and 10 year targets are not clear.

Chapter-5 : URBAN DEVELOPMENT

Urban development in the BESZ requires basic information of the trends in the growth of its urban population and centers and the provision of adequate infrastructure, amenities and services. Given the special character of the BESZ priority needs to be given to the preservation of the national heritage.

The present chapter lacks this kind of a comprehensive picture of the current status and there are only a few isolated numbers of future growth/needs. It focuses primarily on solid waste management (SWM) in Uttarkashi (Barahat Nagarpalika) and Gangotri (Nagar Panchayat) towns. It is recommended that all urban services provided by other departments should be integrated in this chapter so that a comprehensive picture emerges of the present status and future needs. The chapter also requires maps of the urban areas. A comprehensive revision will require taking cognizance of various provisions of the BESZ notification, specific to urban development in paras 2, 3a, 3b and 3c.

The revised draft must consider the needs of the residents and the floating population. It is quite likely that during summer besides tourists the number of service providers also increases significantly.

The situation analysis should therefore highlight the shortfall in the existing infrastructure and services, as well as in the foreseeable future. There is an urgent need for the proposed Master Plan for the urban areas to be completed at the earliest and incorporated in the ZMP.

The present draft provides information about the SWM infrastructure in the towns but is silent on the outcome. Data on p. 6 is not the actual collection but only an estimate based on an assumed rate of 250 grams/per person. It does not take into account the floating population. This may explain the presence of garbage heaps in Uttarkashi and solid waste dumped in dry stream beds during the summer tourist season.

The table on p. 10 related to the Swachh Bharat Mission (urban) is not clear whether it gives the present status or the 10 year target. Even though the mission identifies awareness generation, behavioral change and people's participation in the mission in its objectives, the proposed activities have ignored these aspects.

The revised draft must emphasize the priority for safety and security in approving building plans giving special attention to the need of disabled people. Public buildings, especially schools, need to follow the fire fighting codes, earthquake safety construction principles and allocation of adequate space for the disabled to exit.

Chapter-6 : IRRIGATION DEPARTMENT

The irrigation department is engaged in building and maintaining irrigation facilities, in the villages, construction of ghats along the river banks and in floods disaster mitigation works on the river banks and river bed.

Irrigation water is essential for raising agricultural productivity and farm incomes. No exception can be taken to the related activities. There is, however, a mismatch of figures cited for the irrigated area in the BESZ. The Irrigation Department cites 443 ha on p.1 of the chapter which is in agreement with the figure given in Ch. 3, p.5. But the CCA in the Table on pp 6-7 adds up to 830 ha, which is the figure for irrigated area cited on Ch.2 p. 26. These figures need to be reconciled.

Clause 2(5) of the BESZ notification has serious implications for the construction of ghats and the floods protection activities. It says, "The Zonal Master Plan..... shall also ensure that there is no attempt to tamper with the natural boundaries of the river and the tributaries through the construction of any kind of structures on the banks of the river and tributaries."

Local villagers routinely come down to the river banks to cremate the dead and bathe whether there are ghats or not. Tourists, pilgrims and other visitors, however, find ghats to be more convenient. In the light of the restriction imposed by CI 2(5), it is suggested that cemented structures on the river banks be avoided or minimized and replaced by landscaped areas like parks with trees, hedges, grasses, etc.

The restriction of not tampering with the natural river boundary has serious implications for the flood control works. Cries for flood protection are raised by people who have built properties right along the river banks, encroaching the flood plain area. These include private homes, commercial buildings and government offices. Court orders to ensure that there are no buildings within 200 metres of the banks, or statements made by ministers (after floods disasters) that no construction will be permitted within 100 m of the banks are ignored with impunity.

Typical protection walls may not be adequate to withstand the force of the Bhagirathi in flood. Its tributaries in flood are more difficult to control. Dredging RBM deposited by floods tampers with the vertical boundary of the river. Geomorphologists recommend that RBM should be dredged scientifically and with care. In practice, however, local contractors who do the actual removal have little understanding or concern for this and tend to dredge more than what is scientifically recommended. Even then it is a Sisyphean labour since the Bhagirathi and its tributaries unlimited sediments and RBMs from the upper reaches.

A more scientific and reasonable approach to define the river's lateral regime or its flood plain zone for different time periods (e.g., 100 years flood level) and keep this zone free from any kind of permanent (cemented) structures. The area may better be used as a recreational space for the local people and visitors.

The chapter mentions that a flood plain zoning study has been undertaken by NIH at the request of the state government. The report and its recommendations need to be shared with the present committee members and a view taken on approving the proposed future floods management works.

The owners of the existing buildings in the floods threatened zone should be asked to take insurance. If the insurance companies are not forthcoming, or the insurance premiums are too high, the building needs to be relocated outside the threatened zone.

Chapter-8

GENERAL COMMENTS

1. The format of the chapter consists of a collection of departmental plans and proposals. This has led to a lot of repetitions; conflicting statements (see comments on pgs 16 and 17). The Expert Committee is meant to review plans pertaining only to the BESZ Notification guidelines. Extraneous guidelines and compliances may please be deleted. The text of the chapter requires consolidation and integration of the draft material.
2. In the light of the above, the sections of the various departments need to be combined so that there is one section each for introduction (short paras about the agencies involved and their functions/functioning), vision and objectives, clauses and compliances, present status and future strategy proposals in the entire chapter. The compliances should pertain to what is proposed to be done.

3. The text should be as brief and to the point as possible. For example, the village-wise drinking water supply present status table pgs 17-19 can be shrunk. Start with a statement like, “At present drinking water supply in 54 villages of the BESZ equals or exceeds the present norm of 55 lpcd. Drinking water supply in 24 villages is below this standard and needs to be enhanced. These 24 villages and their current supply levels are shown in the table below.” Then list only the 24 villages. This can also be done pictorially by including an appropriate GIS map of the villages with the deficient villages coloured red and the sufficient village’s coloured sky blue.
4. Some acronyms are not obvious.

Statement in the chapter	Comments by the member
Introduction; State Government plan for saturating all these habitations by water supply schemes and also for covering all the villages by the sanitation program in an integrated manner.	Target date should be mentioned for this.
It is a matter of pride for the SWAJAL team that the philosophy of Community and Demand Driven Approach has been adopted across the rural areas of the country in the Drinking Water Supply Sector.	Self-congratulatory statements can be avoided
The stress is now being laid on “Behavior Change” and for this Behavior Change Communication has been adopted. The focal point of IEC is Inter Personal Communication.	This aspect seems to be ignored in the urban areas. Please see my earlier comment in the Urban Development chapter. Seems to have been added on at the end of this chapter. In that case please integrate appropriately.
5 Hydro Projects exist in the zone namely, Kaldigarh Langhu Jal Vidhut Pariyojna 9 MW, Siyangad Hydro Project 11.5 MW, Jalandharygad Hydro Project 18.5 and 5.5 MW (Total installed capacity 76.4 MW)	I think these are on the not permitted list. They do not exist on the ground. Please verify and modify this statement. Incorrect installed capacity figure? PI check and correct if necessary.
For establishment and operation of the S.T.Ps.	The issue of establishing STPs needs to be discussed. Dr. Tare has alternate suggestions
Order dated 25-01-2017 regarding use of the plastic carry bags.	Orders are fine. But what about the implementation? Relevant info about outcomes would be useful to assess the scale of the problem. We do not see much impact of this order in Dehra Doon or Haridwar
All the local bodies in the area shall ensure to obtain Environment Clearance from the State Level Environment Impact Assessment Authority for common municipal solid waste disposal site.	What is the present situation?
The State Pollution Control Board shall identify the water quality monitoring station in the eco sensitive zone and shall also conduct the monitoring of water quality of river, drains on quarterly basis	Where are these stations to be located?
Solid Waste Management: There are three local bodies that exist in the notified Eco-sensitive Zone, namely, Nagar Palika Parisad Uttarkashi, Nagar Palika Parisad Bhatwari and Nagar Panchayat Gangotri	The Urban Development chapter lists only two. Make up your minds three or two?
The State Pollution Control Board shall monitor the provisions of Solid waste Management Rules 2016 in respect of standards prescribed for composting, treated leachate, and incineration and also shall monitor the ground water quality every year in the periphery of sanitary land fill site.	Why “shall monitor”? The Rules were adopted in 2016. What has the SPCB been doing till now? Current status statement should be made
The individual hospitals shall also ensure to obtain the authorization from the State Pollution Control Board for collection, segregation, treatment and disposal of the biomedical waste or the local bodies shall ensure to obtain the Environment Clearance for the competent authority and authorization from the State Pollution Control Board and for establishment for common bio-medical waste treatment and disposal facility in the region. The local bodies shall provide the land for development of common bio medical waste treatment facility in their respective jurisdiction and indiscriminate disposal of bio-medical waste shall be prohibited.	Any time schedule for this?

Statement in the chapter	Comments by the member
<p>DEPARTMENT OF HEALTH AND FAMILY WELFARE, UTTARKASHI :VISION & OBJECTIVES</p> <p>To improve health facilities at remote village level, reduce MMR (Maternal Mortality Rate), IMR (Infant Mortality Rate) proper disposal of biomedical waste generated at health facilities has to be done. 89 villages....</p>	<p>Too much primacy to construction activities rather than primary health care and skills building of health care providers.</p> <p>Is this the first issue that comes to the minds of the officials? How about saying something about pre-natal and neo-natal health care through ASHAs and traditional birth attendants, better nutrition, etc.</p> <p>This para could be entirely rewritten.</p>
<p>PRESENT STATUS</p> <p>Health Facilities under Eco-sensitive Zone</p> <p>Biomedical Waste Treatment and Disposal</p>	<p>Do these need to be enhanced? How about one in Nelong as part of the Special Area Development Plan (BADP).This is where integration (of activities) is required.</p> <p>Replace section/table on 1998 rules. Start with, "In accordance with schedule I (rule 5) and schedule II (rule 6) of the Biomedical Waste Management and Handling Rules, 1998, the following procedures are followed." Then reproduce this table. Will be less repetitious and save space (save paper, save trees!)</p>
<p>SWAJAL ;VISION & OBJECTIVES</p> <p>Achieve full coverage of rural habitations in the state with a minimum of 40 LPCD.</p>	<p>There is no mention of the establishment of village level management institutions to provide long term sustainability. We used to be told that it was the major achievement of the programme.</p> <p>I think the current GoI minimum is 55 lpcd</p>
<p>CLAUSES OF THE NOTIFICATION AND COMPLIANCE</p> <p>SWAJAL GUIDELINES -</p>	<p>Mention only the clauses relevant to Swajal and with a focus on what it is proposing to do.</p> <p>Not really relevant. Summarize and put in Introduction if you must.</p>
<p>PRESENT STATUS</p> <p>100% open defecation free (ODF) status achieved through SBM(G) in the Eco-Sensitive Zone.</p>	<p>This is hard to believe since 25% villages do not have adequate water supply. See your table later on pp17-19.</p>
<p>UTTARAKHAND PEYJAL NIGAM</p> <p>The minimum level should be 55 LPCD in Twelfth Five Year Plan period</p>	<p>Swajal is unaware of this. See my comment 26 above.</p> <p>Please see my comment at the start of this chapter.</p>
<p>PRESENT STATUS</p> <p>Discharge of untreated sewage and</p> <p>Table regarding health facility.</p>	<p>This is a prohibited activity. This clause does not convey the intended sense as stated here.</p> <p>This is not the place to seek support for construction activities. Focus may be on rain water harvesting, waste management facilities and solar energy for these structures.</p>
<p>SWAJAL; PROPOSED SLWM WORKS UNDER NAMAMI GANGE PROGRAMME AND SBM (G) (FIRST PHASE- 2017-18)</p> <p>UTTARAKHAND PEYJAL NIGAM; DRINKING WATER SUPPLY</p> <p>The 15 years plan for drinking water supply related works has been mention below</p>	<p>Can you summarize the Tables on pp 25-29?</p> <p>Why are financial figures given under physical targets?</p>
<p>(8) Chapter I : Urban Development</p>	<p>The remaining chapter seems to be an add on. Please integrate properly with the earlier material.Editing needed</p>

Chapter-9 : TOURISM

GENERAL COMMENTS

1. This chapter draft is much better than most other chapters.
2. An effort should be made to assess the livelihoods enhancement potential of tourism in the BESZ as it is one of the main overall objectives of the ZMP.

3. To the utmost extent possible, new buildings must follow the Notification guideline 2.7.
4. Several acronyms used in the chapter are not clear: LGSF (p.21), MTB (p. 31), UDPFI, IMF, HSRT, etc.

Statement in the chapter	Comments by the member
Existing Infrastructure ; Road and transport facilities The roads here are highly prone to landslides.	Hope this is taken note of in the next chapter.
Other essential facilities and <i>Current Tariff regulations</i>	This section appears to have been eliminated in this draft. Hence the heading may be modified
Promulgation of Central Pollution Control Board emission standards for vehicles entering in the eco-sensitive zone and strict enforcement.	Please mention the proposed enforcement mechanism. Provision of solar power.
Guidelines For Hotels/Tourist Rest Houses /Yatri Niwas With Dormitories And Youth Hostels	Local residents to provide rooms for home-stays so that the tourism income can be widely shared. Where needed loan facilities facilities.
Loan facility shall be provided to local unemployed for creating new tourism facilities under the scheme Veer Chandra Singh Garhwali Paryatan Swarozgar Yojna	Families providing home-stay facilities and other village will be given prior training to act as hosts and guides.
For every three let table rooms one car parking must be provided of minimum 5 sq. meters.	Will this be adequate for the summer rush?
Staff should be in uniform, well groomed and properly trained. Number of workers should be proportionate to the capacity of the unit in all services provided	Can they be given some training to speak at least passable English or one other Indian language? This may be advertised with the facility's signboard.
Youth hostel should be built on minimum 2 acres of land.	This seems very large in the mountain areas. Why is it so? No such requirement has been proposed for Hotels / TRHs / Yatri Niwas.
There must be a minimum of 15 rooms (single, double, triple or dormitory would all be considered as a single room) with a capacity of at least 30 persons and all rooms should have attached bathrooms. Bathroom carpet area should measure at least 4 sq.metres	With additional dining room, common room and recreational space? Seems small. Prefer 7 to 8sq. Mtrs.
There should be provision of solid waste management with incinerators and rain water harvesting. Additional incentives would be given for provision of STP/Bio-digester System with or without energy recovery, use of renewable energy etc.	Separation on premises with composting. Inorganic waste stored, collected and disposed through sale.
DoT also aims to encourage development of midway wayside facilities to be developed into resorts.	Wayside eateries with adequate shoulder for parked vehicles and clean toilets may be more needed.
Future Strategy For Tourism Development	The presentation is focussed on residential accommodations.The environmental, social, cultural concerns are not clear. Residential facilities can also be created at other locations like Netala, Maneri,Raithal, Jadh Ganga valley and villages on the left bank slopes of the Bhagirathi watershed. The proposed plan shows a bias for the Uttarkashi-Gangotri route.
It is intended to offer multiple, environment friendly tourist pursuits/opportunities in the region to promote community oriented tourism development and enhance the associated livelihood options together with minimizing the impacts on environment through:	By adding a couple of sentences this can be elaborated to include some of the proposals
Table 4: Summary of Carrying Capacity Estimation of Major Destinations in the Eco sensitive Zone	Many of the numbers appear huge. The basis of the calculation is not clear.
Table 5: Basis of Carrying Capacity Estimation of Major Destinations in the ESZ	Are the tourist numbers based on somespecific years? Gangotri area has 3 timesas many foreign visitors as Uttarkashi. Does it mean that most of them did not stay in Uttarkashi? There should be some statement/data for average number of daily visitors during the peak season. About 3500 visitors per day? It is not clear what the various indicators mean. Also how and why they are computed. An explanatory note may be added as an annexure at the end of the chapter.

Statement in the chapter	Comments by the member
The option available is to create additional accommodation for the tourists on the land available with tourist department between Lanka and Gangotri and regulate the visitors by setting up necessary infrastructure at Uttarkashi and Bhatwari for monitoring the tourist inflow and outflow and thereby maintain a balance.	Very necessary. The tourism department may also consider restricting petrol/diesel vehicles in the region and providing electric buses as alternate transport. People are accustomed to alternate transport at certain locations, e.g., ropeway facilities. Anyway by 2030 the Govt expects sales of only EVs.
Identified Activities For village tourism are: Development/ promotion of Home stays with all necessary facilities	Such as bi-lingual, friendly hosts, neat rooms w attached bathrooms, safe drinking water, good food, secure parking, etc. Interpretation centers, Operated by trained local youths,
	Villages on the left bank slopes are being left out.
Mountain peaks falling within Gangotri National Park	Should peaks outside the BESZ be included here?
	Are all the Mukhem range treks within the BESZ? If not, the relevant rows can be replaced with a one sentence reference

Chapter-10 : Road and Infrastructure Development

GENERAL COMMENTS

1. A basic principle must be to minimize motor roads construction and damage to the natural heritage in the BESZ. PI considers videography, approved/accepted by the concerned DFO, of trees marked for cutting and post-construction videography of the same locations.
2. There is no dispute about according primacy to national security concerns. Within that stipulation, it must be ensured that only minimal damage is caused to the natural environment in the BESZ.
3. Slope stability is also of utmost importance for ensuring rapid and uninterrupted movement of heavy defence vehicles during an emergency. Hence the excessive concern that border roads be constructed in a far more superior manner in these fragile areas than is usually the case.
4. Many of the compliances to the BESZ Notification clauses shown on pp 4-5 are of a temporary nature. For more long-lasting solutions, GSI has recommended detailed technical investigations. Time- frame for this should be set down.
5. For every road, muck dumping location must be clearly marked on an appropriate map. Drawings of the muck enclosures, with sizes, should be presented to the monitoring committee for approval before construction begins.

Can CPCB highlight punitive action(s) for any violations of the regulations?
6. No details have been given about the Uttarkashi-Gangotri NH widening project.

Statement in the chapter	Comments by the member
Introduction; A total of 17 villages with a population....	May be listed here.
As per Guide line of Eco-Sensitive Zone Gazette Notification following provisions in new roads, re-construction of road and other repair/maintenance works are included in proposed Zonal Master Plan.	PI see my general remark on the title page. Clauses 2.12 and 2.14 of the Notification must also be noted and complied with appropriately.
In this regard a joint inspection was also held on 4th May, 2016 by Eco Sensitive Zone Monitoring Committee, Dr. Shivansh Kimothi Geologist Garhwal	This was a very preliminary investigation. As suggested by GSI, a detailed investigation must be done.
Clause No.19- Hill roads: -Following guidelines shall be framed for the construction and maintenance of hill roads and incorporated in the Zonal Master plan.	Does not appear to have been attached. If so, please attach.
List of unconnected villages	

Statement in the chapter**Stability measures suggested for development in steep terrain.****Comments by the member**

These may be inadequate in perennial sliding zones. Pl see GSI note. Also once installed, these measures may take some time to stabilize, as has been the case at Sirobagad on the Rishikesh-Badrinath highway.

Slope stability is of utmost importance for ensuring rapid and uninterrupted movement of heavy defence vehicles during an emergency. Hence the excessive concern in building border roads in a far more superior manner in these fragile areas than is usually the case. Will future wars require so much troops movement or will there be greater reliance on guided missiles?

Earlier it used to be said that our mountain villagers are the second line of defence. Hence I have been arguing for village-based development planning rather than this kind of a ZMP which has a heavy construction bias.

Construction of Jaspur Silyan Nirakot M/R from Bhaldiyana Lambgaun Uttarkashi M/R

Is this in the BESZ?

PHYSICAL AND FINANCIAL OUTLAY

ONGOING WORKS

In a discussion on the sidelines at the end of the last meeting, the EinC had informed the DM and me that some of the roads I had raised questions about had been cancelled. I hope they have been removed from this list also

Construction of Helipad at Natin Near Dayara.

The Experts Committee should take a view on helicopter flights in the BESZ, particularly in view of wildlife and the delicate n the bugyals. What tree cutting will be involved here? What alternatives have been considered?

Kujjan to Tihar motor road

Will this involve loss of tree cover? In general we should try to avoid multiple points connectivity between villages to minimize loss of tree cover.

Provincial Division, P.W.D. Bhatwari

Dang to Pokhri M/R.

I have received a representation from Daang villagers that they have already built a road from Daang to Pokhri. We should discuss this issue at the Experts Committee meeting.

Chapter-11 : Disaster Management

GENERAL COMMENTS CH 11

1. The BESZ is a highly disaster-prone area. Disaster management should be a matter of highest concern.
2. The text of the chapter gives very general information. Greater details of steps that are being taken for minimizing hazards, disaster preparedness and disaster response are required, especially since the DMA became operational in 2005 and a lot of experience may have been accumulated.
3. No cognizance of likely heightened risks due to climate change leading to increased extreme weater events.
4. Shows little attempt at integrating with information presented in other chapters—forests (forest fires), watershed (GLOFs), roads (minimizing landslides hazards).

INTRODUCTION :

- The first para does not mention the word 'disaster' or the words 'disaster management'. Second para abruptly provides info about a DDMA. Very disjointed intro.
- Pl begin w a para on the highly disaster prone character of Uttarkashi district and the BESZ in particular. Then briefly enumerate some of the recent major disasters in the BESZ, going back, say, to 1978's landslide in the Kanaujiya Gad valley.

District Disaster Management Authority

- Is this a structure defined by the Act? Should have representation of an equal number of common people, e.g., gram pradhans, mahila mangal dal reps, voluntary organization reps, etc.
- What are the functions of the DDMA? Perhaps relevant section of the Act can be given as an annexure.

District Emergency Operation Centre (DEOC)

- But what is it supposed to do?

Disaster Specific Proneness :

- No mention of GLOFs, hail, etc.

Disaster Specific Proneness: Floods and Landslides :

- Some reference to the Landslides Zonation Atlas of 2000-01 and its recommendations for the Uttarkashi-Gangotri highway should be appropriately included in this chapter.

Earthquake

- You could at least mention the 1991 EQ and the impact in two sentences. I think this zone is also highly prone to micro-EQs, which enhance landslide hazards. The North Almora Thrust passes through the BESZ. What dangers does it pose? Identification of precautions needed.

Priority 3: Investing in disaster risk reduction for resilience

- Can some of the important actions be listed?

Priority 4: Enhancing disaster preparedness for effective response and to "Build Back better" in recovery, rehabilitation and reconstruction.

- A para on the preparedness activities will be useful.

Major Events Workshop/Seminar and other outreach Activities (2016-17).

- Dr Tolia had written a very insightful article in Garhwal Post highlighting the 'khana poorti' nature of many of the listed activities. Mock drills are useful only if they are repeatedly organized and basic response parameters are recorded, e.g., time taken to empty out the building, number of participants, time of the day, etc. so that preparedness level can be gauged.

HRVA Profile of District Uttarkashi under ESZ

- A para on how it will be used may be useful.

Identification of land slide prone sites on NH under ESZ

- What is being done in response to this info? GSI has recommended temporary measures for each slide and called for detailed geotechnical investigations for preparing more long-lasting solutions. Have these investigations begun? When will they be over and the response activities begin? DMMC recommendation of avoiding blasting.

COMMUNICATION :

- Wall writings are useful for disaster-preparedness

Location

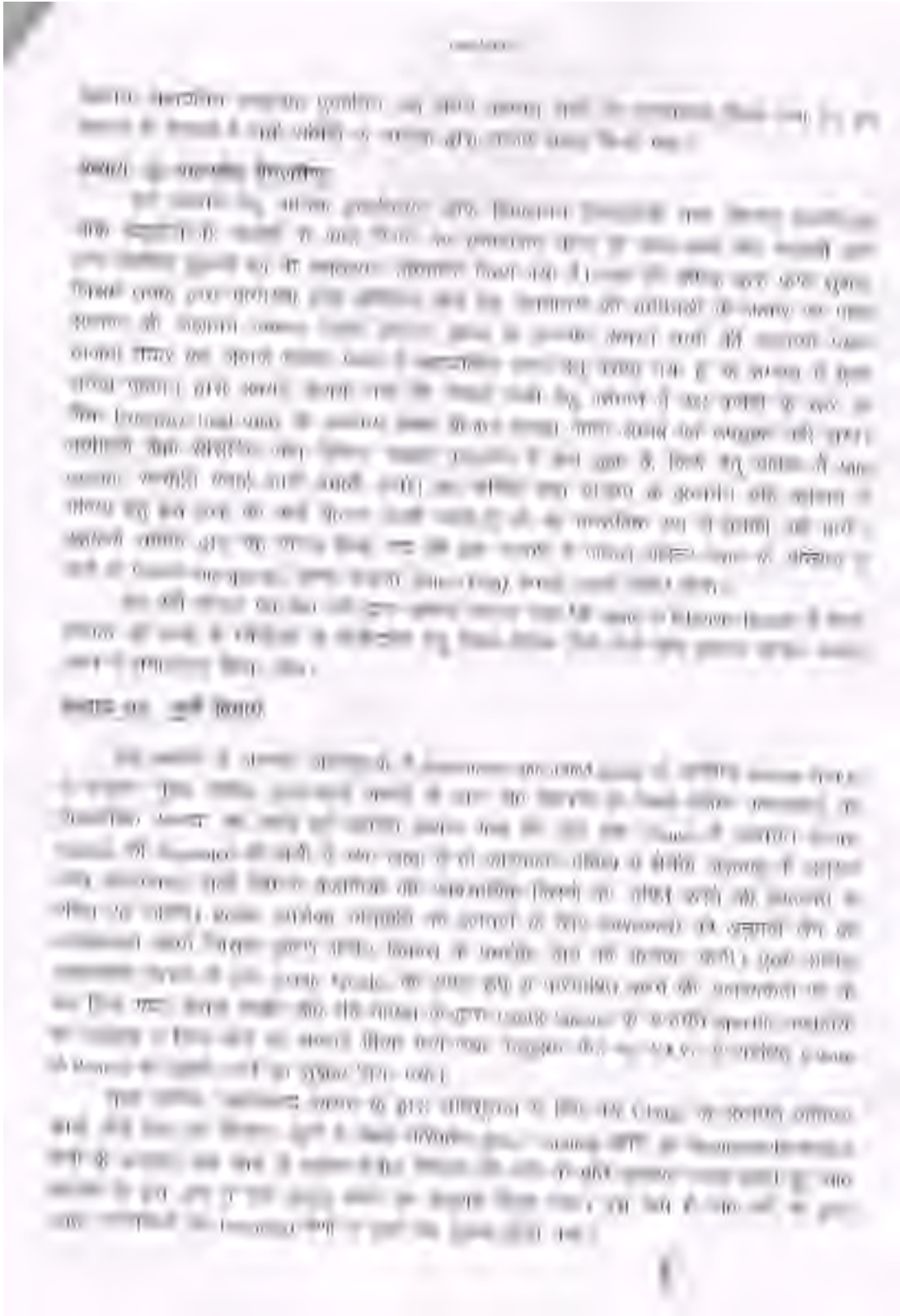
- Should such a facility be provided at Harsil? What about for villages on the left bank slopes?
Map showing inventory of landslides zone in the area.
- BESZ notification has a number of guidelines for minimizing landslide hazards as a result of road construction? What is the administrative response?
- These landslides are along a heavily trafficked route. Is there a need for emergency shelters? Some statements need to be included about the availability of treatment facilities for the injured.

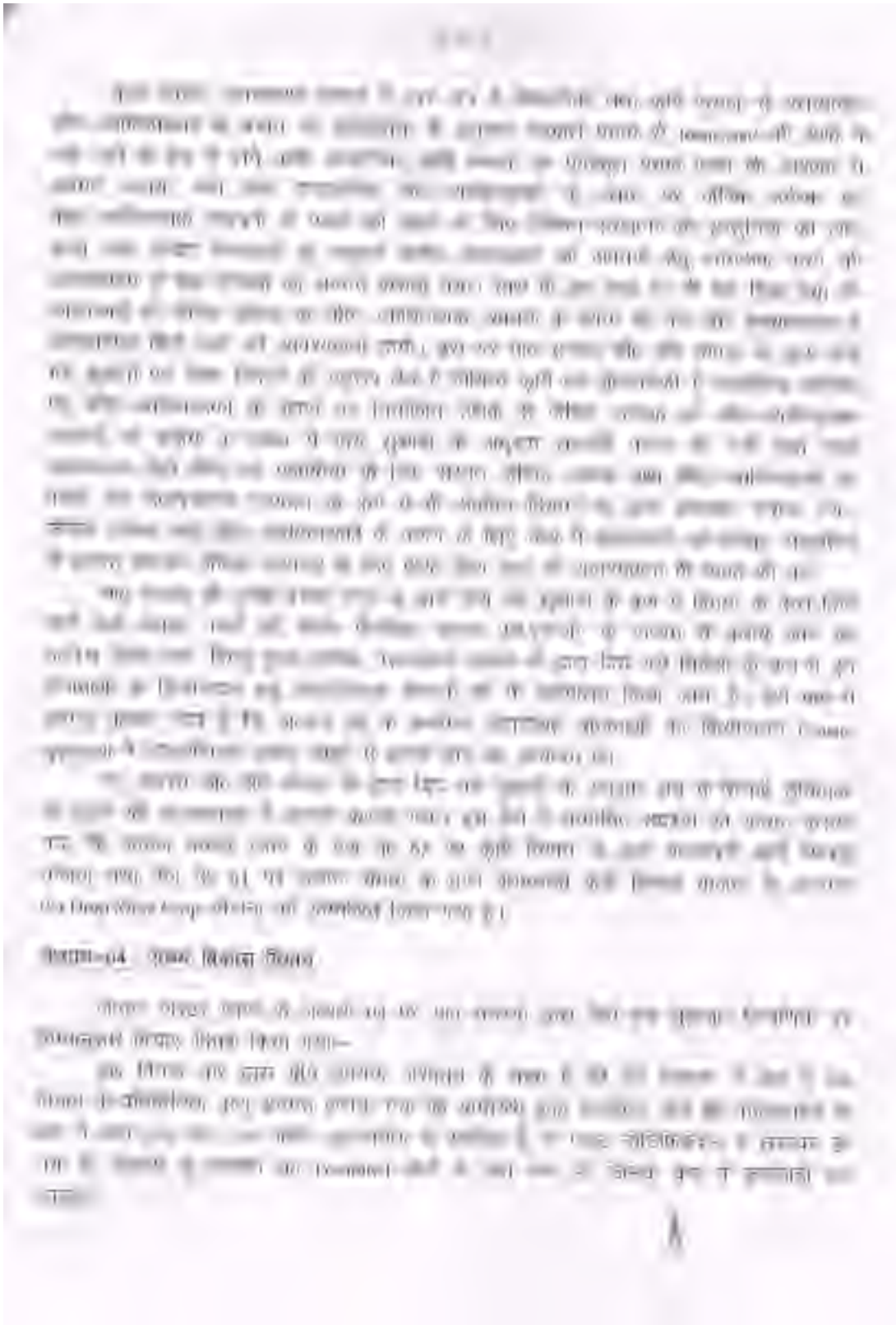
RESTRICTIONS ON ANTHROPOGENIC ACTIVITIES

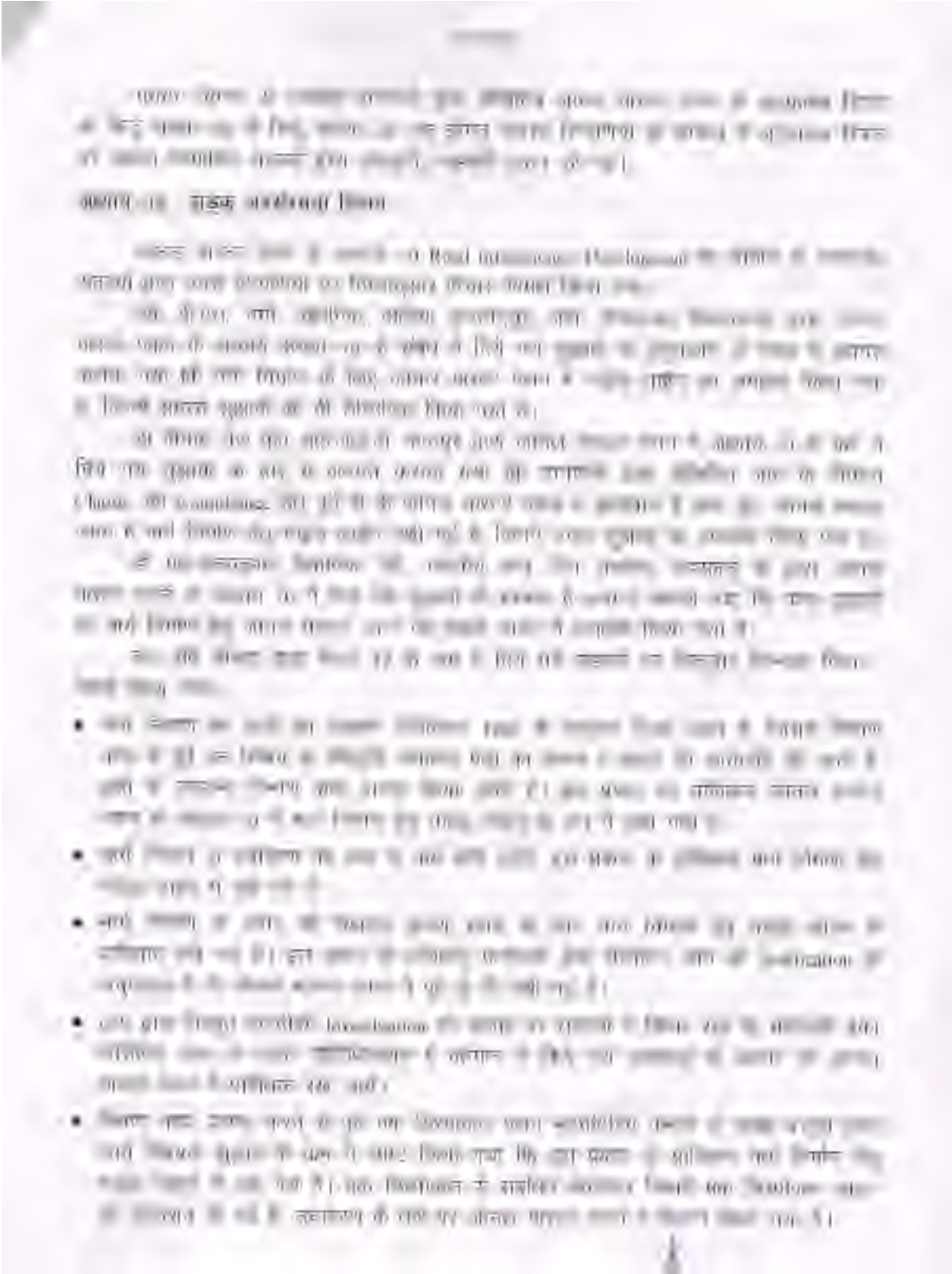
Tourism chapter has also proposed regulating the number of motor vehicles on the Uttarkashi-Gangotri highway. What is the district admin's response.

Annexure No. 22









Activities which require forest collection licence	Prohibited	Forest collection licence regulatory activity
Setting up of new saw mills Commercial use of fire wood	Prohibited	Due to extensive topography and terrain, commercial use of fire wood may be allowed as a regulated activity, based on carrying capacity.
Setting up of highly polluting industries and expansion of existing such industries	Prohibited	
Discharge of untreated sewage and industrial effluents	Prohibited	Agreed as such
Use of plastic carry bags (in shops, commercial establishments, markets, etc.)	Prohibited	
Establishment of hazardous waste processing units	Prohibited	
Extraction of groundwater (for agriculture and domestic consumption by forest dwellers)	Permitted	Agreed as such
Over-commercial felling of trees (in private and other lands)	Regulated	
Sale of ground water for commercial purpose	Regulated	
Defence installations and other infrastructure development related to national security	Regulated	Agreed as such
Clearance of fire lines in the forest	Regulated	Fireline plan, agreed as such
Introduction of exotic species	Regulated	Introduction of exotic species in forest areas should be a regulated activity. However, introduction of such species for agriculture and horticulture to improve productivity should be considered as permitted activity.



Annexure No. 23(A)

9/6/2018

Gmail - Comments on ZMP



dfo Uttarkashi <dfouttarkashfd@gmail.com>

Comments on ZMP

2 messages

Ravi Chopra <rachop@gmail.com>

Sun, Jun 17, 2018 at 6:36 AM

To: dfo Uttarkashi <dfouttarkashfd@gmail.com>, dm-utt-ua@nic.in, ranbir0001@yahoo.com, forest section <forestsection3@gmail.com>

Dear Sandeepji:


In my mail of May 30th I had informed the ZMP drafting group that I would submit my comments on its final draft Plan by June 15th. I am a bit late but have finished responding to seven chapters now. I am unable to devote more time to this exercise now and am mailing these comments to the drafting group tomorrow morning. They are attached below.

You will note that my comments are quite detailed. For each chapter I have read the final chapter draft, the earlier draft, the Compliance Report of May 2nd and the Minutes of all the meetings, before preparing my response. All this has taken time, even though I dedicated almost all my time to this task for the past week.

I have earlier sent comments on earlier drafts for Chapter 1 (Forests & Wildlife), Chapters 6 (Irrigation), 8 (Public Health & Sanitation).

I will be grateful if the drafting group will acknowledge receipt of the attachment.

Thanking you and with good wishes..... Ravi Chopra

 **Final BESZ comments (Autosaved).docx**
63K

Comments of Dr. Ravi Chopra, Director People Science dated 11 June, 2018

I. Introduction

A Zonal Master Plan (ZMP) for the Bhagirathi Eco-Sensitive Zone (BESZ) submitted by the Government of Uttarakhand (GoU) in October 2016 was not accepted by the Union Ministry of Environment, Forests and Climate Change (MoEF&CC) and the Ministry of Water Resources River Development and Ganga Rejuvenation (MoWR, RD&GR). They recommended the formation of a committee of experts to prepare a fresh ZMP.¹ The need for an independent experts' body to form a comprehensive ZMP was reiterated by Shri Shashi Shekhar in a report submitted to the National Green Tribunal (NGT) after consulting the Central Government and State Government officials, the applicant before the NGT and members of the Monitoring Committee.² Thereafter the NGT by its order of July 26, 2017 and its amendment on October 23, 2017 appointed a committee of experts to prepare a fresh ZMP.³

At the first formal meeting of the committee on November 20, 2017 several committee experts felt that given their existing work commitments it would not be possible for them to actually prepare a ZMP in the manner prescribed in the BESZ Gazette Notification of December 2012, requiring extensive public consultations in the field. Instead, they suggested that the committee could spell out the principles for the ZMP and guide the preparation process.

At a lengthy, nearly day-long second meeting of the committee on December 9, 2017 in Dehradun, Uttarakhand state officials presented a draft ZMP, chapter-by-chapter. The committee members were asked by the state officials, led by the Chief Secretary (CS), to give their inputs at the meeting for improving the draft's contents which the members did despite serious reservations and objections (see later paragraphs).

Departmental officials had prepared the entire Plan of December 9, 2017. It was simply a compilation of departmental schemes, mainly construction projects. Its contents were almost the same as the draft that had been rejected earlier by the Union Ministries. It included proposals for activities and projects that were prohibited by the December 2012 BESZ Gazette Notification. It violated in letter and spirit the ZMP preparation guidelines of the Gazette Notification.

At the second and subsequent meetings some members of the committee drew the attention of the state officials to **the basic guiding principle enunciated in the BESZ Gazette Notification (2012), that the Plan be prepared in close consultation with the local people, especially the women.** In response the CS too directed the District Magistrate of Uttarkashi to carry out consultations with stakeholders in BESZ villages where such consultations had not been conducted earlier and the Plan be prepared accordingly.⁴

The routine in the third and fourth (perhaps final) meetings was quite similar. At each meeting the state officials presented fresh drafts referring to or sometimes selectively incorporating, comments and suggestions made by the committee members. The Compliance Report presented on May 2, 2018 regarding comments and suggestions made by the committee members is

¹ Affidavit on behalf of MoEF&CC and MoWR, RD&GR filed with the NGT on December 21, 2016.

² S. Shekhar (2016): Report on revised Bhagirathi Eco-Sensitive Zone Zonal Master Plan, MoWR RD&GR, New Delhi.

³ NGT orders dated July 26, 2017 and October 23, 2017.

⁴ Minutes of the committee meeting on December 9, 2017.

disappointing. The information is misleading, as pointed out in several chapter-wise sections below. Silence on any given issue has been conveniently construed as consent, without waiting for final comments.

An outrageous misrepresentation has also been recorded in para 5 of the Minutes of the May 2, 2018 meeting claiming that members have recommended that HEPs up to 25 MW should be allowed as a regulated activity. This proposal violates clause 3a (i) of the December 2012 BESZ Notification. It has not been amended by the Central Government in its April 17, 2018 Notification of amendments to the original Notification despite the strong demand of the state government for relaxing this clause. This proposal and other similar proposals have been consistently opposed by several members of the committee.

There is almost no mention of monitoring systems. Perhaps it is left to the details of the individual schemes under which the activities are proposed. Prof. Vinod Tare had recommended that along with stating the aims of the various proposed activities and their boundary conditions (permitted/not permitted/regulated activities), an effective monitoring system had to be established.⁵ The CS then gave directions that modern (information) technology facilities be used for the purpose and that the concerned Gram Panchayats be involved in identifying and implementing the Plan activities. There is no indication in the final draft that this recommendation is being acted upon.

The final draft presented to the committee on May 2, 2018 is poorly edited, with numerical and grammatical errors, unreconciled data in different chapters and unsubstantiated claims. Broad time schedules have been given in Part 2. Some of the activities listed in Part 2 have already been completed but it is not clear how many.

Detailed objections and comments on different chapters are summarized below. They are based on the discussions during the committee meetings.

Chapter 2, Watershed Management

The Watershed Management team has presented some new information like the report on the State of Glaciers in the BESZ and maps and lists of streams and lakes in the BESZ. But the chapter limits its vision to, “identification of the vulnerable areas vis-à-vis soil erosion/landslides and its (*sic!*) management on a watershed approach is the core objective of the Zonal Master Plan.”⁶

The chapter is in three parts: (i) Present Scenario, pp 48-55 (ii) Future Proposals, pp 55-76 and (iii) State of Glaciers Report, pp 76-78.

The proposed future micro-watershed development activities -- largely soil and moisture conservation works -- are to be implemented only inside departmental forest lands. The future village-based activities for directly enhancing the livelihoods, incomes and well-being of the rural households appear to have been left to the agriculture and allied activities and rural development departments and are not referred to in this chapter.

⁵ Minutes of the January 9, 2018 meeting

⁶ Page 47, Chapter 2 of final draft ZMP.

The proposed future activities do not lend themselves to a participatory approach which involves local communities from problems identification through planning, implementation, monitoring and maintenance. This is the approach desired in para 2.1 of the BESZ Gazette Notification. Such an approach can enhance sustainability as people establish a sense of ownership of the projects and the assets created. It is disappointing that the authors of this chapter have not properly understood the meaning of participation even though Uttarakhand state has supposedly implemented this approach under the current SWP VI phase of the IWMP (see p.52).

Of the present watershed management activities mentioned in the chapter, only SWP-VI (under IWMP) is based on active community involvement focusing on addressing resource conservation and livelihood security concerns. Little progress has been achieved, however, despite four years of operation. Blame has been placed on GoI for slow fund release (< 12 per cent so far) but no reasons are given for the slow release. What will happen if there are no further releases?

The chapter lacks specifics: For example,

- Though identification of areas vulnerable to soil erosion/landslides is a core objective of the ZMP (p.47) and land degradation a major challenge (p.49), no objective estimate of the vulnerable or degraded area is given. Similarly, there is no data on the number of springs and streams in the BESZ that have dried up or in a critical stage.⁷ Revival of springs is critical since they contribute a major proportion of the annual river flows along with base flows.
- Challenges related to rural poverty, poor access to markets, health care and education, decreasing amount and quality of water resources are outlined on p.49. But the chapter contains no specific plans for remedying them. If details are given in later chapters a reference to the same should have been made here.
- It would have been useful to tabulate basic data like: •Total watershed area, •degraded area, •landslides prone area, •area to be treated, •soil and moisture conservation works area, •plantations area, •expected increase in irrigated area, •total numbers of families in the watersheds, •BPL families, •beneficiary families, •pre-project average annual income of beneficiaries, •their expected future average annual income.

As pointed out in past comments, estimated unit costs vary widely, between schemes, despite similar types of treatment works. No explanation has been given for this.

Suggestions made by Shri Chandi Prasad Bhatt to give primacy to vegetative measures for soil and moisture conservation do not appear to have received much reflection. His proposals for assisted natural regeneration made in the Forest and Wildlife chapter apply here too.

State of Glaciers in the BESZ Report: WIHG has submitted a brief situation analysis report that makes important recommendations at the end. But the present chapter neither makes any concluding comments on its observations and recommendations, nor outlines a strategy to deal with the challenges outlined.

The impacts of the recession and thinning of the smaller BESZ glaciers (most of which -- 209 out of 238-- are small, <5km²) include their fragmentation, enhancing GLOF hazards. The chapter should therefore have prioritized glacier conservation activities and necessary regulations based on WIHG's recommendations.

⁷ The drafting committee could have made use of the GIS facilities available to it (and remote sensing) to determine such data, in the five years it has taken, since the December 2012 BESZ Notification, to get to the final draft.

Conclusion: Participatory watershed management based on micro- planning at the village level to enhance resource conservation, ecological and livelihood security is meant to be the core strategy for preparing the ZMP.⁸ Despite committee members emphasizing this point in earlier comments and meetings, it has been ignored. The final draft is a departmental product like the other chapters.

The neglect of a participatory approach to watershed development is all the more disappointing because Uttarakhand state boasts of a dedicated Watershed Management Directorate. The latter has implemented several participatory watershed management projects under IWMP. Nor has the suggestion to extend an IWMP-like program to cover a larger number of BESZ villages been considered.

The chapter is sloppily prepared as evident from several numerical errors. In the two sections of the Table on p.50, the proposed watershed treatment areas of Gawanagad, Mahargad and Soundhargad (Swarigad?) are larger than the treatable areas. The spellings of the stream names in the same table have not been reconciled. On p. 55, the non-reserve forest area of the entire watershed is 72000 ha whereas on p.vi of the General Observations chapter it is only 72.66 km² or 7266 ha. This error was pointed out in past meetings too. The 75 per cent dependable surface water flow (presumably in R. Bhagirathi) at Maneri Bhali-I is greater than the similar flow downstream at Uttarkashi, which is unscientific. And so on.

Ch. 3, AGRICULTURE & ALLIED SECTORS

Agriculture and allied activities are the primary livelihoods in the BESZ villages. A comprehensive but brief situation analysis of agriculture in the BESZ along with a brief assessment of the potential of agriculture to provide remunerative livelihoods to different socio-economic categories would have been helpful. The text on p.81 is inadequate and the response given on this issue in the Compliance Report of May 2, 2018 betrays a lack of understanding of the concept of situation analysis.

The vision, objectives and therefore the proposed activities should have emerged from a situation analysis. The objectives stated on pp.82-83 are repetitious and could have been better rationalized. Shri Chandi Prasad Bhatt had proposed a desirable vision of developing sustainable and remunerative agriculture in the BESZ villages as a model for other mountain regions of Uttarakhand.

Present Status: This section accounts for about half the chapter text. It briefly describes the various schemes that are operating in the zonal area. The response in the May 2018 Compliance Report misses the significance of a discussion of the targets, achievements and outcomes of the schemes that have been operating for several years now.

⁸ Paras 2.4 and 2.5, BESZ Gazette Notification, December 2012.

There is a lack of compatibility between the different schemes. Thus while some schemes highlight sustainable agriculture, others promote the use of chemical fertilizers and pesticides. Some data may have to be rationalized or restated, e.g., average land ownership.⁹

Future Strategy: The proposed activities are limited to resources available from the existing schemes. There is no evidence of fresh thinking. No new schemes are proposed. The large number of proposed activities suggests an attempt to garner maximum resources from the available schemes. A focus on fewer effective activities based on the situation analysis and clear goals would have been more desirable. The ZMP offered an opportunity to mobilize the extra resources required for this but that appears to have been lost upon the state officials.

Other important issues are outlined below:

- The text on p. 94 suggests a goal of converting all the agricultural land to organic cultivation. The outlays table does not reflect achievement of this goal in the 15 year Plan period. At the last meeting (May 2, 2018) the state Chief Secretary had disagreed with this objective and proposed modifying the goal. Clearly there is some confusion on this issue at the top echelons of decision-making and the stated goal has not been adequately thought through.
- Paddy and wheat cluster demonstrations, including SRI, are proposed only for 600 ha. The System of Crop Intensification increases land and water productivity (more crop per drop). It is organic and more resilient to extreme weather events. It has enhanced productivity of other crops like maize, rajma, other pulses and some vegetables in several parts of Uttarakhand. Hence this approach should have been extended to cover a maximum area and more crops, along with appropriate marketing support.
- It is proposed to distribute high yielding seeds for a variety of crops. They usually require inorganic chemical fertilizers. They may not give high yields with organic bio-fertilizers whose use will be necessary if the all-organic goal is to be met. Stating that they will also give high yields with organic bio-fertilizers requires supporting evidence.¹⁰
- Roof rain water harvesting is proposed under PMKSY. The water yield will be inadequate for agriculture. Farm ponds for direct rain water harvesting and irrigation tanks to use streams/springs discharges would be more effective. Roof rain water harvesting can more effectively augment availability of water for household use.
- The coverage of lift irrigation, power weeders/tillers, farm machinery banks and custom hiring centres and marketing support could be increased. The ZMP could seek CSR support in case government funds are not forthcoming.

Institutional support systems like farmers' interest groups and federations are mentioned in a routine manner. Shri Chandi Prasad Bhatt had recommended giving priority to focused knowledge extension and institutional development in the ZMP. His emphasis on promoting local marketing a variety of crops (December 9, 2017 minutes) has not been adequately responded to.

⁹ P.84 states that the average land holding is about 0.75 ha. If the zonal agricultural area is 4531 ha and the total number of farmers is 3000 (p.16), then the average land holding should be about 1.5 ha.

¹⁰ Compliance Report, May 2, 2018, p.16.

Chapter 4, Rural Development

Another key component of the BESZ ZMP, rural development, has also received a business-as-usual set of proposals from the department officials. The Rural Development chapter is also a compilation of existing schemes of the Government of India (GoI), extrapolated to run over a 15 years period. What will happen if the GoI discontinues any of these schemes is not discussed.

In substance, the text of the chapter remains almost the same as in the earlier draft. Most suggestions made have not been responded to, except for an improved presentation of the Physical & Financial Outlays tables. A critical suggestion of involving people in preparing Village Development Plans has not found acceptance.

The suggestion to redraft the introduction so that it specifically focuses on the BESZ, instead of arguing the importance of RD in India, has been largely ignored.¹¹ The stated vision and objectives are very general. No specific objectives in terms of enhanced livelihood security are mentioned. The proposed activities lack a focus. It had been suggested earlier that instead of including so many schemes, a few critical activities be chosen for the ZMP, so that good results could be delivered.¹² Funds could be sought for just these activities. But the final draft has ignored the suggestion.

Future Strategy: Though there is a section on the present scenario there is no mention of the future strategy to implement the vision and objectives. Perhaps we are expected to assume that the present strategy and activities are adequate and will continue! Also, just listing schemes does not amount to a strategy.

A section on future strategy was required in the chapter. The activities proposed in it could have followed the format of the P & F Outlay so that the two could be easily correlated. It was suggested that the table on pp 103-105 be appropriately amended to show compliance with the clauses of the Gazette Notification, instead of general statements of compliance. This has not been done.

The critical activity of reviving dried or drying springs, near habitations, is missing. This is needed since the springs-related activities in the Watershed Management chapter are restricted to departmental forest areas only. **It is a sanctioned activity in the MGNREGS Guidelines and funds should be easily available. Hence it should be included in this chapter and not elsewhere.** Poor families can raise nurseries for the afforestation works rather than purchasing saplings from the Forest Department or commercial vendors.¹³

It had been proposed earlier that there were several good voluntary organizations in the state whose experience could be called upon, especially for the establishment of strong village level institutions. Specifically, it was pointed out that dairy development led by women had been successfully promoted in Uttarakhand by Himmotthan (with whom the GoU has a memorandum

¹¹ R. Chopra: Comment of February 3, 2018.

¹² Ibid.

¹³ The Compliance Report of May 2, 2018 claims that this issue has been addressed under Swajal in the ZMP. But it only receives a passing mention in that chapter. No specific funds have been asked by Swajal for this activity.

of understanding) and BAIF. Their support could have been sought.¹⁴ But the suggestion has been ignored.

Proposals made by committee members to promote solar or micro-hydel energy to lift water for domestic supply or irrigation, with the help of UREDA, did not find much favour with the ZMP drafting group. This could strengthen decaying farmers' managed irrigation systems.

A mechanism for monitoring and reporting would have also been useful. The existing monitoring committee has not functioned well, with the state dragging its feet even on holding meetings.

Physical & Financial Outlays: Most of the projects and activities proposed are for constructing physical structures. Many activities in the P & F Outlays tables are broad and of an omnibus nature. It is hard to accept such proposals.

The remarks column could have been used to specify necessary restraints. For example, it was agreed at the January 9th meeting of the Experts Committee that only one road linking a village to a National/State highway would be considered, with all the necessary precautions in place, in order to minimize the cutting of trees. No remark has been made that none of the roads proposed here are in addition to existing village roads or the roads proposed in Chapter 10. There can be no blanket approval for all roads.¹⁵

The P & F Outlays in Part III are based on ongoing works and future activities. These should have been separated so that specific funds for future ZMP activities could have been sought.

It is hard to understand the unit costs adopted for various similar activities under different line items. A few expert members of the present Committee could have sat separately with the RD officials and the drafting team to understand the costing methodology and their estimates.

The text proposes to build houses for BPL families, but the relevant budget item in the Physical and Financial Outlay table is not clear. While the target is 712 units, in the first 10 years only 56 units are targeted and there is no mention of a target for the remaining Plan period. If the remaining units have been built already, then why are 712 mentioned here? Also, current construction rarely conforms to traditional architecture now, as required by Para 2(7) of the Gazette Notification. No specific monitoring of future structures is mentioned.

Chapter 5, Urban Development

Urban development in the BESZ requires integrating all the plans to provide the basic urban services by different departments in this chapter so that a comprehensive plan of urban development emerges. This has not been done despite earlier recommendations of the committee members and the Central Government.¹⁶ The new draft again focuses only on solid waste management (SWM) and education facilities in Uttarkashi (Barahat Nagarpalika) and Gangotri (Nagar Panchayat) towns.

The statements on page 111 of the final ZMP draft that, "Nagar Palika Parishad, Barahat has an area of approximately 14.71Sq. Km (includes 2.2 Sq.Km area of merged villages). According to

¹⁴ The above Compliance Report claims that this issue has been addressed on page 102. The suggestion was very specific but there is neither a direct reference to it nor any reference to the involvement of good voluntary organizations.

¹⁵ The Compliance Report claims that this issue has been addressed on page 103 which, however, is not correct.

¹⁶ S. Shekhar (2016): Report on revised Bhagirathi Eco-Sensitive Zone Zonal Master Plan, MoWR RD&GR, New Delhi.

Census 2011, total population in the Palika is 17475 population has been increased to 27102 after area expansion of NPP Uttarakashi” are most disturbing.¹⁷ **This urban expansion will lead to a massive change in land use, particularly a reduction in green cover, which is not permitted under para 2(12) of the BESZ Gazette Notification.** The new clause in the BESZ Amendments notified on April 17, 2018 also does not permit such a land conversion. The committee members have received representations from the 16 GPs that have been merged with NPP Uttarkashi that the action has been taken without any public consultations. This too violates the spirit of the BESZ Gazette Notification, clause 2(1) that the ZMP will be prepared in consultation with the local people, particularly women. Such a major change which is being opposed by the local people and directly infringes a critical clause 2(12) of the BESZ Notification, cannot be condoned without even a discussion.

Fresh data has been included in the final draft on projected increases in the population of NPP Uttarakashi. Similar data has not been presented for Gangotri Nagar Panchayat. This is surprising because the GoI has launched an ambitious scheme to convert NH 34 to an all weather road by December 2018 and the Tourism Department GoU has followed it up with a proposal to promote char dham tourism in the winter (final ZMP draft, p.179). This will lead to a significant increase in the permanent population of Gangotri and a floating population increase in winter for both Uttarkashi and Gangotri.

Despite expanding the NPP Uttarkashi area there appears to be no change in the services to be provided to the increased population. In the earlier and final drafts it is stated that there are 26 dustbins in the town for solid waste disposal. No proposal has been made for the expected larger population. This reflects a cut-and-paste approach rather than a thoughtful planning exercise.

A proper situation analysis should highlight the shortfall in the existing infrastructure and services, as well as in the foreseeable future. There is an urgent need for the proposed Master Plan for the urban areas to be completed at the earliest and incorporated in the ZMP.

The present draft provides information about the SWM infrastructure in the towns but is silent on the outcome. Data on p. 6 is not the actual collection but only an estimate based on an assumed rate of 250 grams/per person. It does not take into account the floating population. This may explain the presence of garbage heaps in Uttarkashi and solid waste dumped in dry stream beds during the summer tourist season as described by Sh. CP Bhatt in the meeting of 9th Dec 2017. No plan to promote decentralized waste management and thereby decrease the pressure of land requirement, as mentioned in page-115, is included as a future strategy. This had been suggested by Dr. Tare at an earlier meeting.

Even though the Swachh Bharat mission identifies awareness generation, behavioral change and people’s participation in the mission in its objectives, the proposed activities have ignored these aspects.

There is no commitment to clause 2(7) of the BESZ Notification which requires that specific guidelines be laid down in the ZMP for ensuring that the construction of buildings will follow traditional architecture of the area. There is a need to emphasize the priority for safety and security in approving building plans giving special attention to the need of disabled people. Public buildings, especially schools, need to follow the fire fighting codes, earthquake safety construction principles and allocation of adequate space for the disabled to exit safely.

¹⁷ They have been added in the latest draft. In an earlier draft the expansion was only a proposed item.

Chapter 7, Energy

The chapter begins with the contention that Uttarakhand state, Uttarkashi district and the BESZ face power shortages which affects the economic development of the local population. This is neither factually true nor quite relevant since a basic objective for the formation of the BESZ and the subsequent Gazette Notification was to ensure the preservation of the pristine Bhagirathi and its watershed in the Goumukh to Uttarkashi stretch.

The draft ZMP has proposed the construction of 10 hydro electric projects – HEPs ($2 \leq \text{MW} \leq 24$) with a total installed capacity (I/C) of 82.5 MW.¹⁸ Also proposed are transmission lines and distribution works in the BESZ. In its single-minded focus on the 10 HEPs, however, the Energy chapter makes no mention of ensuring EFlows downstream of existing projects, particularly Maneri-Bhali I & II. EFlows are essential for maintaining the river's health and enabling it to carry out its natural functions.

The power needs and capacities of Uttarakhand, Uttarkashi district and the BESZ were known to the GoI when the resolution to form the BESZ was approved by the NGRBA.¹⁹ Hence not approving the proposed 10 HEPs was a considered decision. Furthermore, the matter was raised afresh by the GoU at a meeting of the ESZ Expert Committee of MoEF & CC (December 18, 2017?). The latest Gazette Notification (April 16, 2018) amending earlier clauses of the BESZ Gazette Notification makes no amendment to increase the acceptable size to $>2\text{MW}$ as proposed by GoU. **Hence the proposal to build the 10 HEPs must be dropped.**

At present the BESZ has two HEPs (MB-I & MB-II) with an I/C of 394 MW and 4 small HEPs with total I/C of 2.62 MW. Further, the rear end of the Tehri reservoir (I/C 1000 MW) also lies in Uttarkashi district. The power produced by the existing projects in the BESZ alone is adequate to meet the current and future needs of the entire Uttarkashi district, let alone the BESZ. The BESZ need has been estimated at just a few MW (~ 3 MW or 24 MU) in the final ZMP draft (p.139)!

There is no guarantee that all the power generated by the 10 proposed HEPs will be available only for the BESZ or Uttarkashi district. Almost 60 per cent of their capacity will be generated at three stations by an IPP who is only obliged to give the state 12 per cent of the power produced (equivalent to an I/C of $< 6\text{MW}$). The total new capacity to be generated by the state utilities is barely 10 per cent of the current installed capacity. Its loss can be made up by reducing the usual transmission and distribution losses (generally above 20 per cent of the generated power) and using alternate renewable energy sources.

At earlier meetings of the present committee it was pointed out that the construction of the 10 proposed small HEPs violates the Gazette Notification. Shri Chandi Prasad Bhatt had also pointed out that the 10 proposed HEPs lie on tributaries of the Bhagirathi. Most of them have recent histories of flash floods with ensuing destruction of existing projects and downstream ecological damage. In the light of this record, several committee members recommended that HEPs with I/C $> 2\text{MW}$ not be constructed, in keeping with the Gazette Notification guidelines.

¹⁸ In an earlier ZMP draft UREDA had also proposed another 14 small HEPs each with an I/C of 0.1 MW. These are not mentioned in the present draft.

¹⁹ The Union Power Minister was a member of the authority. He had also been an active party to the decision to drop three major power projects in the BESZ totaling 1461 MW.

Alternative Recommendations: Instead of HEPs, Shri Chandi Prasad Bhatt and Dr. Chopra had proposed that alternate sources of renewable energy like solar power and biogas be considered. The BESZ Gazette Notification recommends promotion of solar energy for local use (para 3.c.vi). But the Uttarakhand Energy Department has paid lip service to this suggestion (see Compliance Notes para below). Shri Chandi Prasad Bhatt had also proposed upgrading the Harsil HEP to 0.8 or 1.0MW and renovating the 2.25 MW Pilang Gad-I HEP. But there is no cognizance of this recommendation in the present draft.

If not sanctioning the 10 HEPs caused a loss of revenue to the state the committee members proposed that the state seek Payment for Ecological Services grants or a green bonus from the Centre. It was also proposed that a separate chapter be added on Payment for Ecological Services. This suggestion too has not been followed up.

Compliance Notes: Various recommendations and suggestions of the committee members on the Energy chapter contents have been responded to on pp138-140 of the final ZMP draft and in the Compliance Report of May 2, 2018. These responses indicate the obduracy of the GoU on the issue of the construction of the 10 small HEPs. Installation of 500 roof top solar photovoltaic power units for street lights, three mobile solar powered cold storage units and installation of 250 biogas plants in five years have been mentioned in the Compliance Report. This is tokenism compared to the investment for the proposed 10 HEPs.

Conclusions: In light of the above **it is reiterated that no HEP with an I/C of >2MW can be permitted in the BESZ. It is once again recommended that the GoU looks at alternative renewable sources of energy, to meet local power needs so that BESZ can set an example for the rest of the state and country.**

Chapter 9, Tourism

Uttarkashi town and Gangotri in the BESZ bear the brunt of tourism in terms of wastes and other environmental burdens. But **the BESZ is gifted with enormous tourism potential in terms of natural beauty, scenic locations, adventure activities and cultural attractions. The vision statement of the Tourism Department recognizes this potential (ZMP, p.160)** and the need to disperse the visitors to various locations in a responsible way so that the livelihood benefits can be spread to the maximum households and the environmental burdens at any one place are reduced. It is in harmony with the notified guiding principle for the ZMP, i.e., the enhancement of livelihoods and environmental security in the BESZ.

Yet the state tourism planners tend to lapse into old ways of thinking when they seek to promote a “Winter Char Dham” (ZMP, p. 179), disregarding the usual snow cover in winter beyond Harsil which makes motor travel in the Harsil-Gangotri stretch difficult and often impossible. Few tourists will be able to cope with the severe wintry conditions, without putting a heavy pressure on the local infrastructure and the environment. Keeping the extremely sensitive High Himalayan region free from human interference for the winter months could help nature in this stretch to recover a bit from the scars of the summer tourist season. It will also not disturb the flora and fauna that may hibernate in this season. **This proposal needs to be dropped.**

Development of ecotourism has been proposed in the ZMP. Such tourism is in keeping with the ZMP conditionalities in para 2 of the BESZ Notification. But **in the final ZMP draft there is a lack of clarity in the use of the term ecotourism.** It is generally used in the context of

developing tourism sites that offer opportunities to experience nature (p. 187), e.g., the *bugyals*, or locations for ‘environment friendly’ tourist pursuits (p.188) like village tourism, trekking, mountain biking, paragliding, bird watching etc. But the correct usage of the term refers to responsible tourism²⁰ that leaves behind only a minimal footprint of the visit. This is perhaps recognized in the references to ‘Ecotourism Principles’ (pp. 188-189).

The Tourism Department and the Forest Department have implemented the ecotourism concept in the Gangotri-Gaumukh stretch and beyond. Hence they have a good experience of seriously implementing ecotourism. They **need to develop a clear strategy to ensure that all tourism in the BESZ is ultimately based on ecotourism principles.** This is particularly desirable in the still largely pristine High Himalayan stretch (though Gangotri becomes an eyesore in summer).

To promote ecotourism the GoU needs to combine its proposals to increase the use of solar energy, installation of safe disposal facilities for all kinds of wastes with plans to keep fossil fuel vehicles outside the BESZ. **Along with what needs to be done it must also develop a plan to ensure what needs to be regulated or even prohibited gradually over time.** Noise polluting activities should be systematically eliminated from the BESZ. These would include helicopter services in the BESZ and the use of pressure-horns, loudspeakers in the Gangotri National Park by *yatris* and *kanwariyas* who visit in large numbers every year. The strategy to promote ecotourism must include IEC activities to educate tourists about responsible tourism.²¹

Over time, as more and more people learn and practice responsible tourism, ecotourism can be adopted throughout the BESZ, in phases. To begin with, ecotourism could be promoted in the Nelong valley. Then it could be introduced in the Bhaironghati-Gangotri stretch and finally in the Harsil-Bhaironghati stretch.

Another term that has been grossly misunderstood in the ZMP is ‘carrying capacity’. Reference has been made to carrying capacity based planning and a carrying capacity analysis (study) carried out by JPS Associates.²² The analysis is simply limited to road transport facilities and accommodations required. **Carrying capacity in terms of the critical geographical and topographical limitations, the overall fragility of the area due to its unique terrain & ecology and environmental impacts, has not been considered.** The carrying capacity should consider the following criteria along with a threshold limit:

- Environmental impact of sewage and waste disposal, air pollution, noise pollution, etc.
- Water pollution in water bodies and the Ganga river
- Impact on Himalayan flora & fauna, particularly in the core zone of the Gangotri National Park.
- Geological vulnerability of the area (landslides & land-sinking prone zones) and seismic sensitivity
- Overall existing infrastructure.

It may be better to assess the carrying capacity in a few specific stretches, such as:

- Uttarkashi to Harsil

²⁰ This term is used on p.112.

²¹ See p. 112 for similar proposals for local urban residents.

²² The Compliance Report of May 2, 2018 states that the carrying capacity study has been attached in Annexure 9(I), but no Annexures for Chapter 9 have been included in the draft Annexures section given to the committee members.

- Harsil to Gangotri
- Gangotri to Gaumukh
- The Nelong valley
- Dyara bugyal

Chapter 9 shows that the Tourism Department is aware that the BESZ offers tremendous potential to develop diverse tourism locations and enhance livelihoods opportunities. It knows that many villages in the BESZ located on mountain crests provide panoramic views of snow clad peaks in the Inner Himalaya. Many villages have preserved age-old traditions and traditional structures such as old water sources, trees, temples, earthquake-safe old buildings and traditional houses with elaborate wood carvings. **Voluntary organizations can be jointly involved with Gram Panchayats to promote these villages as natural, cultural and living heritage sites, to develop home stay facilities and sale of local products. Thus they can help the villagers to enhance their incomes while providing the visitors with memorable experiences.**

Several desirable ideas and activities proposed in Chapter 9 need to be promoted as part of a well-defined and comprehensive strategy to ultimately implement ecotourism principles. Responsible ecotourism and promotion of diverse locations for walking, trekking, hiking and home-stays can prevent overburdening the pristine ecosystems while enhancing local incomes.

Chapter 10, Road Infrastructure Development

Broadly speaking, various road construction agencies have proposed to construct or widen highways (state and national) and village roads in the BESZ. The basic concerns involved here are: (i) Ensuring the stability of slopes in this geologically fragile area; (ii) Conserving green cover, i.e., forests, trees, agricultural lands, etc. (Gazette Notification clause 2.14); (iii) Ensuring the “Nirmal” flow of the Bhagirathi and its tributaries, i.e., ecologically safe disposal of debris.

The guiding principle is to minimize threats to ecological and livelihood security in the BESZ.

1. Re: Steep Slopes

The state agencies have repeatedly demanded relaxation of the Gazette Notification clause 2.16 (ii) prohibiting roads construction/widening in areas with $> 20^{\circ}$ slopes. The GoI has now amended the relevant clause stating that no development be undertaken in areas having a steep slope or other sensitive areas except “in exceptional cases infrastructural works for the benefit of community may be undertaken with proper study of the Environmental Impacts and taking appropriate mitigation measures arising out of such development in consultation with the line Ministries of the Central Government including Public consultation.”²³

In the final draft ZMP the official road construction agencies have cited the needs of border security to justify their demand for relaxing the 20° slope restriction. There is no dispute about according primacy to national security concerns. But it must still be ensured that only minimal damage is caused to the natural heritage in the BESZ. **Slopes stability is also of utmost importance for ensuring rapid and uninterrupted movement of heavy defence vehicles during an emergency.** Hence border roads must have safer construction in these fragile areas.

²³ Gazette Notification, April 16, 2018.

Keeping in mind the concerns for border security, in earlier meetings of the present Expert Committee it had been proposed that alternative ideas be considered. But no alternate ideas have been put forth in the final draft.

In the May 2, 2018 committee meeting reference was made by Dr. Chopra to a discussion with a former Director General of the Border Road Organization (BRO) who suggested the following ideas for consideration:

- (i) Wherever possible safer alternative routes may be considered. This may increase costs, but that is no longer a constraint for GoI where border security is concerned.²⁴
- (ii) In general the width in the mountain region should be limited to two lanes so that cutting of slopes and trees can be minimized.
- (iii) Where critical, additional road space can be provided on stilts (as in flyovers). They can also be provided with shades to shield against falling rocks or snow.
- (iv) Tunnels can be dug without resorting to blasting, by using tunnel boring machines.
- (v) A series of drainage trenches need to be dug upslope to divert the surface runoff from the crown and into cross drains.

These suggestions need to be considered seriously. For village roads other alternatives like rope ways and bridle paths can be considered.

It is also suggested that **a small multi-disciplinary team with experienced experts in mountain ecology, geology, road construction engineering** – instead of one geologist as stated in the May 2018 Compliance Report (p.44) -- **should review the various roads proposals with site visits and recommend alternate/safety measures for steep slope stretches and landslide prone zones.** This team could also later guide the BESZ Monitoring Committee in its deliberations.

2. Re: Conserving Green Cover:

A key concern is the need to protect the forests and green cover in the BESZ. It requires minimal cutting of trees in the BESZ for road construction and avoiding multiple roads connecting a village to the state or national highways. This caution was supported by the Uttarakhand CS in the December 9, 2017 meeting and reiterated in the May 2, 2018 meeting.

In the January 9, 2018 committee meeting, **Shri Chandi Prasad Bhatt referred to the immense damage potential of the Uttarkashi-Gangotri National Highway widening project currently underway.** The plan for widening this stretch will fell 12,995 trees in the BESZ. Almost 6000 Deodhar trees are to be felled between Jhala and Gangotri.²⁵ Shri Bhatt had pointed out that in the latter stretch, currently a road is under construction from Mukhba to Harsil and Jangla. In the same stretch the Gangotri NH lies on the opposite bank of the river. Its widening was threatening a pristine deodhar-oak forest. **By two-laning the Mukhba-Jangla road, which has few trees, the widening on the opposite bank can be avoided and the pristine forest can be saved.** Shri Bhatt had also highlighted the importance of deodhar forests in sustaining the special properties of river Ganga. The CS then asked the PWD officials to examine Shri Bhatt's suggestion and rethink its own proposal. It is important that Shri Bhatt's recommendation be understood and acted upon.

²⁴ Shri Chandi Prasad Bhatt had made a similar suggestion at the third meeting of the committee in January 2018.

²⁵ Submission on record by the Union Ministry for Road Transport & Highways (MoRTH) in the NGT [date?](#)

On April 26, 2018 Shri Bhatt wrote to propose that the Uttarkashi-Gangotri NH not be widened since it was already a two-lane highway and its widening threatened thousands of deodhar trees and other precious flora of the High Himalayan region. He called for the protection of deodhar, oak and other species, by limiting the road width to seven metres, not cutting trees and by carrying out maintenance of drains and other repair works in time.

In the final ZMP draft of April 2018, several road construction projects have been proposed that amount to multi-connectivity for certain villages and violate the planning criteria for hill roads laid down by Indian Road Congress in the Hill Road Manual (IRC:SP:48-1998). They include (ZMP Part 1, p.205):

- i- Bagori – 2 km.
- ii- Hinna- 3 Km.
- iii- Kankradi- 1.5 km
- iv- Maneri- 18km +0.80 km (This road had been marked earlier as Maneri- Jakhol)
- v- Silla- 9.60 km.
- vi- Pokhri- 0.80 km

Some roads mentioned in the future scenario are also linked with other roads like the Jamak-Bayna motor road to Syaba motor road link. The connectivity of two motor roads does not appear justified and needs to be reviewed. In the January 9, 2018 meeting, **the Uttarakhand CS had also recommended against multi-connectivity of villages if required to save green cover and had proposed following the standard road construction guidelines for mountain areas.**

The Hill Road Manual, Chapter 4 Planning Criteria under section 4.4 'Planning of roads in hill areas' (sub section 4.4.2) states that, "*In hilly areas road links should be provided on the basis of cluster or group of villages as far as feasible because of the population of each village may be very low. Villages located within a radius of 1.6 kms and having an altitude difference not more than 200 m can be considered as one cluster or group. Isolated villages, having a population of more than 500 should be provided with an all weather road link road. For a cluster of villages of population less than 500, a selective approach of an all weather road within 5 kms from village may be considered to start with. Where funds do not permit for construction of regular motor road, road may be constructed for light vehicular traffic to link villages.*"

Furthermore, in tune with the above planning criteria, the Pradhan Mantri Gram Sadak Yojna (PMGSY) Program Guidelines (January 2015) state in Chapter 1: para 3.3:

"An Unconnected Habitation is one with a population of designated size located at a distance of at least 500 m or more (1.5 Km of path distance in case of hills) from an all weather road or a connected habitation."

And, *"The population recorded in the census 2001 shall be the basis for determining the population size. The population of all habitations within a radius of 500m (1.5km of path distance in case of hills) may be clubbed together for the purpose of determining the population size."*

These planning criteria do not appear to have been followed in some cases as can be seen in the table of ongoing work roads no. 2 and 3 (ZMP, Part 2, p.75). They need to be reviewed.

3. Re: Dumping of Debris

For every road, debris-dumping sites, clearly marked on an appropriate map, with schematic drawings of the enclosures with sizes, should be presented to the Monitoring Committee for

approval before any road construction begins.²⁶ The sample map shown in Annexure 42 is blurred and of no use.

The guidelines for construction of roads (pp 206-207) - including guidelines for disposal of debris—are encouraging. But there is no mention of any monitoring mechanism.²⁷ An effective monitoring system needs to be established.

4. Re: Compliance Table (pp 200-202):

Additional clauses 2.12 (no land use change), 2.14 (no change in green cover), 2.17 (protection of natural heritage) and 3b (ii) (tree cutting) also need to be addressed in this section.

5. Re: Maps:

Suitably coded maps to show critical stretches are needed as a part of this chapter to help comply with clauses 2.16 (i), (ii), (iii) and (v).

Finally, the chapter needs serious editing.

Conclusion

Ensuring ecological and livelihood security through a participatory development approach was meant to be the core of the ZMP.²⁸ Such a Plan could have served as a model for developing many parts of the Indian Himalayan Region (IHR). **The final ZMP draft presented by the Uttarakhand state officials to the committee represents a missed opportunity. It does little to ensure or enhance ecological and livelihood security in the BESZ.**

The final draft thus deviates substantially from the letter and spirit of the guidelines given in the December 2012 BESZ Gazette Notification (and amended in April 2018).²⁹ It remains largely faithful to the rejected ZMP of October 2016. It lacks an integrated approach, as desired by the Union Ministries. Based on the foregoing it is not possible to accept the draft ZMP in the form presented.

²⁶ On June 11, 2018 the Uttarakhand High Court issued strict orders for identifying and operationalizing muck disposal sites 500 m away from rivers.

²⁷ CPCB is woefully under-staffed to do an adequate job.

²⁸ Paras 2.1 and 2.8, BESZ Gazette Notification, December 2012.

²⁹ The BESZ Gazette Notification guidelines have themselves been amended on April 16, 2018 by MOEF & CC in response to intense pressure from the GoU.

Annexure No. 24(A)

9/9/2018

Gmail - (no subject)



forest section <forestsection3@gmail.com>

(no subject)

Sarvesh Chandra Katiyar <sckatiyar@gmail.com>
To: forest section <forestsection3@gmail.com>

Tue, May 15, 2018 at 10:08 AM

Sir,

I would like to invite your kind attention to the item 2 (River Valley Projects) of the table provided on page 8 of the minutes of the BESZ Committee meeting held in the chairmanship of the Chief Secretary, Govt. of Uttarakhand on 02.05.2018 wherein on column 4 i.e "Comments of the Committee" it is mentioned that " HEP up to 25 MW should be allowed as regulatory activity" whereas the stand of this office has always been that any activity to be included in the ZMP should be in accordance with the spirit of the BESZ Notification. The undersigned has always made this clear in all the four the meetings of the committee and opposed installation of any HEP above 2 MW.

In view of the above, it is requested to kindly amend the minutes accordingly.

On 12 May 2018 at 12:13, forest section <forestsection3@gmail.com> wrote:

Sir,
Please find the attachment

--

With Warm Regards!***Yours Sincerely,*****Dr. S. C. Katiyar, Additional Director (S),
Ministry of Environment, Forests and Climate Change,
Regional Office (North Central), 25, Subhash Road,
Dehradun-248001****+911352713014 (O)
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Annexure No. 25

9/9/2018

Gmail - NGT Constituted Committee for ZMP of Bhagirathi Eco Sensitive Zone



forest section <forestsection3@gmail.com>

NGT Constituted Committee for ZMP of Bhagirathi Eco Sensitive Zone

Dr Vinod Tare <vinod@iitk.ac.in>

Mon, Jul 16, 2018 at 2:14 AM

Reply-To: vinod@iitk.ac.in

To: forest section <forestsection3@gmail.com>

Cc: dtdo uki <dtdouki5@gmail.com>, dpmu_uki@rediffmail.com, abhitri1977@gmail.com, dd gangotrinational park <ddgangotrinationalpark@gmail.com>, chouki2@gmail.com, CAO uttarkashi <caouki.agri2011@gmail.com>, Executive Engineer Uttarkashi <eeiduki12@gmail.com>, ddo Uttarkashi <ddo.uttarkashi@gmail.com>, vickyki312@gmail.com, nagarpalikauki@gmail.com, Jitendra Rawat <rawat.ujvnl@gmail.com>, shashi prakash Jaiswal <jaiswalshashi1234@gmail.com>, edduks@yahoo.com, eepwdbhatwari@rediffmail.com, prakashraturi33@yahoo.in, eecduttarkashi@gmail.com, shardul90@gmail.com, MD PAYJAL <upsvnn@gmail.com>, seiwcmkr@gmail.com, ce.ddn@gmail.com, sandsinghal14@notmail.com, mdujvnl@ujvnl.com, spsubhudhi@gmail.com, spsubudhi@gmail.com, hb185@rediffmail.com, dfouttarkashfd@gmail.com, dm-utt-ua@nic.in, Dhananjai Mohan <dhananjaim@gmail.com>, Vinod Tare <vinod@iitk.ac.in>, Ravi Chopra <rachop@gmail.com>, pradeep@wihg.res.in, pradeep@wing.res.in, Sarvesh Chandra Katiyar <sckatiyar@gmail.com>, laxmi thakural <thakuraln@gmail.com>

Dear Sir:

I have gone through the minutes, latest version of ZMP and the comments sent by Dr Ravi Chopra. I would like to emphatically state that most important suggestions made and communicated in writing by various members could not be seriously considered and discussed in the meetings of the committee despite several submissions and requests by the members. Much of the committee time was used for presentation of material prepared by various departments.

I have the same opinion regarding the proceedings of the committee meetings as narrated by Dr Ravi Chopra in his notes. The present version of ZMP packages project reports prepared by various departments and emphasizes on modifying the Eco Sensitive Zone (ESZ) Notification rather than realizing the spirit of the same.

I once again request that a meeting of only committee members be arranged and the present version of ZMP be reviewed and modified. Otherwise, it is not in order to state that the ZMP is endorsed by the committee.

Thank you.

Vinod Tare

> Please Find the attachment regarding the meeting of Eco Sensitive Zonal
> Master Plan
>
>
>
> Regards
> Forest Department-3
>

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Dr Vinod Tare
Professor and Founding Head, CGanga
Environmental Engineering and Management Programme
Department of Civil Engineering
IIT Kanpur
KANPUR - 208 016

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9/9/2018

Gmail - NGT Constituted Committee for ZMP of Bhagirathi Eco Sensitive Zone



forest section <forestsection3@gmail.com>

NGT Constituted Committee for ZMP of Bhagirathi Eco Sensitive Zone

Pradeep Srivastava <pradeep71s@rediffmail.com>

Mon, Jul 16, 2018 at 9:18 AM

To: "vinod@iitk.ac.in" <vinod@iitk.ac.in>

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Dear Sirs,

I fully agree with Prof. Tare and all the updates/corrections provided by Dr Chopra. The committee should have met atleast once independently that never happened. I kept on raising that the zone upstream of Uttarkashi and similar zone laterally in all the valleys are vulnerable to slope failures. This zone has the steepest rise in topography, steep slopes and receives focused rainfall which brought together increases vulnerabilities multifold. This is declared as ecozone and our the committee's job is to see how all the elements of an ecozone are kept intact. I will again suggest that report should see that our recommendations include (i) no dam construction in the ecozone (ii) road widening should have a feasibility study that disturbs the slope least and in special cases alternative ways should be searched (iii) tourism should be regulated in away that Government structure should be able to take responsibilities of any causalities therefore carrying capacity, in terms of tourism, of such zones should be studied and the data be used in formulating any policy.

Thanks and regards

Pradeep

Dr. Pradeep Srivastava
Scientist, Wadia Institute of Himalaya Geology
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<http://scholar.google.co.in/citations?user=nifnISAAAAJ&hl=en>

From: "Dr Vinod Tare" <vinod@iitk.ac.in>

Sent: Mon, 16 Jul 2018 02:14:39

To: "forest section" <forestsection3@gmail.com>

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Subject: NGT Constituted Committee for ZMP of Bhagirathi Eco Sensitive Zone

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Annexure No. 27(A)

Compliance Status of the minutes of the meetings of NGT Committee Dated 20.11.2017

Minutes of The Meeting	Compliance Status
<p>Sh. Chandi Prasad Bhatt : Earlier research/ studies done by experts regarding probable dangers and apprehensions due to construction of bigger dams and their recommendations and opinions should also be considered while preparing Master Plan of Bhagirathi Eco Sensitive Zone.</p>	<p>No major/ bigger dam is proposed in BESZ. The site of Small Hydro Projects in Asi ganga and in Pilangad, which were damaged during the floods of 2012 and 2013, were assessed by different technical and geological experts deputed by UJVN Ltd. and necessary safety measures and design changes have been suggested in view of the rise in the river bed level. However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>
<p>Following points should be included in the Master Plan:- 1. Conservation of Ecosystem as a whole.</p>	<p>The entire zonal master plan has been prepared keeping in view the overall objective of ensuring ecological and livelihood security in the BESZ. The chapter 1 "Forest & Wildlife" Chapter 2 "Watershed Management" Chapter 3 "Agriculture and Allied activities entirely focus on Eco system conservation with prioritizing the protection of flora, fauna and the important habitats of the area. Strict guidelines in almost every chapter in tune with the basic principles of the notification has been considered during the preparation of the zonal master plan.</p>
<p>2. Needs of local residents and activities related to their employment, so that migration issues can also be addressed.</p>	<p>The zonal master plan is a futuristic plan involving different sectors which are focused towards addressing the developmental needs of local residents through generation of livelihood options as well as opportunities.</p>
<p>Sh. Ravi Chopra:- Director. Peoples Science Institute. The main agenda and top priority of the Bhagirathi ESZ notification is to conserve the Ecosystem/Ecology of the point of origin of River Ganga. It is vital that during selection of the activities to be included in the ZMP, due consideration should be given the "impact" of such activity on the ecosystem of the area. The members of the committee were not given enough time to read the draft ZMP, and it will be appropriate that the copy of the list of amendments proposed in the master plan be given to the members and another meeting should be proposed for further discussions in near future.</p>	<p>The zonal plan has been prepared keeping in view the ecological concerns of the area and activities related to different sectors have been divided into permitted prohibited and regulated categories as per the provisions of the notification. The next meeting of the committee was conducted on 9th, Dec 2017 as desired by Hon'ble member.</p>
<p>Sh. P.S Negi:- Scientist Wadia Institute of Himalayan Geology Due to importance to be given to Ecosystem Conservation.</p>	<p>Already explained above.</p>
<p>Dr. N N Rai:- Director CWC, Ministry of Water Resources. Tehri Dam has helped in reduction of the impact of disaster during the year 2013. All the HEP's are approved by the National Committee on Seismic Design Parameters.</p>	<p>The comment was endorsed and acknowledged and incorporated in chapter 7.</p>

<p>Dr. Vinod Tare. IIT Kanpur One cannot say that the Natural Calamity of 2013 is caused due to the construction of Hydroelectric projects, but Himalayas are ecologically sensitive in nature and the destruction caused by the Natural Calamity will be more if the number of HEP's in Himalayan zone and the population density in the area is more. Therefore considerable thought should be given while deciding the list of "permitted activities" in the ESZ.</p>	<p>Agreed by Energy Department. The hydro projects in BESZ shall be developed in light of the results of the carrying capacity study which has been completed by the consortium of experts' agencies like IIT, Roorkee, NIH, Roorkee and H.N.B. Garhwal Central University for Energy Department, GoU. (Annexure 54, Page 419 of Chapter-7, Part-3). Due deliberation has been made in the next meeting of the committee.</p>
<p>Dr. S C Katiyar : Scientist, Regional Office, MoEF &CC Agreed with Dr. Vinod Tare that deviation from the original notification should not be permitted while preparing the ZMP</p>	<p>The suggestions regarding some genuine deviations with regard to notification were discussed and recommended in the fourth meeting of the NGT Committee dated 02.05.2018 and recorded in the minutes of the meetings</p>
<p>Chief Secretary/ Addl. Chief Secretary/ Secretary (Forest) The members of Committee should aim towards providing a balanced and practical Zonal Master plan of Bhagirathi Eco Sensitive Zone, by using their rich experience and technical know-how. If there are provisions in the ESZ notification which seem impractical, the committee should give its inputs on those aspects as well, because ultimately the final decision on the ZMP will be taken by Govt. of India and Hon'ble National Green Tribunal.</p>	<p>The zonal master plan has been prepared and consequently fine-tuned by incorporating the suggestions of the Hon'ble members of the committee from time to time, in meetings as well as in writing. The suggestions regarding some genuine deviations with regard to notification were discussed and recommended in the fourth meeting of the NGT Committee dated 02.05.2018 and recorded in the minutes of the meetings</p>
<p>Director WII (No comments given)</p>	

Annexure No. 27(B)

Compliance Status of the minutes of the meetings of NGT Committee Dated 09.12.2017

Minutes of The Meeting	Compliance Status
<p>Padmshree Chandi Prasad Bhatt, Environmentalist</p> <p>Agreed to most of the HEP's except few.</p>	<p>The catchment area between Gaumukh to Uttarkashi was declared as Bhagirathi Eco-sensitive zone on dt. 18.12.2012. Before declaration of BESZ, 10 SHPs were in different stage of construction and implementation.</p> <p>Considering the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not included any SHP of more than 2 MW in the ZMP of BESZ.</p>
<p>Indicated the importance of repairing/ reconstruction of the damaged irrigation channels in 25 villages in the said zone.</p> <p>Stressed upon the need of a Solid waste Management plan to address the pollution caused by disposal of plastic waste in Gangotri and near Bus stand. Same model can be adopted like that of the EDC's in Ghangharia/ Govindghat (Nanda Devi Biosphere Reserve) which are involved in the Solid waste/ plastic waste management through public participation, in order to address the afore mentioned issue of plastic waste management in the said zone.</p> <p>The current status of the DPR of Uttarkashi town should be updated in the ZMP</p> <p>@ Rural Development:- The activities suggested in the work plan for local employment generation and for mitigation of migration from hills, should be made women centric in nature.</p>	<p>The solid waste management plan of NP Gangotri including the disposal of plastic waste has been discussed in detail on page 116-117. The solid waste management plan of NPP Barahat, Uttarkashi has been discussed on page 114. The public participation for solid waste management has been ensured through DAY NULM and has been included on page 34 of part 2 under physical and financial outlay.</p> <p>Two types of employment are provided by Rural development department.</p> <p>1- Self-employment.</p> <p>2-Wage employment.</p> <p>Self-employment is provided through Self Help Groups under Livelihood activities and NRLM. These groups are women centric. Self-employment is provided to local people keeping women at centre stage.</p> <p>MGNREGS provides Guaranteed wage employment of 100 days to rural people. Women participation is encouraged in this scheme. These Employment schemes are helpful in preventing migration from villages. Compliance has been incorporated in 'chapter 4 Rural Development page number 102 under present scenario heading'</p>
<p>@Organic Farming/ Agriculture: Organic farming should be promoted in the region and schemes promoting cultivation of local cultivars / Landraces (like <i>Rajma, Ogal, Phaphar</i> etc) should be made a part of the ZMP.</p>	<p>The provision regarding gradual shift from inorganic to organic farming by eliminating the inorganic practices over a period of time is one of the objective of chapter 3. Schemes like PKVY promoting the local crops have been discussed and incorporated on page no. 94 of chapter 3 in part 1 and the physical & financial outlay has been included on page 15 of part 2.</p>
<p>Scientists at IIRS had surveyed the Sensitive /Chronic slope zones in the year 2000-2001 and a map was prepared based on the survey. Based on this survey the active and dormant slip zones can be identified and the slope treatment / protection plan should incorporate these aspects also.</p>	<p>The landslide zone map has been incorporated in chapter 11 on "Disaster Management" and slope treatment / watershed treatment work has been prescribed in chapter 2 on "Watershed Management" in part 1.</p>

<p>Dr. Ravi Chopra, Director, PSI</p> <p>Objected to the minor HEP's on the following grounds</p> <p>(i) The demand for power is not calculated.</p> <p>(ii) The alternative sources of energy are not considered.</p>	<p>Presently the demand for the 7000 consumers in BESZ is about 24 Million Unit per year.</p> <p>In addition to this there is demand for electric connections at different places along the Indo-China Border by ITBP and Indian army. After the construction of All Weather Road and connection of Gangotri Dham with the grid there is a possibility of increase in the religious tourism in the region and hence the increase in the demand of electricity is anticipated. The electrification 48 Toks of Bhatwari block is proposed under Deen Dayal Upadhayaya Gram Jyoti Yojna.</p> <p>The alternate source of energy like Mini and Micro hydro plants and solar roof top plants have been mentioned in the ZMP as proposed by UREDA (Page no. 137 of Chapter-7 of Vol-I and in the physical and financial outlay of Energy department, page 56).</p>
<p>@ National Mission For Clean Ganga. Suggestion was given regarding including the guidelines of Liquid waste disposal given by Govt. of India in the Zonal Master Plan.</p>	<p>Due consideration has been given to solid liquid waste management in chapter 08 on "Public Health Sanitation" incorporated in chapter 08</p>
<p>The implementation of Livelihood Project is very slow in the area and the projects of Rain water Harvesting submitted under the Urban Development and Tourism and Country Planning Chapters are irrelevant whereas the topics of "Water Survey" and "Climate Control" are most important, and should be made a part of the plan.</p>	<p>Water survey and Ecological concerns have been added in chapter 2 "Watershed Management".</p>
<p>@Rural Development:- The Village level Master Plan should be prepared for every village coming under the ambit of Bhagirathi Eco Sensitive Zone by conducting an open meeting in the respective village and inviting suggestions from the residents. In addition to that in the chapter "Rural Development" a list of all the works which are completed under different schemes and the works which are proposed under different schemes should be included.</p>	<p>Gram Panchayat development Plan is prepared in open Gram Sabha every year. Besides this annual plan of MGNREGS is prepared in open gram Sabha meetings with active involvement of residents of villages. Every Gram Panchayat has 5 year plan which is revised every year.</p> <p>"Compliance has been incorporated in chapter 4 Rural Development page number 102 under present scenario heading".</p>
<p>@Organic Farming: Provision for Public awareness campaign regarding organic farming should be made in the plan.</p>	<p>The public awareness programme has been prescribed on page no. 94 of chapter 3 "Agriculture & Allied sectors" in part 1.</p>
<p>The ecologically sensitive spots regarding road construction should be surveyed and steep slope criteria of 20° slope should be revisited for relaxation and decided accordingly.</p> <p>The local department and contractors should not have vested interests in the road construction projects and alternatives to the roads like ropeways should also be considered. E.g. Proposed road for Dayara Bugyal.</p> <p>DMMC has published a report recently wherein, Blasting was banned in the zone. Reason behind this recommendation is not known.</p>	<p>The clause regarding steep slope has been amended and relaxed by MoEF & CC, Gol, in revised gazette notification dated 16 April 2018. Necessary provision has been incorporated accordingly in ZMP on page 205.</p> <p>Construction of road from Dodital to Dayara has been removed from Chapter 10 of ZMP. No roads have been proposed for ecologically important Ecosystems. Detailed guidelines have been proposed for road construction in chapter 10 "Road Infrastructure & Communication Development"</p>
<p>A new chapter regarding "Payment for ecosystem services" should be added in the ZMP.</p>	
<p>Dr. Vinod Tare, IIT K Support the HEP's</p>	<p>The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. The dimensions of the project components are small and their construction does not significantly or substantially alters the river morphology.</p> <p>The E-flow as approved by Gol shall be maintained. (Refer to page 138 of Vol-I).</p>

<p>Dr. Vinod Tare, IIT Kanpur. Hydro Power Projects No blanket ban can be imposed on the HEP's based on their capacity to generate energy, but due consideration should be given to the environmental & ethical values of ESZ, conservation of local ecology and biodiversity while giving approval to the HEP's and financial provisions should also be made in the project to meet above goals.</p>	<p>There is absolutely no scientific or technical basis for putting the blanket ban on HEP based on their generation capacity. Energy Department completely endorses the view.</p> <p>All the standards will be followed during the construction and operation of Small Hydro projects in accordance with the spirit of BESZ, local ecology and safety measures for conserving the biodiversity. For this the suggestion and recommendation provided in Cumulative environment assessment for the different Hydroelectric Projects located on Bhagirathi River. (Annexure 54, Page 419 of Chapter-7, Part-3).</p>
<p>Blanket ban on the road construction projects is not feasible. But no compromise should be made regarding ecosystem and biodiversity conservation, and proper provisions of slope protection should be made in the plan.</p>	<p>Provisions for slope stabilization and treatment has been covered under clause 2.16 (iii) and ecosystem and biodiversity conservation concerns in road projects have been adhered to, in the guide lines for construction of roads, on page 210 & 211 in chapter 10 of Part 1.</p>
<p>Dr. S C Katiyar, Scientist-E, MoEF&CC Stressed on permitting HEP's only up-to 2 MW. Rapid EIA should also be done in case of road construction projects.</p>	<p>No major HEPs is proposed in BESZ. Hydro electric projects up to 25 MW have been categorized as Small Hydro Projects by Ministry of New and Renewable Energy, Govt. of India. There is no scientific and technical basis of excluding projects up to 2MW from those up to 25 MW.</p> <p>The draft notification, for Gangotri National Park, issued by MOEF&CC on 16th April 2018, has kept the Small scale non Polluting Industries (as per CPCB guidelines of Feb 2016) under the Regulated Activities (Sl. No. 14 in the table on page No. 21).</p> <p>The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. These 10 SHP were having only a trench weir. Moreover the dimension of structures of HEP below 2MW and those up to 25 MW do not differ significantly; hence the construction methodology for them is the same.</p> <p>Considering the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not included any SHP of more than 2 MW in the ZMP of BESZ.</p>
<p>The muck generated during road cutting should be disposed off in the Muck Disposal Sites only.</p>	<p>Provisions for proper muck disposal, generated during construction of roads, have been incorporated on page 210 and 211 of ZMP.</p>
<p>Dr. Sharad Kumar Jain, Director, National Institute of Hydrology, Roorkee Dir. NIH supported the HEP's.</p>	<p>Energy department endorsed the view of the expert.</p>
<p>The Chapter on Irrigation can be named "Water Resources Management" The details regarding availability of natural water sources, their consumers, and aspects of their conservation should be included in Zonal Master Plan.</p>	<p>Chapter Irrigation could not be named as Water Resources Management because it is incorporated in Chapter-2 of Watershed Management.</p>
<p>Dr. D.P. Mathuria, ED, NMCG, MoWR&RD No scientific basis for limiting the HEP's to 2 MW is given and the technology used for construction of 2 MW HEP and up-to 25 MW HEP is same and even the impacts of both are not much different. Hence keeping in view the interest of the state, construction of such projects is justified.</p>	<p>Energy department endorses all the views of the expert.</p> <p>A Carrying Capacity study has already been done by UJVN Ltd. By the consortium of IIT, Roorkee, National Institute of Hydrology and HNB Garhwal University. Recommendation of this report has already been provided in page 419, Part-3 of ZMP</p>

<p>@ Rural development: - Village level meetings should be done with all the stakeholders and proposals be made accordingly listing all the completed works and proposed works, so that a future action plan can be made accordingly.</p>	<p>Gram Panchayat development Plan is prepared in open Gram Sabha every year. Besides this annual plan of MGNREGS is prepared in open meeting Gram Sabha. A five-year plan is prepared for every Gram Panchayat which is revised annually.</p> <p>“Compliance has been incorporated in chapter 4 Rural Development page number 102 under “Present Scenario” heading in part 01</p>
<p>Need for Change in cropping pattern and need for introduction of exotic varieties was also discussed. The definition of exotic species should be clarified and the provisions of alternative use of organic insecticides and pesticides in case of a pest/insect attack on the Horticulture species should be mentioned keeping in mind the promotion of Organic Farming in the State.</p> <p>The problems and their probable solutions regarding implementation of organic farming in the state needs to be discussed in the ZMP</p>	<p>The introduction of exotic species for agri-horticultural purpose and also in forest area has been categorized on page xv of executive summary in part 01. The chapter focus on gradual shift from inorganic to organic farming by eliminating the inorganic practices over a period of time.</p> <p>Chapter 03 includes best practices of sustainable and organic cultivation to be opted and implemented on priority basis in BESZ with an objective of sustainable Agri-Horticulture development without affecting the ecological setup of the area. Gradual shift from inorganic to organic farming by slowly eliminating the inorganic practices over a period of time is the core theme of the Zonal master plan. Policy is also being prepared at state level for the promotion of organic cultivation. Compliance is made on page no. 94 and 96 of chapter 3 in part 1.</p>
<p>Satya Kumar, WII, Dehradun.</p> <p>Director WII, Dehradun was apprehensive and raised questions about the stability of the projects based on “Trench weir Technology” which were constructed prior to year 2012 and were damaged by the natural disaster.</p>	<p>The sites of Small Hydro Projects in Asiganga and in Pilangad, which were damaged during the floods of 2012 and 2013, were assessed by different technical and geological experts deputed in by UJVN Ltd. and necessary safety measures and design changes have been suggested in view of the rise in the river bed level.</p> <p>Carrying capacity study for BESZ area was done by the consortium of AHEC, IIT Roorkee, NIH, Roorkee and HNB Garhwal University, Srinagar. (Annexure 54, Page 419 of Chapter-7, Part-3).</p>
<p>Chapter-wise Comments</p>	
<p>CHAPTER A Forest Department</p> <p>In addition to the Annual Working Plan, the Forest department should also include the studies and reports based on different glaciers, high altitude lakes, water bodies, water sources (perennial/annual) etc done by Wadia Institute of Himalayan Geology, Garhwal University and IIT Roorkee.</p> <p>There should be self-explanatory year-wise details regarding facts, figures and provisions made in the plan.</p>	<p>Chapter 01 “Forest and Wildlife and Chapter 2 “Watershed Management” has been prepared on the basis of the reports received by Wadia Institute on Himalayan Geology, National Institute of Hydrology, Central soil and Water Conservation Research and training Institute, Dehradun, Inputs from Wildlife Institute of India etc. The reports have been mentioned in the both chapters in part 1 and annexed in Part 3.</p> <p>Scientific facts and figures have been presented in tabular form in Chapter 1 & Chapter 2 wherever required.</p>
<p>CHAPTER-B State Biodiversity Board :-</p> <p>The BMC's formed under the ambit of State Biodiversity Board should be given the responsibility of prevention of Forest Fires their respective areas.</p> <p>Minor typo errors should be corrected and the Physical and Financial Plan should be made stating the availability of the funds for different activities.</p>	<p>The role and responsibility of BMCs and local villagers have been discussed and incorporated in chapter 1.</p> <p>Errors have been rectified and clear physical and financial plan has been incorporated in chapter 1, Forest and Wildlife in Part 2 of ZMP</p>

<p>CHAPTER-C Uttarakhand Environment Protection & Pollution control Board:-</p> <p>Clear roadmap and work-plan to strengthen and deal with the problems of Sewerage, Solid-waste, Bio-medical waste and air pollution should be provided.</p> <p>Special mention should be made w.r.t. the UEPPCB's plan to use the expertise of the other "Existing institutions" in achieving its mandate of pollution control etc.</p>	<p>Chapter 8 on "Public Health & Sanitation" extensively deals with the issue of Solid liquid Waste Management including Bio-medical waste management and provide a detailed future strategy for its control. The issue has been covered on page 151 of chapter 8 in part 1.</p>
<p>CHAPTER- D Watershed Management Directorate</p> <p>Watershed Management has the major role To play in ESZ formulation. Watershed Management Plan should be formulated for all 89 villages situated in the ESZ.</p> <p>The Watershed Management Schemes are ongoing in 25 villages of the zone. Schemes should also be formulated for other villages keeping in mind if other villages are covered under JICA aided project or any other departmental project.</p>	<p>Chapter 2 "Watershed Management", deals with the strategy of micro watershed-based planning in the area. The future strategy based upon broad watershed guidelines has been discussed in the chapter. The formation of watershed plan for every village was discussed in the fourth meeting of the NGT Committee dated 02.05.2018 and it was decided that specific village level watershed plan shall be made in future. Preparing specific village level plan at this stage may not serve the purpose of watershed management.</p>
<p>CHAPTER-E Energy</p>	<p>The comments have been answered in the above general paras.</p>
<p>CHAPTER-F Irrigation</p> <p>Details of works to be done under PMKSY scheme are given. Flood Management works are also to be done in this zone but these works are prohibited under the ESZ notification.</p> <p>The Irrigation department has also demarcated the flood plain zone under district Uttarkashi which will be included under the ZMP.</p> <p>The Chapter on Irrigation can be named "Water Resources Management". The details regarding availability of natural water sources, their consumers, and aspects of their conservation should be included in Zonal Master Plan.</p>	<p>Details of works to be done under PMKSY scheme has been incorporated on pages 48-50 of Chapter-6 (Part-2) "Irrigation" in the Zonal Master Plan. Flood Management works have not been kept under Prohibited Category in ESZ notification.</p> <p>Flood plain zoning has been discussed on Compliance on page 125 of chapter-6 (part-1)</p> <p>Chapter 2 "Watershed management deals in detail with water resource management and natural water sources etc.</p>
<p>CHAPTER-G SWAJAL</p>	<p>No comments made.</p>
<p>CHAPTER-H National Mission For Clean Ganga. Suggestion was given regarding including the guidelines of Liquid waste disposal given by Govt. of India in the Zonal Master Plan as indicated above in individual comments section.</p>	<p>Already covered in General comments above</p>
<p>CHAPTER-I Urban Development CHAPTER-J Tourism Country Planning</p> <p>Scope of Publicity and extension activities done by IEC should be widened and help of religious institutions and "Dharmgurus" should be taken in this regard. The activities under Master Plan of Town planning should be done based on a Time line.</p>	<p>The necessary suggestions have been incorporated in chapter 9 on "Tourism" and Chapter 5 on "Urban Development"</p>
<p>CHAPTER-K: Rural Development</p> <p>Refer above paras</p>	<p>Already covered and complied.</p>
<p>CHAPTER-L: Agriculture (Including Organic Farming)</p>	<p>Already covered and complied in general Comments.</p>

<p>CHAPTER-M : Horticulture (Including Herbal Development) Refer above Paras.</p>	<p>Already covered and complied in general Comments.</p>
<p>CHAPTER N: Food and Civil Supply The two-year Programme /Scheme of Ujjwala Yojna should be made a part of ZMP</p>	<p>The chapter has been removed and covered under “Public Health & Sanitation”, Chapter 8</p>
<p>CHAPTER O: National Highways and infrastructure Development Corporation Limited. (NHIDCL) As the works assigned to NHIDCL have been handed over to BRO for execution purpose, suitable amendments should be made accordingly in the chapter.</p>	<p>All the working agencies related to construction of roads and bridges are clubbed together as Road infrastructure Development in Chapter 10 of ZMP. NHIDCL proposals have been removed accordingly.</p>
<p>CHAPTER P: Public Works Department (PWD) CHAPTER Q: Border Roads Organization (BRO) Chapters O, P and Q should be combined and renamed as “ROAD INFRASTRUCTURE DEVELOPMENT” The proposed roads under the ESZ have both civil and military importance, and can prove vital for promotion of tourism activities in the area. Hence relaxation in the relevant provisions of ESZ notification is required. The provision of steep slope in the notification is designated as 20° (20 degree) slope. This will lead to more land requirement for road construction along with increase in number of trees needed to be felled.</p>	<p>The Chapter has been redrafted as Road Infrastructure & Communication development as Chapter 10. The provision related to steep slopes have been amended and relaxed by MoEF & CC, Govt vide amendment notification dated 16.04.2018. The chapter has been revised accordingly</p>
<p>CHAPTER-R: Tourism CHAPTER-S: Eco-Tourism For selection of Heritage Villages, Trekking routes etc due consultation should be done with experienced local people like Sh. Chandi prasad Bhatt, Sh. Surat singh rawat and others.</p>	<p>Due consultation was taken from the suggested local people regarding Tourism.</p>
<p>CHAPTER-T: Disaster Mitigation and Management Centre. Refer above paras</p>	<p>Comments have been complied in chapter 11, Disaster management as stated above.</p>
<p>General Comments of committee: - Integration of many Chapters in the ZMP should be done as discussed as they are related / complimentary to each other. DM Uttarakashi and DFO Uttarkashi are expected to take help and guidance from the publications and reports of other institutes working in the relevant fields and incorporate them in the ZMP, with due reference at appropriate place.</p>	<p>The zonal master plan has been redrafted into different chapters on a “Theme Based Approach” whereby different similar sectors of different departments have been kept under a single chapter in order to bring uniformity and integration in the plan. The help was taken from different Regional and National institute scientific reports and studies received were accordingly incorporated to make the plan more scientific and logical. The studies/ reports received from different institutes have been summarized on page ix of “Executive Summary” and xxix of “General overview”.</p>

Annexure No. 27(C)

Compliance Status of the minutes of the meetings of NGT Committee Dated 09.01.2018

Minutes of The Meeting	Compliance Status
<p>With respect to the meeting held on 9.12.2017, following points were reiterated.</p> <p>Opposed the construction of all other HEP's except in Pilang-gad, Harshil, Kedarganga and Rudra ganga because the area is eco-sensitive and regular landslides / floods have occurred during the years 2010, 2012 and 2013. Other than this the ESZ notification also mentions that the HEP's should fulfill the power requirement of the locals communities.</p>	<p>10 Micro hydel projects have been proposed in the BESZ area. The upgradation & renovation of 03 existing Micro hydel projects and existing water mills in BESZ area has also been proposed.</p> <p>No major HEPs is proposed in BESZ. Hydro electric projects up to 25 MW have been categorized as Small Hydro Projects by Ministry of New and Renewable Energy, Govt. of India. There is no scientific and technical basis of excluding projects up to 2MW and those up to 25 MW. The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. These 10 SHPs were having only a trench weir. Moreover the dimension of structures of HEP below 2MW and those up to 25 MW do not differ significantly; hence the construction methodology for them is the same. In light of the reasons cited above the comments are not acceptable to UJVNL (Refer page 138 of Chapter-7, Vol-I).</p>
<p>In Chapter-0 (NHIDCL, PWD, BRO), proper muck disposal should be done in the half cutting and half filling technique adopted during road construction by different agencies.</p>	<p>Provisions regarding proper muck disposal and cut & fill method technique etc., have been given due importance and discussed in detail in chapter 10 "Road Infrastructure and Communication Development" and incorporated in guidelines for construction of road on page 210 and 211 of ZMP.</p>
<p>In Chapter-S (Ecotourism) For selection of Heritage Villages, Trekking routes etc due consultation should be done with experienced local people like Sh. Suraj Singh Rawat and others. The name of Sh. Suratram Nautiyal is written erroneously. Instead it should be Sh. Suraj Singh Rawat.</p>	
<p>In Watershed Management Chapter, priority should not be given to the Artificial engineering structures which can disturb the watershed, instead Vegetative structures should be built.</p>	<p>The priority has been given to ANR works and other vegetative measures in "Watershed Management"</p>
<p>Padam shree Chandi Prasad Bhatt, Environmentalist</p> <p>The small HEP's should be constructed under the aegis of Gram Sabha and it should be owned by Gram Sabha/Gram Samaj. The upper catchment of Bhagirathi ESZ is highly sensitive and construction of bigger projects will invite destruction as this area has a long history of glacial movements, earthquakes and landslides. Therefore he does not agree for construction of HEP's listed from S.No 5 to S.No. 14. The construction of such HEP's should be undertaken only when concerned officers can take the responsibility that there will be no damage caused by their construction.</p>	<p>Government of Uttarakhand has already notified a policy for development of micro and mini hydro projects upto 2 MW in which development of these projects are reserved for the PRIs (Panchayati Raj Institutions) in the state (Refer page 136 of chapter-7, Vol-I).</p> <p>The upgradation & renovation of 03 existing Micro hydel projects and existing water mills in BESZ area has also been proposed.</p> <p>No major HEPs is proposed in BESZ. Hydro electric projects up to 25 MW have been categorized as Small Hydro Projects by Ministry of New and Renewable Energy, Govt. of India. There is no scientific and technical basis of excluding projects up to 2MW and those up to 25 MW.</p> <p>The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. These 10 SHPs were having only a trench weir. Moreover the dimension of structures of HEP below 2MW and those up to 25 MW do not differ significantly; hence the construction methodology for them is the same.</p> <p>Considering the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not included any SHP of more than 2 MW in the ZMP of BESZ.</p>

Proposed road construction from Uttarkashi to Bhaironghati and from Gangotri to Nelong is bound to cause lot of tree felling. As an alternative a road from Jaspur bend connecting Villages on the left bank up to Mukhwa-Harshil- Jhala which is already under construction can be improved and can be used as an alternate route/ one-way route, as it will involve lesser tree felling.	The road proposal has been taken into consideration and incorporated on page 210 of ZMP
The ZMP should include recommendation for relaxing the clause regarding land use change provisions for the local residents in the ESZ notification.	Government of Uttarakhand has enacted "Uttarakhand Flood Plain Zoning Act-2012 vide notification No. 31/ XXXVI (3)/ 2013 /68(1)/2012 dated 28 January 2013 to demarcate the flood plain areas and to declare the use of land either prohibited or restricted. Where, the flood plain includes water channel, 25/50/100-year return period flood and adjoining area which is susceptible to erosion or Maximum Probable Flood.
The logic and reason behind construction of flood plain zone should be specified.	The details regarding Flood Plain Zoning has been incorporated in page 125 of chapter-6 Irrigation Department
Dr. D.P. Mathuria, ED, NMCG, MoWR&RD Member of Ministry of water resources stressed that keeping limitations of less than 2 MW with respect to HEP's in the ESZ notification is a misnomer. A holistic decision can only be taken once site-specific Environment Impact Assessment is done for every individual project keeping in view the regional ecological considerations.	Energy department endorses all the views of the expert. A Carrying Capacity study has already been done by UJVN Ltd. By the consortium of IIT, Roorkee, National Institute of Hydrology and HNB Garhwal University. Recommendation of this report has already been provided in page 139 of ZMP of BESZ.
Same view as above. "Keeping limitations of less than 2 MW w.r.t. HEP's in the ESZ notification is a misnomer. A holistic decision can only be taken once site-specific Environment Impact Assessment is done for every individual project keeping in view the regional ecological considerations. "	Same as Above.
Every chapter /proposal should have well defined goals/objectives along with limitations. It should also have an effective monitoring system in place.	The suggestion has been incorporated in every chapter as far as possible.
The ZMP should include those proposals only which are in consonance with the ESZ notification.	Suggestion has been considered.
A monitoring committee is already in place as per ESZ notification and there are inbuilt monitoring mechanisms with responsible officers for every project and departments which can be utilized for monitoring effectively. There is no need for a separate monitoring level, which will not be useful in this case.	
Modern Technical inputs and processes can be used for monitoring various aspects of the proposed works, and involvement of gram Panchayats and their participation should be ensured in this regard.	The chapter 10 on Road Infrastructure and Communication Development" contain provision regarding digital monitoring through GIS mapping and DSS analysis. The consent of Gram Sabha under Forest Right Act ensures decision making at gross root level.

Annexure No. 27(D)

Compliance Status of the minutes of the meetings of NGT Committee Dated 02.05.2018

Suggestions	Compliance Status
<p>General overview</p> <p>1. The amendments in different chapters' should be carried out as per amendment notification dated 16/04/2018.</p> <p>2. The mismatch in "agriculture area "under LU/LC classes in General Overview and chapter 3 under Agriculture needs rectification.</p> <p>3. Addressal of the suggestions of 21ST expert committee on page xv need updation in view of recent development</p> <p>4. Identification of activities into promoted, regulated and prohibited categories as per notification and suggestions of the committee in some activities for change in category.</p>	<p>The amendments have been carried out in all the chapters wherever required in light of the amended provisions of the amendment notification dated 16.04.2018.</p> <p>The necessary corrections have been carried out in page xxv of "General Overview" and page 81 in chapter 3 and Annexure 32</p> <p>The facts have been updated on page xxvii to xxix of General overview as per the recent amendments in BESZ notification dated 16/04/2018.</p> <p>The suggestions of the committee have been incorporated accordingly on page xiii to xv in "Executive Summary"</p>
<p>Chapter 1 : Forest And Wildlife</p>	<p>Approved by the NGT Committee</p>
<p>Chapter 2 :Watershed Management</p> <p>5. Guidelines to be issued by state govt. regarding the state of glaciers report and it's monitoring and should be incorporated in zonal master plan.</p>	<p>The State Government shall issue guidelines regarding Glaciers in Cordination with Central Government and proper consultation with Technical Agencies like ISRO, Uttarakhand space applications Centre etc. The "Technical Guidelines for Himalayan Glaciers Inventory" by space Application Centres Ahmedabad (ISRO) issued in December, 2006 shall be used for future reference. The Compliance has been in corporated on pages 78 of Chapter -2 in Part-I</p>
<p>Chapter3 : Agriculture</p> <p>6. Specific species should not be mentioned under exotic sps. category. The remark be removed in clause page no. xxvi of ZMP</p> <p>7. Activities like home stay, river training works etc should be kept under permitted category.</p> <p>8. Gradual shift toward organic farming in agriculture and horticulture.</p>	<p>All Activities under Horticulture and Agriculture have been kept under permitted activities to improve the productivity, as suggested by the Committee in the meeting. The related clause incorporated on page in "Executive Summary" on page xv and page 84 in chapter 3.</p> <p>The clause has been added on page xv of "Executive Summary" and in chapter 9 "Tourism"</p> <p>The chapter deals with different schemes of central and state government. Some of the schemes promote organic mean of farming whereas in other chemical fertilizers and pesticides have been prescribed to some extent with an objective to gradually shift from inorganic farming to organic one. Use of chemical means in farming cannot be stopped at once, as it may have adverse effect on Agri-horticultural production in the area which may in turn affect the economy of the farmers. Provision has been incorporated on page no. 15-16 & 18-20 in Chapter 3 of Part 2</p>
<p>Chapter4 :Rural Development</p> <p>9. The playgrounds shall not be established in Nelang and Jadung in GNP</p>	<p>No such proposals exist in the chapter on "Rural Development".</p>

Chapter 5 : Urban Development	Approved by the NGT Committee.
Chapter 6 : Irrigation Department	
10. Important works like river training, river channelization, flood protection, soil erosion, slope stabilization etc for protection of human inhabitation and agriculture area to be kept under regulated category.	These works have been suggested under regulatory category on page xii in “Executive Summary” and page no. 124-125 in chapter 6 of part 1.
11. Flood plain zoning carried out by irrigation dept to be incorporated in ZMP	The necessary provisions have been discussed and incorporated on page 125 and Annexure 51.
Chapter 7 :Energy	
Chapter 8 :Public Health And Sanitation	No such concrete suggestions received.
Chapter 9 :Tourism	Approved by the NGT Committee
Chapter 10 : Road And Infrastructure Development	
12. The proposals regarding road construction etc should include muck dumping plan and should also require the approval of monitoring committee.	The suggestions have been incorporated on page 210-211 under the guidelines of construction of road.
13. All the villages having more than 5 km distance from the road, the proposal of road construction for the roads should be kept in ZMP.	The proposals of road construction for 16 unconnected villages have been discussed on page 208 of part 1.
14. The amended provisions related to land use change in section 2.12 and 2.14 of the notification shall be taken into consideration and necessary amendments should be done in the chapter accordingly.	The same has been incorporated on page 204 – 206 of chapter 10 in part 1.
15. The cross slope reports of Dr. Shivansh Kimothi and the amended provisions regarding slope and infrastructure development shall be taken in consideration for updation of the chapter.	Incorporated on page 204-206 of chapter 10 in part 1.
16. Alternate alignment for Jaspur – Bagori – Mukhba – Jangla National Highway.	The proposal has been included on page 210
CHAPTER 11 : Disaster Management	
17. The information about GLOF landslide, kandolia gaad landslide 1978 and forest fire to be incorporated in the chapter	The information has been incorporated on page 222-223.

Annexure No. 28

**1. Dr PS Negi, Wadia Institute of Himalayan Geology
(Comments Received on 17-01-2018)**

S.No.	Comments	Compliance Status
Chapter 1: Forest & Wildlife		
1.	Some of the developmental activities involve forest felling which need to be compensated by generation of forest of similar floristic composition well in advance.	The provision of Compensatory Afforestation of double the land diverted for developmental projects is already in practice as per the Forest Conservation Act 1980. The reference has been made in the “Guidelines for Construction of Roads” on page 210-211 in chapter 10 of part 1.
2.	The Zonal master plan is intended to conserve the natural resources and ecosystem by putting restrictions on various developmental activities. Therefore, existing and traditional rights of inhabitant related to sustenance need to be protected fully along with the development of employment opportunities for socio-economic amelioration.	The rights and concessions of the local inhabitants with regard to free grant, grazing, fuel and fodder along with the Tehri Garhwal state order has been described in detail under heading “Rights & Concession” on page no. 38-42 in part 1 of ZMP.
Chapter 10 : Road Infrastructure Development		
1	<p>Developmental activities, especially road construction involves abrupt landscape change due to slope cutting and consequential debris generation besides forest felling in the micro-watershed. Slope cutting in geologically inappropriate or fragile areas triggers landslides, soil erosion and generates huge debris. The debris material transported into rivers during rainy season and increases sediment depth to accelerate floods. The massive forest felling also results loss of virgin forest wealth, bio-diversity and ecosystem services.</p> <p>In order to mitigate these side effects of road construction and other similar/allied activities we need to cut slopes on the basis of geological formations. Geologically appropriate areas may have slope cutting with desirable degree for road construction. While the area having geologically fragile formation needs to use cut-and-fill method or elevated road options for road construction/road expansion. Wherever possible, road on ridge-top method may be used to avoid unnecessary slope disturbance or debris generation. If any locally useful water spring disturbed during road construction, its utility needs to be ensured with proper drainage system. Some of the developmental activities involve forest felling which need to be compensated by generation of forest of similar floristic composition well in advance.</p>	<p>The necessary suggestions have been incorporated under the heading guidelines for construction of road on page No 210-211 in Chapter 10 of ZMP. The brief suggestions incorporated are:</p> <ol style="list-style-type: none"> 1. Geologist investigation regarding slope cutting and desirable degree for road construction. 2. Use of cut and fill method as per IRC code and EinC circular PWD Uttarakhand. (Annexure 61). 3. Compensatory Afforestation, wildlife management plan and muck dumping plan as per FCA 1980 have been included in the above guidelines. <p>The traditional rights of the local inhabitants shall be kept intact and have been discussed in detail on page 38-42 of Chapter 1 along with the rule and conditions governing the rights and concessions. As per FCA 1980, all the developmental projects requiring environmental clearance are bound to get prior approval from village level forest right committee.</p>

2. Dr. Vinod Tare, Professor, IIT Kanpur**(Comments Received on 29-01-2018)**

S.No	Comments	Compliance Status
General Overview & Preface		
1.	There should be provision in ZMP of setting up a multi-stakeholder project team with inputs from concerned experts (individual/agencies) for reviewing DPRs of each project prior to seeking approval/funds from concerned agencies. The composition of such team should form part of ZMP. Site specific Micro- level hydro geological studies are important before undertaking any interventions.	The issue was discussed in the meeting dated 02/05/2018 and it was found that almost all the infrastructure development projects pass through due process established under the departmental rules and regulations. Moreover the Monitoring Committee headed by Chief Secretary, as per the notification, will monitor and approve all the important projects in the BESZ area. The recommendation has been made in “Guidelines for Aquifer Conservation and Management” on page no. 56-57 of chapter 2.
2.	The Status of Monitoring Committee constituted under the Chairmanship of Chief Secretary vide Office Memorandum No. 25/3.2010-RE dated October 10, 2013 of the GoI, should be clarified whether it is an ongoing committee or is its term over.	The status of the monitoring committee has been included on page no. vii in “Executive Summary” and the memorandum no. 25/3.2010-RE-ESZ dated 05/04/2018 has been annexed as Annexure 3.
Chapter 01: Forest & Wildlife		
1	Different projects proposed in the Bhagirathi ESZ may lead to increase in Man – Animal conflict, and proper provisions for its redressal shall be made.	The provisions of Wildlife Management and man-animal conflict along with its mitigation measures have been discussed in detail under heading “Wildlife Management” heading on page no. 23-27 in part 1 of ZMP. The necessity of wildlife management plan has been discussed under heading “Guidelines for construction of Roads” on page no.206 in part 1 of ZMP.
Chapter 02: Water shed Management		
1	The chapter on State of Glaciers in BESZ should be a part of annexure.	The report has been annexed as Annexure 11 accordingly.
2	The Para related to future management should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team.	Future management has been incorporated after the section on “Present Scenario”. Objectives have been incorporated on page 48. Boundary conditions and Permitted/ Regulated/ Prohibited and not permitted works have been incorporated in “Executive summary” on page xii – xv in part 1

3	DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure.	The constitution of Multi stake holder team was discussed in the meeting dated 02-05-2018, and it was found that the consultation of Gram Sabha with regard to the approval of infrastructure projects is already in place as per the provisions of various acts and rules e.g Forest right act etc. Also, the Monitoring Committee is empowered to review, monitor and approve the works in Bhagirathi ESZ area as per the notification.
Chapter-03 :Agriculture & Allied sector		
1	The section related to compliance status of the BESZ notification 'should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure'.	The section pertaining to "compliance status" has been added after "Introduction" and objectives on page No. 82.
Chapter 4 :Rural Development		
1	Regarding change of land use from "green" to "non-green" and use of land from "tribal" uses to "non-tribal" uses may be permitted in a strictly limited way with the prior approval of the Chief Secretary, it is Suggested that instead of modifying the notification, permission should be sought case by case basis as a special case.	The clause related to change of land use has been amended as per MoEF and CC , GoI, notification dated 16 April 2018.
Chapter 5 :Urban Development		
1	SWM and Town Planning @ This section should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project. Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure. Under Swachh Bharat Mission, emphasis should be on how decentralized solutions will be planned and executed. Something on how to make it sustainable.	The details of SWM and Town planning has been including under the heading "Present Scenario" after 'Introduction' and 'Objectives'. The compliance status of the provisions of BESZ notification has been incorporated on page 113 of the chapter.

Chapter 6: Irrigation Department		
1	Same comments as for previous chapters.	The Compliance for the comments has been incorporated under heading “ Applicable Clauses of Notification for Irrigation Department ” on page 124-126 of chapter 6.
Chapter 7 :Energy		
2	The Carrying capacity Studies for 10 HEP’s should be reviewed by multi-stakeholder group including WII, FRI and Clean Ganga.	Necessary decision has to be taken by the Expert Committee constituted by NGT.
Chapter 8 :Public Health & Sanitation		
1	The Para related to Future Management should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team. DPR of Projects proposed/ executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure	The compliance to the comments have been incorporated in chapter-08 and the “Future Management” has been added at the relevant place. Various clauses along with compliance have been added at page no. 150 of part 1.
Chapter 10: Road Infrastructure Development		
1	In general overview under heading ‘Hydrology’ it is written that ‘Developmental projects like Hydropower projects, Road cutting etc may have Irreversible impacts on the perennial aquifer sources in the region. Many road-cutting sites also cut into aquifer source thereby disturbing the overall balance tremendously’. Comments:- Important to note and consider in planning.	The necessary provisions regarding watershed treatment of affected streams / aquifers have been included under “ Guidelines for construction of roads ’ on page No 210 - 211 of part 1.

3. Dr S. Sathyakumar, Scientist G, Wildlife Institute of India.

(Comments Received on 04-02-2018)

S.No	Comments	Compliance Status
Chapter 1: Forest & Wildlife		
1.	Specific " Wildlife Protection and Habitat Management Plans " be included in any developmental works/projects such as road widening, construction etc that have potential to impact wildlife distribution, movement and their habitats in the Bhagirathi ESZ as this area is rich with the presence of many highly endangered wildlife species.	The provision of "Wildlife management plan" has been incorporated under heading " Wildlife Management guidelines " on page no. 25 of and under heading " Guidelines for construction of roads " on page 210 in part 1 of ZMP.
2	All Scientific names of the species to be written in Italics. Add "Habitat improvement in identified corridors through water and soil conservation, weed eradication and restoration activities" in Wildlife Management section	The same has been done by the editor. The suggestion has been considered and incorporated under heading " Maintenance of Corridor " on page no. 26 in part 1 of ZMP.
Chapter 7 : Energy		
Chapter 10 :Road Infrastructure Development		
1	Specific "Wildlife Protection and Habitat Management Plans" be included in any development works/projects such as road widening, construction etc that have potential to impact wildlife distribution, movement and their habitats' in the Bhagirathi ESZ as this area is rich with the presence of many highly endangered wild life species.	The suggestions for wildlife conservation and habitat management as a part of project have been incorporated under " Guidelines for Construction of Road " on page No 210 and 211of ZMP.

4. Dr Sharad Jain, Director National Institute of Hydrology, Roorkee

(Comments Received on 26-01-2018)

S.No.	Comments	Compliance Status
Chapter 2: Water shed Management		
1	All the material related with watershed management may be compiled under the heading Watershed Management at one place. Currently, considerable material pertaining to watershed management has been placed in the section on Water Resources Management.	All the material has been incorporated under the heading “ Watershed management ” under Chapter 2 .
2	Water Resource Management section needs strengthening. Under this section, just after the heading, a brief write up, say one para, about water resources management can be added. Please also state the objectives of water resources management with special reference to the Bhagirathi Eco-Sensitive Zone.	Detailed introduction about watershed management along with the desired objectives have been described in detail in Chapter 2 on “Watershed Management”
3.	The Water Resources Management section should also detail the water availability, present usage, issues in management and how these could be resolved, the future management plans.	Water availability and present usage has been incorporated on page no. 56 . Issues in management and its resolution have been discussed on page 49. “Future Management” has been discussed on page 55-78.
4	A write-up on Gangotri glacier has been also attached which can be included under the Gangotri glacier paragraph in the report	The same has been added as Annexure 12 .
5	There is a section: Impact of glacier retreat (An Environmental appraisal). A section detailing hydrological and water management perspective will add value to the report. In reference list: Singh 2017 reference cited in the text is missing	The same as provided by National Institute of Hydrology, Roorkee has been annexed as Annexure 12 . The reference has been added.
6	Some corrections are marked (as stick notes) in the draft report (attached) and these may be taken into account.	Necessary corrections have been made accordingly.
7	Also, Reference may be included: Rishitosh Sinha, Jain, Sanjay, Ahluwalia, R. S., Estimation of retreat of snout of Gangotri glacier using multi temporal remote sensing images, International Symposium on Cryosphere and Climate change 2012, Manali, Pg 42, 2-4 April, 2012.	The same has been added accordingly.
8	Overall, the chapter requires copy editing to take care of formatting, grammar, spellings and language.	The same has been done by a professional editor.

**5. Dr. S.C. Katiyar, Additional Director (S), MoEF & CC, GoI Regional Office, Dehradun.
(Comments Received on 24-01-2018)**

S.No	Comments	Compliance Status
General Overview		
1.	In Chapter "General Overview" under caption "Hydrology" it is clearly mentioned that "Development Projects like Hydropower projects, road cuttings etc. may have irreversible impacts on perennial aquifer sources in the region. Many road cutting sites also cut into aquifer source thereby disturbing the overall balance tremendously. The ESZ terrains are part of an integrated and interconnected system. Preserving these terrains in situ is essential. Hydro geological connectivity of entire basin is very crucial and can not be ignored.	The special treatment plan for the micro watershed of the small streams affected in developmental projects shall be prepared and included in the overall cost of the project. The necessary provisions have been included in "Guidelines for Aquifer conservation and Management" in chapter 2 on page 56-57 and "Guidelines for construction of Roads" in chapter 10 on page 210-211 in part 1.
2.	The Status of Monitoring Committee constituted under the Chairmanship of Chief Secretary vide Office Memorandum No. 25/3.2010-RE dated October 10, 2013 of the GoI, should be clarified whether it is an ongoing committee or is its term over.	The status of Monitoring Committee Re-constituted by MoEF & CC, GoI has been included on page vii of "Executive Summary" .
Chapter 1: Forest & Wildlife		
1	Different projects proposed in the Bhagirathi ESZ may lead to increase in Man – Animal conflict, and proper provisions for its redressal shall be made.	The provisions of wildlife management and man-animal conflict along with its mitigation measures have been discussed in detail in Chapter 1 "Wildlife Management" heading on page 23-27. The necessity of wildlife management plan has been discussed in "Guidelines for construction of Roads" in chapter 10 on page 206 of part 1.
Chapter 2 :Watershed Management		
1	The chapter on State of Glaciers in BESZ should be a part of annexure.	The report has been annexed accordingly as <i>Annexure 11</i>
2	The Para related to future management should be in the beginning of this chapter after introduction and objectives, clearly stating the basic principles, boundary conditions (what is permitted and what is not permitted), how the data used and need of the project will be ascertained by the multi-stakeholder Project Development Team.	"Future Management" has been incorporated after the section on "Present Scenario". Objectives have been incorporated on page 4. Boundary conditions and permitted and not permitted works have been incorporated in Executive summary.



3	DPR of Projects proposed/executed by various departments/agencies need to be reviewed by the multi-stakeholder Project Development Team. Only summary of all projects (in progress/proposed) may be given, detail may be annexure.	The need for the constitution of Multi stake holder team needs to be discussed in the meeting of the committee. Already the monitoring committee is empowered to review and monitor and approve the works under Bhagirathi ESZ.
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Chapter 7: Energy

1	In view of the above, it is once again reiterated that development of only micro and mini hydro power projects (up to 2 MW) only should be considered within the BSEZ. As such, 9 out of 10 projects of UJVNL as listed in ZMP should be de-listed.	<p>No major HEPs is proposed in BESZ. Hydro electric projects up to 25 MW have been categorized as Small Hydro Projects by Ministry of New and Renewable Energy, Govt. of India. There is no scientific and technical basis of excluding projects up to 2MW and those up to 25 MW.</p> <p>The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. These 10 SHPs were having only a trench weir. Moreover the dimension of structures of HEP below 2MW and those up to 25 MW do not differ significantly; hence the construction methodology for them is the same.</p> <p>Considering the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not included any SHP of more than 2 MW in the ZMP of BESZ.</p>
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6. Dr Ravi Chopra, Director People Science Institute Dehradun
(Comments Received on 06-02-2018 & 17-02-2018)

S.No.	Comments	Compliance Status
General Remarks		
1	<p>An attempt has been made in some chapters to comply with some of the earlier comments. But the document requires editing by a competent professional. Standard nomenclature (e.g. ha for hectares) should be followed throughout the document.</p> <p>There is a need to standardize the presentation of numerical data. Basic land use data differ from chapter to chapter. For example, in Table 3 of the General Overview chapter, agricultural area is given as 52.24 km² (5224ha). But it is shown as 4631ha on p.25 of chapter 2 and 4531.01ha in chapter 3. The figure for total agricultural area in the Uttarkashi Forest Div. given at the end of the table on p.31 of chapter 2 is simply wrong.</p> <p>Some data are presented differently in different chapters, confusing the reader. On p.1 of chapter 1 it is said that the area under reserved and/or protected forests is 4106.9 ha (sic!) or 98.27% of the total area of the BESZ. The non-reserve forest area is 72000 ha (720km²) on p. 25 of chapter 2. While both figures may be correct, the significance of the latter figure is not obvious.</p> <p>Attention should also be paid to the matter of significant digits. In general, two significant digits after the decimal point are adequate.</p>	<p>The document has been edited by a professional editor.</p> <p>The data has been corrected in different chapters as suggested.</p>

2	<p>The ZMP draft lacks a clear statement of its overall goals, specific objectives and the principles it adheres to. Relevant statements must be introduced in the General Overview chapter. The section on Vision & Objectives in the Forest & Wildlife chapter is one example. The overall goal may be simply stated as “To ensure ecological and livelihoods security in the BESZ.” The basic developmental principle must be to enhance productivity in a sustainable and equitable manner through participatory processes. Specific objectives can be highlighted in the different chapters.</p> <p>It will be helpful to follow a standard format for each chapter. It could begin with a brief situation analysis highlighting the major issues (zonal needs) and present activities. This can be followed by (i) the departmental vision and objectives for the ZMP; (ii) proposed future activities; (iii) time schedules and (iv) cost estimates.</p>	<p>Principles and overall objectives has been incorporated in “General Overview” on page xvii.</p> <p>The suggestion has been incorporated accordingly.</p> <p>Standard format as suggested has been followed for each chapter.</p>
3	<p>Several departments have included a variety of activities and projects that are already sanctioned and/or funded from existing schemes. They can be summarized with the help of charts and tables. It would be useful to highlight separately in each of these chapters, what activities and projects are to be done with funds sought specifically under the ZMP</p>	<p>The activities and projects have been discussed in “Future Strategy” in each chapter in Part 1 and the physical and financial outlays for the same has been described in Part 2</p>
4	<p>The ZMP provides an opportunity to the state of Uttarakhand to raise resources from the Centre, in addition to existing central schemes and funds (see introductory comment in the chapter on Forest & Wildlife). A separate chapter on Payment for Ecological Services may also be added to the document.</p>	<p>The financial outlay in different sectors has been proposed in Part 2.</p>

Preface		
1	Page i, para 1, line 3 “.....and also continuous and phenomenal increase in human and cattle population;” May read as “and also continuous and phenomenal increase in transient human and cattle population, particularly due to rapidly increasing number of tourists;”	The modification, as sought, has been made in “ Executive Summary ”.
General Overview		
1	<u>Physiography section</u> Para 2, last sentence: “ <i>The largest earthquake.....in 1991.</i> ” This statement is factually incorrect. The sentence may read, “Uttarkashi district was hit by a strong earthquake in 1991, with its epicenter at Agoda village in the Bhagirathi Eco-Sensitive Zone (BESZ), leading to loss of over 650 human lives, livestock and property.”	The fact has been modified and corrected accordingly.
2	<u>Hydrology section</u> First para: “ <i>In addition to it..... has also been included.</i> ” Needs editing. “ <i>However site specific.....are highly recommended.</i> ” May state: “Site-specific micro hydro geological studies are recommended for critical water bodies.”	The fact has been modified and corrected accordingly
3	Third para: “ <i>The interwoven upper catchment..... and many springs.</i> ” May be modified as, “The Himalayan upper catchment of River Ganga, including the BESZ, is richly endowed with many tributaries and springs.” The list of tributaries of the Bhagirathi given in this section is highly incomplete, e.g., Kanaujiya Gad, Pilang Gad, etc. are missing among other important tributaries. This list may be eliminated and reference can be made to the detailed list in Ch. 2. Para on Gangotri Glacier: The sentence, “ <i>In the last 3-4 years..... to a mere 24.50 km</i> ” is inaccurate. It should be corrected in consultation with a knowledgeable glaciologist.	The sentence has been modified and corrected accordingly. The fact has been modified.

4	<p><u>Table 4</u> Will this Table be modified in the light of changes being made in the present draft or does it specifically refer to the work done in September-October 2016 by the GoU? If it refers to the latter, an appropriate explanatory statement should precede the Table.</p>	<p>The table has been modified in light of the recent improvements and amendments in the BESZ notification.</p>
5	<p>Item1: The remark in the Addressal column is disputable. A clear objective of the BESZ notification is the provision of livelihoods security for the local people. The draft document has not specified this aspect in the later chapters. In several chapters the estimated number of jobs to be created, or mandays of employment to be generated, or the number of beneficiary families, etc. can be highlighted. (Pl also read the general remark number (2) above in this context.)</p>	<p>The financial plan containing physical and financial outlay shall generate more livelihood options to the local people by engaging them in the execution of the works under the plan.</p>
6	<p>Item 12: The comment of the Expert Committee is too general and so is the addressal. The latter suggests that a monitoring station will be set up. Such a station can only monitor some specific parameters at a particular location. What was the objective/nature of the monitoring desired by the MoEF& CC Expert Committee? How is that proposed to be complied with?</p>	

Chapter 1: Forest & Wildlife

1.	<p>This chapter requires an important amendment. Under plantation activities, it refers solely to existing schemes and the present draft working plans of the Division. In the last meeting on January 9, 2018, however, a major proposal was made and accepted that instead of plantation, an Assisted Natural Regeneration (ANR) approach should be used in the ZMP. This needs to be highlighted separately in this chapter.</p> <p>The Ten Year Plantation Plan for UFD (p.31) targets an area of 5035 ha over a 10-year period, under the existing schemes. This is only about 5% of the estimated wasteland area in the BESZ mentioned in Table 3 of the General Overview chapter.¹ Since plantations can lead to major ecological and livelihoods benefits, this area could be increased through the ANR approach. Appropriate costs could be sought under the ZMP.</p> <p>The estimate should be made of the number of man days of employment generated. Even a rough estimate of the annual benefits/product flows (seeds, herbs, soil conserved) would be helpful in securing the required funds.</p> <p>There is no mention of any proposed plantation area in the later section on Gangotri National Park.</p>	<p>The provision of Assisted Natural Regeneration has been incorporated under heading “Future Strategy” on page no. 16 in part 1 of ZMP. The physical and financial outlay for ANR has been incorporated under heading “Plantation” on page no. 3 in part 2 of ZMP.</p> <p>The maximum waste land is located in higher altitudes therefore it is technically difficult to take those areas for plantation. However the denuded waste land area in the lower altitudes has been taken under plantation activity. Also the areas have been increased by proposing ANR activities. Regarding plantation, Guidelines have been incorporated on page no. 16 in part 1 and the financial outlay for ANR has been mentioned on page no. 3 in part 2 of ZMP.</p> <p>Projected estimates have been included on page no. 3 in part 2 of ZMP.</p> <p>As per the Management Plan of Gangotri National park, the plantation activity is not suggested in the area due to its snow bound and fragile ecosystem.</p>
2	<p>The reserved and/or protected forest area is 4106 sq. kms, not hectares, as mentioned in the first sentence. Mention may also be made here of the degraded and treatable area and the area under Van Panchayats.</p>	<p>The necessary corrections and incorporations have been made on page 4 in “Introduction” section.</p>

3	<p><u>Table on pages 2 and 3</u></p> <p>This Table provides an excellent opportunity to summarize and highlight the proposed actions in the chapter, as done in Table 4 of the General Overview chapter. A fourth column briefly identifying the relevant action(s) may be added. The statement preceding the Table may be appropriately amended.</p>	<p>The same has been corrected and described under heading “Clauses Related to Forest & Wildlife” on page no. 4-6.</p>
4	<p><u>Pages 33-38 on Wildlife Management and Ecotourism</u></p> <p>An innovative approach to wildlife management by involving local people and creating livelihood opportunities -- particularly for young people -- could be considered here. Project Campfire of Zimbabwe, among others, provides instructive lessons on what to do and what to avoid. The WII representative may advise.</p>	<p>The provision regarding Involvement of unemployed youth and constitution of “Eco-development” committees has been incorporated under heading “Guidelines for Wildlife management” on page no. 25-26 in part 1 and also as an annexure 38 in part 3. The training of local youth has been dealt under chapter 9 “Tourism”</p>
Chapter 2: Watershed Management		
1	<p><u>Objectives</u></p> <p>The stated objectives limit the vision of Watershed Management to managing soil and moisture conservation activities. The activities detailed later focus only on forest areas. The vision and objectives statement at the start of the chapter needs to be expanded, even if the future community-based activities for directly enhancing the livelihoods, incomes and well-being of the rural households are left to the agriculture and allied activities and rural development departments.</p>	<p>The objectives have been amended accordingly and described on page no. 48 in part 1 of ZMP.</p>
2	<p>Given that a participatory approach can provide direct benefits to the local households and that the Watershed Management department is already engaged in such projects in 25 villages of the BESZ under SWP VI phase of IWMP, it should seek funds under the ZMP to expand the same approach and activities to new areas (villages).</p>	<p>The committee in its meeting dated 02.05.2018 felt that comprehensive village wise watershed management plan at this stage may not serve the purpose as it is practically impossible to go for such a micro management at the draft level of Zonal Master Plan. However, Watershed Management based on participatory approach involving local community shall be expanded in future with due course of time. The provision as a guideline has been under heading “watershed management guidelines” on page no. 56 in part 1 of ZMP.</p>



<p>3</p>	<p><u>State of Glaciers in the BESZ Report</u> WIHG has submitted a brief but very important report on the subject. It offers a basic situation analysis and makes very important recommendations at the end. The report, however, has been included in the chapter as a standalone section, without prefacing remarks or even concluding comments on its observations and recommendations. Note must be taken of the impacts of the recession and thinning of the BESZ glaciers (most of which -- 209 out of 238-- are small, <5km²), particularly their fragmentation leading to enhanced hazards of GLOFs. The chapter must make a commitment to the need to prioritize glacier conservation activities and operationalize regulations based on the WIHG's recommendations.</p>	<p>A brief analysis of the report on “state of Glaciers Report” submitted by Wadia Institute of Himalayan Geology” along with the necessary recommendations has been incorporated on page no. 76 in part 1 of ZMP.</p>
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4	<p><u>Future Soil & Water (Moisture) Conservation/Catchment Treatment Measures</u></p> <p>(1) Guidelines have been proposed for conservation/management of aquifers, streams and lakes. But how some of these will be operationalized is not clear. For example, “No domestic or any type of sewage shall be allowed to drain in the natural water resource.” Who will monitor this? Who will ensure it? Or, “Dumping of solid waste in the catchment of the streams will be regulated.” But no regulations or procedures for establishing regulations are proposed. It is suggested that non-actionable proposals be minimized in the ZMP.</p> <p>(2) It is stated on p.48 of chapter 2 that, “Most of the upper catchment of the streams is free from human interference/anthropogenic activities and inaccessible.” Some lakes like Vasuki Tal, Kedar Tal, Janak Tal, etc. listed in the Table, pp32-34, are very high altitude lakes in permanently snowbound areas. Regulating the trekking traffic in all such areas may be an adequate conservation measure. Several hundred crore rupees in treatment costs are thus avoidable.</p> <p>(3) The estimated treatment costs shown in the Tables pp 49-52 lead to widely varying unit costs. But not much explanation is given for them. They appear to be rough estimates.</p>	<p>The monitoring and regulating authority has been mentioned in the guidelines. The solid waste management rules as mentioned in page 148 under chapter 8 shall regulate the dumping of solid waste in the streams.</p> <p>The Tourist inflow in the high altitude lakes is already minimum. The upper catchment area of the lakes and streams away from human interference has been excluded from treatment works.</p> <p>The per hectare treatment cost for micro watershed and catchment area of lakes and per km cost for length of streams have been calculated as per Schedule of rates of Forest department. The details of the same has been given on page 76 in chapter 2 of part 1 and Annexure 45. The physical and financial outlay has been included in Part 2.</p>
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Chapter 3 : Agriculture & Allied sector

1	<p>Introduction:- A comprehensive but brief situation analysis of agriculture in the BESZ is required since it is the primary livelihood in zonal villages. The text on P.5 is at best a brief statement of the problems of agriculture in these Villages. There is also a need for a proper assessment of the potential of agriculture to provide remunerative livelihood to families socio-economic categories.</p>	<p>A situation analysis in terms of agriculture holding and socio economic categories has been included on page 85 under “Present Status”.</p> <p>The agriculture potential has been tabulated as Annexure 46 in part 3 of ZMP.</p>
2	<p>The vision objectives and therefore the proposed activities should flow from this analysis. The objectives stated on pp.1-3 are repetitious and need to be rationalized. Given that the BESZ notification emphasizes the twin objectives off ecological and livelihoods security, a desirable vision could be to develop agriculture in the BESZ villages in remunerative and sustainable manner so that it serves as a model for the mountain regions of Uttarakhand state.</p>	<p>The objectives have been consolidated and rationalized as per the suggestion. Revised Objectives as suggested have been incorporated in plan on page 82-83 chapter 3 in part 1.</p>
3	<p>Present status:- This section accounts for about half the chapter text. But it simply consists of brief description of the various schemes that are operating in the zonal area and village-wise table on the land use patterns, apples production and livestock resources. A village-wise table of percent net irrigated agricultural area would help in setting priorities for irrigation development.</p>	<p>The village-wise table of percent net irrigated agricultural area has been incorporated as Annexure 46.</p>
4	<p>There is no discussion of the targets, achievements and outcomes, despite the fact that some of the schemes have been operating for several years now. A short analysis of which scheme are popular or effective would be helpful in planning future directions, e.g. would rainwater harvesting tanks improve irrigation potential, are barbed wire fences more effective or are nets more useful, which classes of farmers have benefitted the most from the present scheme.</p>	<p>Comprehensive survey and planning at the Central, State and the gross root level has been carried out from conception to implementation stage in these schemes.</p>

5	There is a lack of compatibility between the different schemes. Thus while some schemes highlight sustainable agriculture, others promote the use of chemical fertilizers and pesticides. Some data may have to be rationalized or rested, e.g. average land ownership	One of the main objectives of Zonal master plan is gradual shift to organic farming by eliminating the inorganic practices over a period of time. Therefore an abrupt change to organic farming may not be suitable for the area. Targets with blend of organic and inorganic system have been accordingly incorporated to achieve the above objective. The compliance has been made on page 15-18 in chapter 3 under part 2
6	The text on p. 29 has proposed admirable goals of converting all the agriculture land to organic cultivation. The outlays table does not reflect achievement of these goals.	Same as above.
A	Paddy and wheat cluster demonstrations, including SRI, is proposed only for 600 hectares, the system of Crop Intensification increases land water productivity (more crop per drop). It is organic and more resilient to extreme weather events. It has enhanced productivity of other crops like maize, rajma, other pulses and some vegetable in several parts of Uttarakhand. Hence this approach should be extended to cover a much larger area than just 600 ha.	The targets of paddy and wheat cluster demonstration including SRI has been increased from 600 hec. to 1600 hec. These targets are included under physical and financial outlay on page 15 under part 2. Increase in the land water productivity ensured under centrally sponsored scheme (PMKSY) is incorporated in Chapter 3 on page 95 and 96 under Future Strategy
B	It is proposed to distribute high yielding seeds for a variety of crops. Will they require inorganic chemical fertilizers or will they also give high yields with organic bio-fertilizers?	Relevant studies (especially temperate crops) in this regard may be conducted in future and financial outlay has already been proposed on page 17-19 in chapter 3 of part 2.
C	The coverage of lift irrigation, power weeders /tillers, farm machinery banks and custom hiring centers and marketing support may be available for this.	Revised Targets of different programs has been included in the BESZ plan on page 16 in part 2 .
D	There is no mention of institutional support system like farmer's interest groups and federations. A focused knowledge extension programme could also be more effective.	Already incorporated on page 17-19 in part 2 under skill development relevant studies.
Chapter 4: Rural Development		
1	The chapter is full of proposals for works but lacks focus. It is appreciated that the rural development department is engaged in a variety of activities. It would be better; however, if for the ZMP the department was to focus on a few critical activities so that it can deliver good results.	Rural Development department is involved in the implementation of a large number of schemes of central and state government. Important activities under different schemes related to livelihood, village infrastructure and employment have been prioritized in the chapter and physical and financial outlay described accordingly in part 2..

2	The Physical & Financial Outlays as presented are confusing. For example, the column on the status of activities on 1.1.16 is not clear. It is also not clear whether the cost estimates given in column 10 of these tables are for the five year or ten year period.	The column regarding “status of activities” has been removed as it is not important any more. The “Estimated cost” are for a total period of 5/10/15 years depending upon the projected time period of the scheme proposal.
3	Regarding road construction, it was agreed at the January 9 th meeting of the Experts Committee that only one road linking a village to a National/State highway should be considered, with all the necessary precautions in place, in order to minimize the cutting of trees. There can be no blanket approval for all roads. Construction details of each road may be proposed and reviewed by the Monitoring Committee on its merits, after a site visit.	The scheme under this chapter mainly comprises of proposals for the construction of small bridle paths, cement concrete roads and internal path of villages. The provision has been included in chapter 04 under heading “ Rural Connectivity ” on page number 104 .
4	A critical activity that is missing from the proposals is the need for reviving springs near habitations that have dried up or are drying rapidly. This may be done under item 3 (p.5). Poor families can be selected to raise nurseries for the Afforestation works rather than purchasing saplings from the Forest Department or commercial vendors.	Provisions regarding reviving of springs near habitations and water recharge activities have been included in chapter 4 “Rural Development” page number 102 of part 1 & page no. 29 of part 2 .
5	Two play grounds are proposed. These may be located in the Jadganga valley in Nelong and Jadong. Nelong and Jadong are inside Gangotri National Park and playgrounds will not be located on those two location.	No proposal regarding play grounds in Nelong and Jadaung has been included in the chapter.
6	SHGs and FIGs (farmers’ interest groups) are very important village level institutions. Their establishment (with appropriate rules and regulations), orientation and training for specific activities would be very useful. Dairy development led by women has been successfully promoted in Uttarakhand by Himmatthan, with whom the GoU has a memorandum of understanding, and BAIF. Their support can be sought if necessary. Lift irrigation pumps using solar energy may be experimented with. These can be part of Farmers Managed Irrigation Systems. The RD department can involve UREDA to establish micro hydel units. These too can be most profitably used for lifting water for domestic supply or irrigation.	Department is promoting women SHGs. Activities of these SHGs relate to agriculture and dairy. These groups are formed with proper rules and regulation. In Bhatwari block Integrated Livelihood Support Project (ILSP) a joint venture of international Fund for Agriculture development (IFAD) is implementing Aajivika Projects. Outlet of Kissan has been established to sell the products of SHGs has been involved under page number 102 “NRLM” heading . Rural development department has involved UREDA under BADP for establishment of mini hydel project. The same has been included under chapter 04 Rural Development page number 106 “ Micro hydro power ” heading.

7		Activity Proposed	Comments	Compliance Status
	1.	Several structures are proposed to be built.	Precautions highlighted in the BESZ notification para 2 (7) regarding such structures need to be kept in mind	Para 2(7) of the notification has been complied.
	2.	Special area scheme. (BADP item 3)	May be prepared for Nelong and Jadong villages in the Jadh Ganga valley– school buildings, play grounds, PHC/CHC, etc.	Nelong and Jadong villages are border villages where ITBP has its camps. There is no civilian population. So PHC/CHC, schools are not required in these villages.
	3.	Social sector (BADP item 6)	Several types of structures are proposed. The above mentioned precautions should be followed. The government of India has allocated funds for two crore toilets in the FY '19 budget. These funds could be sought from GoI.	Uttarkashi district is already declared ODF. In case of additional toilets demand, IHLS will be constructed under MNREGA. Compliance has been incorporated in chapter 4 Rural Development page number 102 under “Present Scenario.”
	4.	Education (item 8 BADP)	Several educational buildings such as schools, labs, hostels etc. are proposed. Unfortunately, however, teachers, posts in many of the remote areas lie vacant.	Education department has taken care of it.
8	1	Most activities	Their current status is simply described as ‘in progress’. It is not a clear description.	The column regarding “current status” has been removed as it is not required any more.
	2	Disaster preparedness and water harvesting under MGNREGS	Specific works should be cited. The water harvesting costs appear high for the 5-yr period.	Necessary correction has been done on part 2 chapter 4 Rural development page number 27 and 29.
	3.	Afforestation (MGNREGS, 6)	Unit not stated. Costs may be high.	Necessary correction has been done on part 2 chapter 4 Rural development page number 29.

Chapter 5: Urban Development

1	<p>Urban development in the BESZ requires basic information of the trends in the growth of its urban population and centers and the provision of adequate infrastructure, amenities and services. Given the special character of the BESZ priority needs to given to the preservation of the national heritage.</p> <p>The present chapter lacks this kind of a comprehensive picture of the current status and there are only a few isolated numbers of future growth/needs. It focuses primarily on solid waste management (SWM) in Uttarkashi (Barahat Nagarpalika) and Gangotri (Nagar Panchayat) towns. It is recommended that all urban services provided by other departments should be integrated in this chapter so that a comprehensive picture emerges of the present status and future needs. The chapter also requires maps of the urban areas. A comprehensive revision will require taking cognizance of various provisions of the BESZ notification, specific to urban development in paras 2, 3a, 3b and 3c.</p> <p>The revised draft must consider the needs of the residents and the floating population. It is quite likely that during summer besides tourists the number of service providers also increases significantly.</p> <p>The situation analysis should therefore highlight the shortfall in the existing infrastructure and services, as well as in the foreseeable future. There is an urgent need for the proposed Master Plan for the urban areas to be completed at the earliest and incorporated in the ZMP.</p> <p>The present draft provides information about the SWM infrastructure in the towns but is silent on the outcome. Data on p. 6 is not the actual collection but only an estimate based on an assumed rate of 250 grams/per person. It does not take into account the floating population. This may explain the presence of garbage heaps in Uttarkashi and solid waste dumped in dry stream beds during the summer tourist season.</p> <p>The table on p. 10 related to the Swatchh Bharat Mission (urban) is not clear whether it gives the present status or the 10 year target. Even though the mission identifies awareness generation, behavioral change and people's participation in the mission in its objectives, the proposed activities have ignored these aspects.</p> <p>The revised draft must emphasize the priority for safety and security in approving building plans giving special attention to the need of disabled people. Public buildings, especially schools, need to follow the fire fighting codes, earthquake safety construction principles and allocation of adequate space for the disabled to exit.</p>	<p>As per the Census 2011 population of Uttarkashi town/ Nagar PalikaParishad was 41377 and as per the previous trend it may be 47583.</p> <p>As per this increase all the Urban Infrastructures are to be strengthening accordingly i.e. Water Supply, Sanitation/ Sewerage Treatment and Disposal, Solid Waste Management, Urban Transport, Housing need of the town etc.</p> <p>Under Swachh Bharat Mission following activities and schemes are under implementation:</p> <ol style="list-style-type: none"> 1. As per the town need and applications from the beneficiaries 140 IHHL (Individual House Hold Latrines) are targeted to be constructed upto 2019, till date 77 IHHL has been constructed. Rs. 5.77 Lacs has been released to Nagar PalikaParishad, Uttarkashi. 2. 40 Seat Community/Public Toilets are to be constructed upto2019, Rs. 39.20 Lacs has been released. 3. Under Solid Waste Management, door to door collection of waste has been started by ULB in all the 9wards of the town. 4. As per "Polluters to Pay Principle", User Charges Bye Laws has been notified by the ULB and average collection is Rs. 0.27 Lacs per month. 5. As per the provisions of "Anti Littering and Anti Spitting Act 2016", Rs. 8000 has been collected from the violators. 6. Plastic Compactor unit installed in ULB Uttarakashi was damaged in 2013 Disaster. ULB has initiated the process of reinstallation of the same. 7. Uttarakashi Town has been self declared ODF/ Open Defecation Free as per the process of Swachh Bharat Mission Guide Lines. Intimation has been sent to GoI, MoHUA(Ministry of Housing and Urban Affairs) for the verification. Verification from QCI is availed. 8. Nagar PalikaParishad, Uttarakashi has initiated the process of identification and allotment of land for safe and scientific disposal of solid waste. 9. After than DPR shall be prepared with the provisions of scientific treatment and disposal of MSW as per SWM Rules 2016. Three month is expected to complete the process of DPR preparation and approval and after that six months shall be required to set up the SWM plant i.e. plastic segregation of recyclable, compost and Sanitary Landfill Site construction. 10. For floating population two dust bins of Green and Blue are proposed to be fixed by the Nagar PalikaParishad, Uttarkashi within a short time as per Swachh Bharat Mission Guide Lines. <p>Related to building plan and other provisions, compliance by Housing Department/ District Development Authority, Uttarkashi.</p> <p>The issues have been complied in chapter 5 part 1.</p>
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Chapter 6 :Irrigation Department

<p>The irrigation department is engaged in building and maintaining irrigation facilities, in the villages, construction of ghats along the river banks and in floods disaster mitigation works on the river banks and river bed. Irrigation water is essential for raising agricultural productivity and farm incomes. No exception can be taken to the related activities. There is, however, a mismatch of figures cited for the irrigated area in the BESZ. The irrigation department cites 443 ha on p.1 of the chapter which is in agreement with the figure given in Ch. 3, p.5. But the CCA in the Table on pp 6-7 adds up to 830 ha. Which is the figure for irrigated area cited on Ch.2 p. 26? These figures need to be reconciled.</p>	<p>The Irrigation Department reported Culturable Command Area (C.C.A) 830 ha. This is total culturable area in command of existing irrigation canals or area that is covered under existing irrigation system. In chapter 2. the given figure is same but sentence needs correction and which has been corrected under heading 4. Irrigation Department page-55. At present actual irrigated area is 443.433 ha, which is less than 10% of total agriculture land (C.C.A) in Bhagirathi ESZ given in Chapter 6 and which is similar to figure given in Chapter 3.</p>
<p>Clause 2(5) of the BESZ notification has serious implications for the construction of ghats and the floods protection activities. It says, “The Zonal Master Plan..... Shall also ensure that there is no attempt to tamper with the natural boundaries of the river and the tributaries through the construction of any kind of structures on the banks of the river and tributaries.”</p> <p>Local villagers routinely come down to the river banks to cremate the dead and bathe whether there are ghats or not. Tourists, pilgrims and other visitors, however, find ghats to be more convenient. In the light of the restriction imposed by Cl 2(5), it is suggested that cemented structures on the river banks be avoided or minimized and replaced by landscaped areas like parks with trees, hedges, grasses, etc.</p> <p>The restriction of not tampering with the natural river boundary has serious implications for the flood control works. Cries for flood protection are raised by people who have built properties right along the river banks, encroaching the flood plain area. These include private homes, commercial buildings and government offices. Court orders to ensure that there are no buildings within 200 meters of the banks, or statements made by ministers (after floods disasters) that no construction will be permitted within 100 m of the banks are ignored with impunity.</p> <p>Typical protection walls may not be adequate to withstand the force of the Bhagirathi in flood. Its tributaries in flood are more difficult to control. Dredging RBM deposited by floods tampers with the vertical boundary of the river. Geomorphologists recommend that RBM should be dredged scientifically and with care. In practice, however, local contractors who do the actual removal have little understanding or concern for this and tend to dredge more than what is scientifically recommended. Even then it is a Sisyphean labour since the Bhagirathi and its tributaries unlimited sediments and RBMs from the upper reaches.</p>	<p>There is a problem of plain lands which are particularly acute in BESZ, the plain areas are found in this valley along river bank at few stretches of Bhagirathi river and this plain area is used by local people and some government department for the construction of their personal home and government offices from generations. The Detailed explanation has been given under heading Clause 2 (5) pages: 124-125.</p> <p>In B.E.S.Z. there is problem of bank erosion due to flood in river Bhagirathi and its tributaries for which anti-erosion/flood protection works are proposed and constructed along the existing eroded banks without encroachment of flood plain Zone of river. Thus, these structures are proposed to facilitate protection of populated area as well as agriculture lands so that the loss of properties and habitation caused by flooding is reduced. The flood management works are neither kept under prohibition nor under restricted category in ESZ notification and relaxation for construction / maintenance of flood management work required under disaster preparedness. There exist many religious Ghats along or at its confluence of river in BESZ which needs to be maintained/repared or restoration from time to time. These Ghats exist from ancient time and are of religious and mythological importance and used by tourist/locals during festivals and various fairs.</p> <p>Development of religious and mythological Ghats has been proposed under “Namami Gange” and shall be constructed traditionally and aesthetically in supervision of skilled architects in an eco-friendly manner.</p> <p>The R.B.M that have deposited by flood plain of Bhagirathi river upto a depth 3-4 meter. Dredging of river R.B.M shall be done by scientifically with due care.</p>



<p>A more scientific and reasonable approach to define the river's lateral regime or its flood plain zone for different time periods (e.g., 100 years flood level) and keep this zone free from any kind of permanent (cemented) structures. The area may better be used as a recreational space for the local people and visitors.</p> <p>The chapter mentions that a flood plain zoning study has been undertaken by NIH at the request of the state government. The report and its recommendations need to be shared with the present committee members and a view taken on approving the proposed future floods management works.</p>	<p>Compliance of court order and remark given by Hon'ble members regarding flood plain zoning has been incorporated in detail under heading Clause 2 (5) page 124-125 of chapter 6. The flood plain zoning study report submitted by NIH here in enclosed for sharing of present committee members.</p>
<p>The owners of the existing buildings in the floods threatened zone should be asked to take insurance. If the insurance companies are not forthcoming, or the insurance premiums are too high, the building needs to be relocated outside the threatened zone.</p>	<p>The insurance or relocations of existing building in the flood threatened zone is a matter of government policy and till now no such policy is in existence.</p>

Chapter 8 :Public Health & Sanitation			
Sl. No	Statement in the chapter	Comments by the member	Remarks
1	Introduction; State Government plan for saturating all these habitations by water supply schemes and also for covering all the villages by the sanitation program in an integrated manner.	Target date should be mentioned for this.	The state Govt. has planned for saturating all these habitation by water supply scheme till 2022. The target for Sanitation has already been achieved in 09 Nov, 2016 and the same has been <i>incorporated on page 147 of part 02.</i>
2.	It is a matter of pride for the SWAJAL team that the philosophy of Community and Demand Driven Approach has been adopted across the rural areas of the country in the Drinking Water Supply Sector.	Self-congratulatory statements can be avoided	As per comments para has been removed from Chapter 08 of part-1.
3	The stress is now being laid on “Behavior Change” and for this Behavior Change Communication has been adopted. The focal point of IEC is Inter Personal Communication.	This aspect seems to be ignored in the urban areas. Please see my earlier comment in the Urban Development chapter. Seems to have been added on at the end of this chapter. In that case please integrate appropriately.	The provision regarding IEC activities has been appropriately added under the heading “ present scenario ” on page no. 148 of part-1.
4	5 Hydro Projects exist in the zone namely, KaldigarhLanghuJalVidhutPariyojna 9 MW, Siyangad Hydro Project 11.5 MW, Jalandharygad Hydro Project 18.5 and 5.5 MW (Total installed capacity 76.4 MW)	I think these are on the not permitted list. They do not exist on the ground. Please verify and modify this statement. Incorrect installed capacity figure? Pl check and correct if necessary.	As per comments para has been removed from Chapter 08 of part-1.
5	For establishment and operation of the S.T.Ps.	The issue of establishing STPs needs to be discussed. Dr. Tare has alternate suggestions	It has been discussed in the meeting dated 02 may, 2018 compliances has been made in Chapter 08 of page no. 151 of part 1.
6	Order dated 25-01-2017 regarding use of the plastic carry bags.	Orders are fine. But what about the implementation? Relevant info about outcomes would be useful to assess the scale of the problem. We do not see much impact of this order in Dehra Doon or Haridwar	There is a total ban on sale, use and storage of plastic carry bags throughout the State of Uttarakhand with effect from 01-01-2017, The order is being executed by Govt. authorities at district level. Compliance has been made in Chapter 08 of page no. 152 and para no. 02 (Annexure 35) of part-1

7	All the local bodies in the area shall ensure to obtain Environment Clearance from the State Level Environment Impact Assessment Authority for common municipal solid waste disposal site.	What is the present situation?	Discharge of untreated sewage and indiscriminate disposal of solid waste be prohibited in the Eco Sensitive Zone. Compliance has been made in Chapter 08 of ZMP page no. 152.
8	The State Pollution Control Board shall indentify the water quality monitoring station in the eco sensitive zone and shall also conduct the monitoring of water quality of river, drains on quarterly basis	Where are these stations to be located?	The station is placed at Gangotri by Construction & Maintenance Unit (Ganga) Uttarakhand Pey Jal Nigam, Uttarkashi. Compliance has been made in Chapter 08 on page no. 151 at point no. VII (part-1)
9	Solid Waste Management: There are three local bodies that exist in the notified Eco-sensitive Zone, namely, Nagar Palika Parisad Uttarkashi, Nagar Palika Parisad Bhatwari and Nagar Panchayat Gangotri	The Urban Development chapter lists only two. Make up your minds three or two?	There are Two local bodies i.e. Nagar Panchayat Gangotri and Nagar Palika Parishad Barahat, Uttarkashi. The minor correction has been done on page no. 152 at point no. VIII in part-1.
10	The State Pollution Control Board shall monitor the provisions of Solid waste Management Rules 2016 in respect of standards prescribed for composting, treated leachate, and incineration and also shall monitor the ground water quality every year in the periphery of sanitary land fill site.	Why “shall monitor”? The Rules were adopted in 2016. What has the SPCB been doing till now? Current status statement should be made	The State Pollution Control Board shall monitor the provisions of Solid Waste Management Rules 2016 for composting, treated leachate, and incineration and monitor the ground water quality every year in the periphery of sanitary land fill site. Compliance has been made in on page no. 153 in Chapter 08 of part-1

11	<p>The individual hospitals shall also ensure to obtain the authorization from the State Pollution Control Board for collection, segregation, treatment and disposal of the biomedical waste or the local bodies shall ensure to obtain the Environment Clearance for the competent authority and authorization from the State Pollution Control Board and for establishment for common bio-medical waste treatment and disposal facility in the region.</p> <p>The local bodies shall provide the land for development of common bio medical waste treatment facility in their respective jurisdiction and indiscriminate disposal of bio-medical waste shall be prohibited.</p>	Any time schedule for this?	<p>In case, a new hospital/ PHC is constructed in the Eco Sensitive Zone, the individual hospital shall be obtained authorization from state pollution control board immediately after the sanction of project</p> <p>Compliance has been made in Chapter 08 of ZMP page no. 153 of part-1.</p>
12	DEPARTMENT OF HEALTH AND FAMILY WELFARE, UTTARKASHI :VISION & OBJECTIVES	Too much primacy to construction activities rather than primary health care and skills building of health care providers.	As per comments compliance has been made accordingly in Chapter 08 of part-1.
13	To improve health facilities at remote village level, reduce MMR (Maternal Mortality Rate), IMR (Infant Mortality Rate) proper disposal of biomedical waste generated at health facilities has to be done. 89 villages....	<p>Is this the first issue that comes to the minds of the officials? How about saying something about pre-natal and neo-natal health care through ASHAs and traditional birth attendants, better nutrition, etc. This para could be entirely rewritten.</p>	<p>As per comments pre-natal and neo-natal health care service will be improved through ANM, ASHA and traditional birth attendants.</p> <p>As per comments compliance has been made accordingly in Chapter 08 of page no 148 of part-1</p>
14	PRESENT STATUS Health Facilities under Eco-sensitive Zone	<p>Do these need to be enhanced? How about one in Nelong as part of the Special Area Development Plan (BADP). This is where integration (of activities) is required.</p>	<p>Presently, there is no civil population in Nelong so establishment of new hospital does not full fill the required population standard.</p> <p>The provision has been incorporated on page no. 154 accordingly.</p>

15	Biomedical Waste Treatment and Disposal	Replace section/table on 1998 rules. Start with, "In accordance with schedule I (rule 5) and schedule II (rule 6) of the Biomedical Waste Management and Handling Rules, 1998, the following procedures are followed." Then reproduce this table. Will be less repetitious and save space (save paper, save trees!)	Accordinging schedule I (rule 5) and schedule II (rule 6) of Biomedical Waste Management and Handling Rule 1998. As per comments table has been remove from Chapter 08 of page No. 154 -155 of part-1.
16	SWAJAL ;VISION & OBJECTIVES	There is no mention of the establishment of village level management institutions to provide long term sustainability. We used to be told that it was the major achievement of the programme.	The formation of User water and sanitation sub-committee (UWSSC) and village water and sanitation sub-committee (VWSSC) for management and maintenance of water supply as well as sanitary facilities in Gram Panchayat. The UWSSCs/VWSSCs are playing the cutting-edge role in implementation, collection of water charges, operation of schemes and maintenance of schemes. Compliance has been made in Chapter 08 on page no. 148 part-1.
17	Achieve full coverage of rural habitations in the state with a minimum of 40 LPCD.	I think the current GoI minimum is 55 lpcd	As per the new guidelines of Govt. of India under National Rural Drinking Water Program the service level of water supply is 55 Litter per capita per day (LPCD) on stand post and 70 LPCD for private connection. Compliance has been made in Chapter 08 on page no. 149 and point no. 2 (swajal) (part-1)
18	CLAUSES OF THE NOTIFICATION AND COMPLIANCE	Mention only the clauses relevant to Swajal and with a focus on what it is proposing to do.	The compliance has been made accordingly in Chapter 08 on page no. 150 of part-1.

19	SWAJAL GUIDELINES -	Not really relevant. Summarize and put in Introduction if you must.	The compliance has been made accordingly in Chapter 08 of page no. 149 of part-1.
20	PRESENT STATUS 100% open defecation free (ODF) status achieved through SBM(G) in the Eco-Sensitive Zone.	This is hard to believe since 25% villages do not have adequate water supply. See your table later on pp17-19.	100% open defecation free (ODF) status achieved through SBM (G) in the Eco-Sensitive Zone. Compliance has been made in Chapter 08 on page no. 156 of part-1.
21	UTTARAKHAND PEYJAL NIGAM The minimum level should be 55 LPCD in Twelfth Five Year Plan period	Swajal is unaware of this. See my comment 26 above. Please see my comment at the start of this chapter.	As per the new guidelines of Govt. of India under National Rural Drinking Water Program the service level of water supply is 55 Litter per capita per day (LPCD) on stand post and 70 LPCD for private connection. Compliance has been made in Chapter 08 on page no. 150 and point no. 2 (Swajal) (part-1).
22	PRESENT STATUS Discharge of untreated sewage and	This is a prohibited activity. This clause does not convey the intended sense as stated here.	Discharge of untreated sewage and industrial effluent. Compliance has been made in Chapter 08 on page no. 150 at point no. 3 (IV) (part-1)
23	Table regarding health facility.	This is not the place to seek support for construction activities. Focus may be on rain water harvesting, waste management facilities and solar energy for these structures.	
24	Swajal; Proposed Slwm Works Under Namami Gange Programme and SBM (G) (First Phase- 2017-18)	Can you summarize the Tables on pp 25-29?	SWAJAL As per comment Summarized in “Future Strategy” Compliance has been made on page no.60 on chapter 08 of part -2

25	UTTARAKHAND PEYJAL NIGAM; DRINKING WATER SUPPLY The 15 years plan for drinking water supply related works has been mention below	Why are financial figures given under physical targets?	Physical target as per time scale As per comment Summarized in “Future Strategy” compliance has been made on page no.62 on chapter 08 of part -2
26	(8) Chapter I : Urban Development	The remaining chapter seems to be an add on. Please integrate properly with the earlier material. Editing needed	Necessary editing has been done.
27	SWAJAL ;VISION & OBJECTIVES	There is no mention of the establishment of village level management institutions to provide long term sustainability. We used to be told that it was the major achievement of the programme.	The formation of User water and sanitation sub-committee (UWSSC) and village water and sanitation sub-committee (VWSSC) for management and maintenance of water supply as well as sanitary facilities in Gram Panchayat. The UWSSCs/VWSSCs are playing the cutting-edge role in implementation, collection of water charges, operation of schemes and maintenance of schemes. Compliance has been made in Chapter 08 on page no. 148 part-1.

Chapter 9 : Tourism		
1	<p>General Comments:</p> <p>1- This chapter draft is much better than most other chapters.</p> <p>2- An effort should be made to assess the livelihoods enhancement potential of tourism in the BESZ as it is one of the main overall objectives of the ZMP.</p> <p>3- To the utmost extent possible, new buildings must follow the Notification guideline 2.7.</p> <p>Several acronyms used in the chapter are not clear: LGSF (p.21), MTB (p. 31), UDPFI, IMF, HSRT, etc</p>	<p>It is understood that tourism is one of the major generators of employment and revenue in the BESZ. Through promotion of diverse tourism products like Eco tourism, Rural Tourism, Adventure Tourism, it is tried that benefits of tourism are shared equally and environmental impacts of conventional mass tourism are avoided.</p> <p>Guidelines provided in the Tourism plan are in line with the notification guideline 2.7 on page no.164, Part 1 of ZMP.</p> <p>Acronyms have been provided on page no. 199, Part 1 of ZMP.</p>
2	<p>General Guidelines For Development In Eco-Sensitive Zone</p> <p>Comments- Pl.mention the proposed enforcement mechanism.</p>	<p>Promulgation of Central Pollution Control Board emission standards for vehicles entering in the eco-sensitive zone and their strict enforcement as per Motor Vehicles Act, 1989.</p> <p>Restriction on the use of air horns in sensitive areas as per Noise Pollution Control Rules, 2000 (<i>an area comprising not less than 100 meters around hospitals, educational institutions and courts may be declared as silence area/ zone for the purpose of these rules.</i>). Page no. 166 in Point 6 & 7 of ZMP, BESZ Part 1.</p>
3	<p>General Guidelines For Development In Eco-Sensitive Zone</p> <p>Comments- Provision of solar power should be given top priority.</p>	<p>The suggestion has been incorporated in the guidelines. Point 9 on Page no 171, Part 1 of ZMP.</p>
4	<p>Guidelines For Hotels/Tourist Rest Houses/ Yatri Niwas With Dormitories And Youth Hostels</p> <p>Comments-Local residents to provide rooms for home-stays so that the tourism income can be widely shared. Where needed loan facilities should be there.</p>	<p>The suggestion has been incorporated on Page no 171 of Part 1 of ZMP.</p> <p>Under Deen Dayal Upadhyaya Griha Aawas Yojana, Subsidised loan facilities are also provide to Local Residents in BESZ.</p>
5	<p>Guidelines For Hotels/Tourist Rest Houses/ Yatri Niwas With Dormitories And Youth Hostels</p> <p>Comments-Families providing home-stay facilities and other village will be given prior training to act as hosts and guides.</p>	<p>The suggestion has been incorporated as compliance in separate paragraph 'Training component' on Page no 199, Part 1 of ZMP.</p>

6	Guidelines for Hotels / TRHs / YatriNiwas Comments- Will this be adequate for the summer rush?	Measures for de-congesting vehicular traffic in the BESZ like TSMS (Tourism Safety Management System), extra parking facilities have been incorporated on Page no 172, Part 1 of ZMP.
7	Guidelines for Hotels / TRHs / YatriNiwas Comments- Can they be given some training to speak at least passable English or one other Indian language? This may be advertised with the facility's signboard.	The suggestion has been incorporated as compliance in separate 'Training component' on Page no 199, Part 1 of ZMP.
8	Guidelines for Youth Hostels Comments- This seems very large in the mountain areas. Why is it so? No such requirement has been proposed for Hotels / TRHs / Yatri Niwas.	The guideline has been modified accordingly as per suggestions provided on Page no 173, part 1 of ZMP.
9	Guidelines for Youth Hostels Comments- With additional dining room, common room and recreational space?	The provision of dining room, common room and recreational space has been incorporated on Page no 173, Part1 of ZMP.
10	Guidelines for Youth Hostels Comments- Bathrooms seems small. Prefer 7 to 8sq. Meters.	3 - 4 sq meters is sufficient in hilly space due to constrained locations. Page no 173, Part1 of ZMP.
11	Guidelines for development in Eco-Sensitive Zone Comments- Separation on premises with composting Inorganic waste stored, collected disposed through sales	The Compliance regarding organic and inorganic waste disposal has been incorporated in Point 5 on Page no.170, part 1 of ZMP.
12	Guidelines For Developing Wayside Amenities Comments- Wayside eateries with adequate shoulder for parked vehicles and clean toilets may be more needed.	The suggestion regarding wayside amenities with parked vehicles and clean toilets facilities has been incorporated in the ZMP on Page no. 174 of part 1.
13	Future Strategy For Tourism Development Comments- The presentation is focused on residential accommodations. The environmental, social, cultural concerns are not clear. Residential facilities can also be created at other locations like Netala, Maneri, Raithal, Jadh Ganga valley and villages on the left bank slopes of the Bhagirathi watershed. The proposed plan shows a bias for the Uttarkashi-Gangotri route.	All future developments in the area shall be based on carrying capacity which depends heavily on three factors that include ecological, socio-demographic and political-economic sector. On Page no.178 the compliance has been incorporated in Part 1 of ZMP.

14	Future Strategy For Tourism Development Comments -By adding a couple of sentences this can be elaborated.	The Future Strategy has been covered Section wise and elaborated to comply with the said suggestion from Page no. 178 to 199 in Part 1 of ZMP.
15	Table 4: Summary of Carrying Capacity Estimation of Major Destinations in the Eco Sensitive Zone[1] Comments -Many of the numbers appear huge. The basis of the calculation is not clear.	Methodology and Evaluation added in Annexure 9 (I) of BESZ (part 3) . The numbers have been arrived at from data collected from District Tourism Offices and other authentic sources where available. The compliance has been incorporated on Page no 179 in Table 4 of BESZ (Part 1).
16	Table 5: Basis of Carrying Capacity Estimation of Major Destinations in the ESZ Comments -Are the tourist numbers based on some specific years?	The tourist numbers are based on historic figures of tourist incoming in BESZ. This is evaluated in the 'carrying capacity study' on Page no. 178 (Part 1) and also in Annexure 9 (I) of BESZ (part 3).
17	Table 5: Basis of Carrying Capacity Estimation of Major Destinations in the ESZ Comments -About 3500 visitors per day?	Based on the Report submitted by M/s JPS associates on 'Carrying Capacity'. The compliance has been made on Page no 178 of part 1 of ZMP and added Annexure 9 (I) in Part 3 of ZMP.
18	Table 6: Carrying Capacity Estimation Comments -It is not clear what the various indicators mean. Also how and why they are computed. An explanatory note may be added as an annexure at the end of the chapter.	Methodology and Evaluation of Carrying Capacity added on Page no 179 in table 6 of part 1 and Annexure 9(I) of part 3 of ZMP, has been added as compliance on the said suggestion.
19	Addressing Accommodation Requirement Comments -Very necessary. The tourism department may also consider restricting petrol/diesel vehicles in the region and providing electric buses as alternate transport. People are accustomed to alternate transport at certain locations, e.g., ropeway facilities. Anyway by 2030 the GoI expects sales of only EVs.	The said suggestion has been incorporated on Page no. 180, Part 1 of ZMP.
20	Identified Villages: Comments -Left bank slopes of sayaba, silla & pilang for Rural Tourism.	To pilot Rural Tourism, few villages with maximum available features as per criteria for selection of villages for Rural Tourism villages have been selected. The same shall be extended. Page no 184 of Part 1 of ZMP.
21	Identified activities for village tourism are: Comments -Such as bi-lingual, friendly hosts, neat rooms with attached bathrooms, safe drinking water, good food, secure parking, etc. With all necessary facility	The compliance of the said suggestion including Basic facilities like neat rooms, toilets (may not be attached), drinking water and clean food has been incorporated on Page no 185, Part 1 of ZMP.
22	Identified activities for village tourism are: Comments -Trained local male and female guides?	The compliance of the said suggestion has been incorporated in separate paragraph on 'Training component' on Page no 199, Part 1 of ZMP.

23	Identified activities for village tourism are: Comments- Operated by trained local youths	The compliance of the said suggestion has been incorporated in separate paragraph on ' Training component ' on Page no 199, Part 1of ZMP.
24	Sample Rural Tourism Micro Plan for Harsil Comments- NIM trained persons as guides?	The compliance of the said suggestion has been incorporated in separate paragraph on ' Training component ' on Page no 199, Part 1of ZMP.
25	Guidelines For Development of Home Stays in Uttarakhand Comments- Villages on the left bank slopes are being left out.	To pilot Rural Tourism, few villages with maximum available features as per criteria for selection of villages for Rural Tourism villages have been selected. The same shall be extended and incorporated on Page no 187, Part 1of ZMP.
26	Mountain peaks falling within Gangotri National Park Comments- Should peaks outside the BESZ be included here?	All the peaks included in BESZ are located in the Gangotri National Park. The Compliance has been made on Page no 188, Part 1 of ZMP.
27	List of trekking routes, walking paths falling within the Uttarkashi Forest Division: Comments- Are all the Mukhem range treks within the BESZ? If not, the relevant rows can be replaced with a one sentence reference.	On Page no 191, Part 1 of ZMP, Treks falling in the Mukhem range and not in the BESZ, have been removed.
28	Comment- Training of local community, knowledge on flora, fauna and training on mountaineering through Nehru Institute of Mountaineering, Specialists from Forest Research Institute, Wild Life Institute. Accordingly, budgetary allocation should be made.	The Suggestion has been incorporated in separate paragraph of 'Training component' on Page no. 199, Part 1 of ZMP.
Chapter 10: Road Infrastructure Development		
1	A basic principle must be to minimize motor roads construction and damage to the natural heritage in the BESZ. PI considers videography, approved/ accepted by the concerned DFO, of trees marked for cutting and post-construction videography of the same locations.	The necessary suggestions have been considered and incorporated under 'Guidelines for Construction of Road' on page no 210 -211 of ZMP.
2	There is no dispute about according primacy to national security concerns. Within that stipulation, it must be ensured that only minimal damage is caused to the natural environment in the BESZ.	The necessary suggestions have been considered and incorporated under ' Guidelines for Construction of Road ' on page no 210 -211 of ZMP. In addition to that the amendment notification of BESZ dated 16/04/2018 has amended clause 16 of the notification whereby proper study of Environmental impact have been kept as a necessary provision for any developmental projects.

3	Slope stability is also of utmost importance for ensuring rapid and uninterrupted movement of heavy defence vehicles during an emergency. Hence the excessive concern that border roads be constructed in a far more superior manner in these fragile areas than is usually the case.	The necessary suggestions have been considered and incorporated under 'Guidelines for Construction of Road' on page no 210 -211 of ZMP. It is also covered with clause no 2.16(ii),(iii)&(v).
4	Many of the compliances to the BESZ Notification clauses shown on pp 4-5 are of a temporary nature. For more long-lasting solutions, GSI has recommended detailed technical investigations. Time- frame for this should be set down.	The compliance to the necessary provisions of BESZ notification of ZMP pertaining to road infrastructure development have been included on page no 204 -205. The technical investigation is carried out for every infrastructure project on case to case basis by a competent geologist as per GSI guidelines. The provisions of geological investigation have been incorporated under 'Guidelines for Construction of Road' on page no 210 -211 of ZMP.
5	For every road, muck dumping location must be clearly marked on an appropriate map. Drawings of the muck enclosures, with sizes, should be presented to the monitoring committee for approval before construction begins. Can CPCB highlight punitive action(s) for any violations of the regulations?	The necessary suggestions have been considered and incorporated under 'Guidelines for Construction of Road' on page no 210 -211 of ZMP.
6	No details have been given about the Uttarkashi-GangotriNH widening project.	The provision of double lane of NH-34 from Uttarkashi to Gangotri has been given in future scenario of BRO at S.No. 10 of ZMP on page no 206. The project is at DPR stage. The necessary details will be available once the DPR is finalized and approved from appropriate level. The approval of the monitoring committee shall be taken in future.

Sl.No.	Statement in the Chapter	Comments	Compliance
7	Clause No.19- Hill roads List of 17 unconnected villages.	Does not appear to have been attached. If so, plattach.	List of these villages has been incorporated under Present Status on page no 208 of ZMP.
8	Objectives – <ul style="list-style-type: none"> To establish and upgrade National Highway in view of providing better services for Char Dhamyatra, pilgrims. To establish and upgrade the road infrastructure in the border area for National Security concern. To establish and provide road connectivity to the villagers, with an objective to stop their migration. 	Repetitions. Can be condensed	The objectives have been consolidated accordingly on page no. 204.
9	As per Guideline of Eco Sensitive Zone Gazette Notification following provisions in new roads reconstruction of road and other repair/maintenance works are included proposed Zonal Master plan.	<ul style="list-style-type: none"> Clause No. 2 Zonal Master plan for Eco Sensitive Zone. Pl see my general remarks on the title page. Clauses 2.12 and 2.14 of the Notification must also be noted and complied with appropriately. 	The alignment of road and bridges shall be chosen so as to avoid and minimize the damages to horticulture areas, agriculture area, tea gardens, parks and others green area. The same is incorporated under clause no. 2 for ESZ in page no. 204 of ZMP.
10	Clause No.16- Development and protection of hill slopes- In this regard a joint inspection was also held on 4th May, 2016 by Eco Sensitive Zone Monitoring Committee, Dr. ShivanshKimothi	This was a very preliminary investigation. As suggested by GSI, a detailed investigation must be done	The provisions have been amended by MoEF & CC by notification dated 16/04/2018 whereby the definition of the cross slope has been kept as per IS Code No. 14496 Part 2 1998 of Indian Standard for Preparation Of Landslides Hazards Zonation Maps In Mountainous Terrain Guidelines.
11	Clause No.19(i) Hill roads- A list of unconnected villages is being enclosed with this Zonal Master Plan	Does not appear to have been attached. If so, please attach.	List of these villages has been incorporated under Present Status on page no 208 of ZMP.

12	(Annexure-47 & 48) regarding Clause 19(iii)	Not included in this draft	The same is now included under clause no. 2.19 – Hill Roads Manual on page no. 206 of ZMP. (Annexure-61 & 62)
13	Amendments required in existing schemes/programs to make them compliant with ESZ provisions- With the use of appropriate technology roads can be made in slopes in excess of 20°.	These may be inadequate in perennial sliding zones. PI see GSI note. Also once installed, these measures may take some time to stabilize, as has been the case at Sirobagad on the Rishikesh- Badrinath highway.	Such type of provisions has been incorporated in clause no. 2.16 - development and protection under para (iii) on pages no 205 of ZMP.
14	So, relaxation is needed in this clause.	Slope stability is of utmost importance for ensuring rapid and uninterrupted movement of heavy defense vehicles during an emergency. Hence the excessive concern in building border roads in a far more superior manner in these fragile areas than is usually the case. Will future wars require so much troops movement or will there be greater reliance on guided missiles? Earlier it used to be said that our mountain villagers are the second line of defence. Hence I have been arguing for village-based development planning rather than this kind of a ZMP which has a heavy construction bias.	The necessary relaxation has already been amended vide MoEF& CC, GoI, amendment notification dated 16/04/2018.
15	Future Scenario Construction of Jaspur Silyan Nirakot M/R from Bhaldiyana Lambgaun Uttarkashi M/R So, relaxation is needed in this clause.	Is this in the BESZ?	Yes it lies in BESZ.

16	Korigaad	Kakorigaad.	It is Korigaad and that lies in the valley of Assi Ganga.
17	Proposed Protection Arrangement for Malla Landslide- The text in this diagram is not readable.	The text in this diagram is not readable.	Fresh diagram has been included.
18	ONGOING WORKS- Construction of Helipad at Natin Near Dayara	In a discussion on the sidelines at the end of the last meeting, the Ein C had informed the DM and me that some of the roads I had raised questions about had been cancelled. I hope they have been removed from this list also. The Experts Committee should take a view on helicopter flights in the BESZ, particularly in view of wildlife and the delicate n the bugyals. What tree cutting will be involved here? What alternatives have been considered?	Proposals regarding Multi connectivity of road have been removed from the ZMP. 80 percent of work has been completed. No tree cutting was involved.
19	Kujjan to Tihar motor road	Will this involve loss of tree cover? In general we should try to avoid multiple point's connectivity between villages to minimize loss of tree cover.	No loss of tree cover is involved in this project and there are no multiple connectivity from the Village Kujjan to Tihar.
20	Dang to Pokhri M/R	I have received a representation from Daang villagers that they have already built a road from Daang to Pokhri. We should discuss this issue at the Experts Committee meeting.	In BESZ notification, a list has been given of 88 villages which lies in BESZ. Village Dang & Pokhri are not included in this list. The road has been removed from ZMP now..

SN	COMMENT	COMPLIANCE STATUS
01	<p>Chapter 11 Disaster Management</p> <p>INTRODUCTION:</p> <ul style="list-style-type: none"> The first para does not mention the word ‘disaster’ or the words ‘disaster management’. Second para abruptly provides info about a DDMA. Very disjointed intro. PI begin w a para on the highly disaster prone character of Uttarkashi district and the BESZ in particular. Then briefly enumerate some of the recent major disasters in the BESZ, going back, say, to 1978’s landslide in the Kandoliya Gad valley. 	<p>The necessary improvement has been done accordingly on page no. 219-220.</p> <p>Suggestion has been incorporated and brief information of the recent disaster like flash flood 2013, Varunavat landslide and Kandoliya Gad landslide etc has been detailed on the page no. 221-222 on the title of “Disaster Specific Proneness” in the chapter 11 Disaster Management.</p>
02	<p>District Disaster Management Authority</p> <ul style="list-style-type: none"> Is this a structure defined by the Act? Should have representation of an equal number of common people, e.g., gram pradhans, mahila-mangal dal reps, voluntary organization reps, etc. What are the functions of the DDMA? Perhaps relevant section of the Act can be given as an annexure. 	<p>The District Disaster Management Authority (DDMA) has been constituted as per sub-section (1) of section 14, of the Disaster Management Act-2005. As per the act DDMA has to ensure the representative people from villages, PRI member, CBOs, NGOs, SHGs etc, has been detailed in Page no. 220 & 228 in the chapter 11 Disaster Management.</p> <p>The constitution and function of DDMA is as according to DM Act-2005 has been annexed as Annexure-62.</p>
03	<p>Disaster Specific Proneness:-</p> <ul style="list-style-type: none"> But what is it supposed to do? 	<p>A large area of the district is prone to landslides and flash floods, road accidents, forest fires, earthquake etc. The detailed information of the same has been given under heading “disaster specific proneness” on page no.221-222 chapter 11 Disaster management.</p>
04	<p>Disaster Specific Proneness:-</p> <ul style="list-style-type: none"> No mention of GLOFs (Glacial lake outburst flood), hail, etc. 	<p>GLOF (Glacial Lake Outburst Flood) & climate change:</p> <p>The flash flood due to sudden burst of a glacial lake produce the violent flow of water and associated debris and is known as Glacial Lake Outburst Flood (GLOF). The details have been given on the page no. 221-222 chapter 11 Disaster Management.</p>

05	<p>Disaster Specific Proneness: Floods and Landslides</p> <ul style="list-style-type: none"> ● Some reference to the Landslides Zonation Atlas of 2000-01 and its recommendations for the Uttarkashi-Gangotri highway should be appropriately included in this chapter. 	<p>The necessary improvement has been done accordingly on the page no 220 under the heading of "Disaster Specific Proneness: Floods and Landslides" & "identification of landslide pron sites on NH" on Page no. 226-227.</p>
06	<ul style="list-style-type: none"> ● You could at least mention the 1991 EQ and the impact in two sentences. I think this zone is also highly prone to micro-EQs, which enhance landslide hazards. The North Almora Thrust passes through the BESZ. What dangers does it pose? Identification of precautions needed. 	<p>The detail of 1991 earthquake has been incorporated under heading "Disaster Specific Proneness" in sub heading (d) Earthquake Page no. 222 under the chapter 11 Disaster management.</p> <ul style="list-style-type: none"> • The North Almora Thrust does not pass through the BESZ.
07	<p>Investing in disaster risk reduction for resilience</p> <ul style="list-style-type: none"> ● Can some of the important actions be listed? 	<p>The necessary improvement has been done accordingly under heading "DDMAP updating, irs meeting / training & mock drills" Page no. 223 under the chapter 11 Disaster management.</p>
08	<p>Enhancing disaster preparedness for effective response and to "Build Back better" in recovery, rehabilitation and reconstruction.</p> <ul style="list-style-type: none"> ● Para on the preparedness activities will be useful. 	<p>The necessary improvement has been done accordingly under heading "DDMAP updating, irs meeting / training & mock drills" Page no. 223-224 under the chapter 11 Disaster management.</p>
09	<ul style="list-style-type: none"> ● Dr Tolia had written a very insightful article in Garhwal Post highlighting the 'khanapoorti' nature of many of the listed activities. Mock drills are useful only if they are repeatedly organized and basic response parameters are recorded, e.g., time taken to empty out the building, number of participants, time of the day, etc. so that preparedness level can be gauged. 	<p>The necessary improvement has been done accordingly under heading "Major Events Workshop/ Seminar and other outreach Activities" (2016-17) Page no. 223 under the chapter 11 Disaster management.</p>

10	HRVA Profile of District Uttarkashi under ESZ <ul style="list-style-type: none"> ● A Para on how it will be used may be useful. 	The necessary improvement has been done accordingly under heading “HRVA Profile of District Uttarkashi under ESZ” Page no. 225 in chapter 11 Disaster Management.
11	Identification of land slide prone sites on NH under ESZ <ul style="list-style-type: none"> ● What is being done in response to this info? GSI has recommended temporary measures for each slide and called for detailed geotechnical investigations for preparing more long-lasting solutions. Have these investigations begun? When will they be over and the response activities begin? DMMC recommendation of avoiding blasting. 	GSI has covered landslides of BESZ area on 1:50,000 scale in its National Landslide Susceptibility Mapping (NLSM) project-2014 . The necessary improvement has been done accordingly under heading “identification of landslide pron sites on NH” ESZ Page no. 226-225 in the chapter 11 Disaster Management.
12	COMMUNICATION: <ul style="list-style-type: none"> ● Wall writings useful for disaster-preparedness 	This is very useful suggestion; although this activity already included in the school safety program and proposed village level programmes. The details have been given on the page no. 228-229 under the title of “communication” of the chapter 11 Disaster management.
13	Location <ul style="list-style-type: none"> ● Should such a facility be provided at Harsil? What about for villages on the left bank slopes? 	The necessary improvement has been done accordingly under heading “Communication” Page no. 228-229 in the chapter 11 “Disaster Management”.
14	<ul style="list-style-type: none"> ● BESZ notification has a number of guidelines for minimizing landslide hazards as a result of road construction? What is the administrative response? ● These landslides are along a heavily trafficked route. Is there a need for emergency shelters? Some statements need to be included about the availability of treatment facilities for the injured. 	The necessary improvement has been done accordingly under heading COMMUNICATION Page no. 226 in the chapter 11 “Disaster Management”.
15	RESTRICTIONS ON ANTHROPOGENIC ACTIVITIES <ul style="list-style-type: none"> ● Tourism chapter has also proposed regulating the number of motor vehicles on the Uttarkashi-Gangotri highway. What is the district administration response? 	The necessary improvement has been done accordingly under heading “restrictions on anthropogenic activities” in Page no. 228 chapter 11- Disaster management and also covered in , under heading “Addressing needs of parking space” page no 181 of Chapter 09 TOURISM

5. Sh. Chandi Prasad Bhatt, Padam Vibhushan.**(Comments Received on 25-01-2018 & 27-01-2018)**

S.No.	Comments	Compliance Status
Chapter 1: Forest & Wildlife		
1	<p>Priority should be given to forest fire mitigation activities.</p> <p>District Level Fire Plan should have provision of Village level fire protection committees with financial support for execution of works. The financial outlay for these activities can be provided in the District level Fire plan by the District Level Forest fire committee.</p> <p>The village level committee should also be given authority to give NTFP and other forest produce to the locals so that they can be encouraged to help in extinguishing forest fires.</p>	<p>A separate heading on Forest fire management has been incorporated on page no. 18-22 in part 1 of ZMP.</p> <p>The provision of Village level Fire Management Committees along with necessary guidelines has been incorporated. The state government order regarding constitution of district, block and village level committees has been annexed as Annexure 21.</p> <p>The Gram pradhan is the chairman of village level Forest Fire Committee and the free grants is also distributed by gram pradhan. So the gram pradhan has an authority to help the people involved in forest fire management.</p>
2	<p>Approximately one fourth (38.32%) of the total geographical area under Uttarkashi District has degraded / denuded forest cover. Hence there is a need to integrate the plantation activities being carried out by the different departments.</p>	<p>The plantation done by different departments is integrated in Brehat Vriksharopan scheme and has been incorporated on page no. 17 in part 1 of ZMP.</p>
Chapter 2 Water shed Management		
1	<p>The selection of different watershed treatment methods should be done keeping in mind the local issues of the watershed.</p>	<p>The provision has been incorporated in General guidelines for watershed treatment works on page 72</p>
2	<p>Local stones can be used for construction of diversion drains, spurs, retaining walls etc for preventing soil erosion in the agricultural land caused due to excessive rains in the upstream areas which leads to excessive flow of water in perennial streams and rivers.</p>	<p>The provision has been incorporated in Guidelines for “Aquifer /Streams/ Sub-streams Conservation and Management “on page 56.</p>
3	<p>Digging of hills and river beds/ floodplains etc should not be done and should be conserved.</p>	<p>The provision has been incorporated in General guidelines for watershed treatment works on page 72.</p>
4	<p>Priority should be given to the natural regeneration over mechanical measures for rejuvenation of perennial/ traditional water sources.</p>	<p>The provision has been incorporated under heading “Guidelines for Aquifers/ Streams/ Substreams Conservation” on page 56-57 in part 1 of ZMP.</p>

Chapter 3 :Agriculture & Allied sector

1	As suggestion and direction given for the betterment of farmers and livelihood support in notified area from point no- 1 to 4	<p>All programme run in cluster approach through Farmer's federation or SHG. Setting up farmer producer group for production and marketing of agricultural and horticultural produce, are proposed in the work plan prepare for the doubling the income of farmer by the year 2022. Present status page no. 82-94, Future Strategy page no. 94-98</p> <ol style="list-style-type: none"> 1. Promotion and extension of organic farming, use of vermi compost/ Shivansh manure/fertilizer, training programme, organic certification, establishment of vermi compost unit, marketing of organic produce and jevik krishi mela proposed under Prampragat Krishi Vikas Yojana in the Incarporeted in chapter 3 part 1 under Future Strategy on page. 94 and 96 2. Promotion of indigenous crop for food security purpose and increase per unit production of indigenous crop are proposed under National Food Security Mission Programme and Prampragat KrishiVikasYojana in the chapter 3 part 1 with future strategy P.No. 94 and targets are reflected in physical and financial targets part 2 on P.No. 15 3. For increase in the production and marketing of harsil rajma we have proposed the programme on the cluster basis in National Food Security Mission Pulses Programme Yojana in the chapter 3 part 1 under future strategy P.No. 95
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2	As suggestion and direction given for the betterment of farmers and livelihood support in notified area from point no- 5 to 13	All the schemes related to Horticulture development in this zone are fulfill the ecological balance, better livelihood support and better income of the farmers. Also support the farmers through the various schemes for their betterment as well as check the migration of the youth from this zone by adopting good horticultural practices and technology. Also Help to reduce the cost of production by mechanization of various intercultural crop activities. All the suggestion and recommendations are incorporated as follows in the chapter 3 Part 1 on P.No. 96
Chapter -7 Energy		
1	I have been insisting right from the beginning that GoI vide its notification issued in 2012 have given clear guidelines for the preparation of master plan pertaining to BESZ. Therefore discussion regarding master plan should be in accordance to the guidelines.	<p>The catchment area between Gomukh to Uttarkashi was declared as Bhagirathi Eco-sensitive zone on dt. 18.12.2012. Before declaration of BESZ 10 SHPs were in different stage of construction and implementation.</p> <p>It is also submitted that as per latest CPCB directive dt 7.3.16, SHPs (below 25 MW) along with Solar and Wind Power Projects are uniformly classified in the lowest impactnon-polluting “White category”.</p> <p>These are amongst the White Category projects which are proposed for electricity need of the region, shrine Gangotri and the area important from defense and strategic point of view.</p>

2	<p>Mainly for the plans pertaining to energy I believe that micro projects should be constructed under the aegis of Gram Sabha. They should be owned by Gram Sabha and Gram Samaj.</p>	<p>Government of Uttarakhand has already notified a policy for development of micro and mini hydro projects upto 2 MW in which development of these projects are reserved for the PRIs (Panchayati Raj Institutions) of state of the vicinity.</p> <p>10 Mico hydel projects has been proposed in the BESZ area. The upgradation & renovation of 03 existing Micro hydel projects & existing water mills in BESZ areas has also proposed.</p>
3	<p>Dissent Note is submitted regarding 10 HEP's from S. No 5 to 14.</p>	<p>No major HEPs is proposed in BESZ. Hydro electric projects up to 25 MW have been categorized as Small Hydro Projects by Ministry of New and Renewable Energy, Govt. of India. There is no scientific and technical basis of excluding projects up to 2MW and those up to 25 MW.</p> <p>The earlier proposed 10 SHPs are not in the main Bhagirathi and they do not have a dam or reservoir. These 10 SHPs were having only a trench weir. Moreover the dimension of structures of HEP below 2MW and those up to 25 MW do not differ significantly; hence the construction methodology for them is the same.</p> <p>Considering the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not included any SHP of more than 2 MW in the ZMP of BESZ.</p>
4	<p>Solar Power: Establishment of rooftop solar power plant: Upto 4 MW rooftop solar power plants can be established in the area @ 500 plants per year for next 5 years. Price of 1 unit is approxRs. 2.50 lakhs. This will lead to alternative income generation for the locals by selling the excess power to the grid. Villages which can be taken in first phase are Sukhi, Jhala, Jaspur, Purali, Bagori, Harsil, Mukhwa and tharali and in second phase Natala, Ganeshpur, Salad etc villages can be taken.</p>	<p>The installation of 500 Roof Top Solar plants during 5 year duration will be proposed in 8 Villages of BESZ area.</p>

5	<p>Cold Storage Establishment: Solar powered mobile cold storage(15-20 tonne capacity) units can be established for agricultural / horticultural produce @ Rs 20.0 Lakhs / unit in Harsil, Mukhwa and Jhala in first stage. The maintenance can be done by local committees. Solar powered dryers can be used to dry the local Horti/ Agriproduce which can be used during offseason.</p>	Installation of 03 Mobile Solar Cold Storage of 15-20 Ton capacity has been proposed in the area where Apple, Khumani & Patato are being grown.
6	<p>Biogas units:- Biogas units of 2-3 cubic meter capacity can be installed which will help in reducing the dependence on forest areas for fuelwood on one hand and will also help in increasing the soil fertility by using the byproduct slurry. These units can be established @ 50 units per year for next 5 years. Price of 1 unit is approxRs. 25,000/- to 30,000/-</p>	Installation of 250 Bio Gas Plants of capacity 2-3 cum has been proposed during 5 years in Villages of BESZ area.
Chapter 09 Tourism		
1	The local youth can be trained as nature guides in institutes like FRI, WII and NIM Uttarkashi. Adequate financial provision should be made in the ZMP.	Training to nature guides has been provided at said institutes and suggestion has been incorporated under training section on page no. 199, Part 1 of ZMP.
Chapter 10 Road Infrastructure Development		
1	All the motor roads shall be constructed in half cutting and half filling. Safe arrangement shall be ensured to disposedoff the muck generated from the cutting to protect the vegetal cover on slopes and agriculture land. There should be the provision of kharanja in steps to control the discharge passing through drains and scuppers.	The suggestions have been considered and incorporated under ‘ guidelines of construction of road ‘on page no 210-211 of ZMP.
	There is a need to establish and strengthen Tele-Communication set up of government and private companies in the area so as to facilitate the remote areas with e -facilities.	A separate component dealing with Tele-communication has been added in chapter 10 on “ Road Infrastructure and Communication Development.

Dr. Ravi Chopra, Director, People Science Institute**(Comments Received on 17-June, 2018)****I. Introduction**

Comments	Compliance Status
<p>Departmental officials had prepared the entire Plan of December 9, 2017. It was simply a compilation of departmental schemes, mainly construction projects. Its contents were almost the same as the draft that had been rejected earlier by the Union Ministries. It included proposals for activities and projects that were prohibited by the December 2012 BESZ Gazette Notification. It violated in letter and spirit the ZMP preparation guidelines of the Gazette Notification.</p>	<p>The Zonal Master plan has been prepared after due deliberations of the NGT Committee in its four meetings. The suggestions and recommendations of the committee members have been addressed in the Zonal Master Plan. The zonal master contains different chapters based on “Theme Based Approach” with a clear vision and objective.</p>
<p>At the second and subsequent meetings some members of the committee drew the attention of the state officials to the basic guiding principle enunciated in the BESZ Gazette Notification (2012), that the Plan be prepared in close consultation with the local people, especially the women. In response the CS too directed the District Magistrate of Uttarkashi to carry out consultations with stakeholders in BESZ villages where such consultations had not been conducted earlier and the Plan be prepared accordingly.¹</p>	<p>The public consultations with, women participation has been conducted.</p>
<p>There is almost no mention of monitoring systems. Perhaps it is left to the details of the individual schemes under which the activities are proposed. Prof. Vinod Tare had recommended that along with stating the aims of the various proposed activities and their boundary conditions (permitted/not permitted/regulated activities), an effective monitoring system had to be established.² The CS then gave directions that modern (information) technology facilities be used for the purpose and that the concerned Gram Panchayats be involved in identifying and implementing the Plan activities. There is no indication in the final draft that this recommendation is being acted upon.</p>	<p>The monitoring system is already in place as per the provisions of the notification. A monitoring Committee has been constituted by the MoEF & CC, GoI.</p>
<p>The final draft presented to the committee on May 2, 2018 is poorly edited, with numerical and grammatical errors, unreconciled data in different chapters and unsubstantiated claims. Broad time schedules have been given in Part 2. Some of the activities listed in Part 2 have already been completed but it is not clear how many.</p>	<p>The necessary corrections have been done in Part-2.</p>

Chapter 2, Watershed Management

Comments	Compliance Status
<p>The Watershed Management team has presented some new information like the report on the State of Glaciers in the BESZ and maps and lists of streams and lakes in the BESZ. But the chapter limits its vision to, “identification of the vulnerable areas vis-à-vis soil erosion/landslides and its (<i>sic!</i>) management on a watershed approach is the core objective of the Zonal Master Plan.”¹</p> <p>The chapter is in three parts: (i) Present Scenario, pp 48-55 (ii) Future Proposals, pp 55-76 and (iii) State of Glaciers Report, pp 76-78.</p> <p>The proposed future micro-watershed development activities -- largely soil and moisture conservation works -- are to be implemented only inside departmental forest lands. The future village-based activities for directly enhancing the livelihoods, incomes and well-being of the rural households appear to have been left to the agriculture and allied activities and rural development departments and are not referred to in this chapter.</p>	<p>The village-based activities involving local people as per Watershed Guidelines 2008 shall be included in future in site specific Watershed Management Plans. The NGT Committee in the meeting dated 02.05.2018 clearly stated that site specific Management Plans, if prepared and incorporated in the Zonal Master Plan, at this stage, may not prove effective for future planning. Site specific Watershed management plans under the broad purview of Zonal Master Plan shall be prepared in future on a participatory approach involving local people.</p>
<p>The proposed future activities do not lend themselves to a participatory approach which involves local communities from problems identification through planning, implementation, monitoring and maintenance. This is the approach desired in para 2.1 of the BESZ Gazette Notification. Such an approach can enhance sustainability as people establish a sense of ownership of the projects and the assets created. It is disappointing that the authors of this chapter have not properly understood the meaning of participation even though Uttarakhand state has supposedly implemented this approach under the current SWP VI phase of the IWMP (see p.52).</p>	<p>Same as Above.</p>
<p>The chapter lacks specifics: For example, Though identification of areas vulnerable to soil erosion/landslides is a core objective of the ZMP (p.47) and land degradation a major challenge (p.49), no objective estimate of the vulnerable or degraded area is given. Similarly, there is no data on the number of springs and streams in the BESZ that have dried up or in a critical stage.² Revival of springs is critical since they contribute a major proportion of the annual river flows along with base flows</p>	<p>The information above degraded land, springs and stream and their management has been discussed in the chapter</p>



<ul style="list-style-type: none"> Challenges related to rural poverty, poor access to markets, health care and education, decreasing amount and quality of water resources are outlined on p.49. But the chapter contains no specific plans for remedying them. If details are given in later chapters a reference to the same should have been made here. 	<p>The issues have been covered in Chapter 4, chapter 5, Chapter 8, Chapter 9 & Chapter 11. Reference has been made on page 49 in Chapter 2.</p>
<p>It would have been useful to tabulate basic data like: ●Total watershed area, ●degraded area, ●landslides prone area, ●area to be treated, ●soil and moisture conservation works area, ●plantations area, ●expected increase in irrigated area, ●total numbers of families in the watersheds, ●BPL families, ●beneficiary families, ●pre-project average annual income of beneficiaries, ●their expected future average annual income.</p>	<p>Micro watershed wise total area, degraded area/ area to be treated, Treatment prescription area etc. has been included on page 57-73. The area has been calculated from the GIS maps and data received from Central Soil Institute, Dehradun and field data taken by forest department.</p>
<p>As pointed out in past comments, estimated unit costs vary widely, between schemes, despite similar types of treatment works. No explanation has been given for this.</p> <p>Suggestions made by Shri Chandni Prasad Bhatt to give primacy to vegetative measures for soil and moisture conservation do not appear to have received much reflection. His proposals for assisted natural regeneration made in the Forest and Wildlife chapter apply here too.</p>	<p>The Per hectare and Per structure detailed estimates as per Schedule of Rates of Forest Department has been included as Annexure 44. The reference and calculations have been included on page 76 in chapter 2 under part-1</p> <p>Vegetative measures like Brushwood Check dams/ pirul Check dams, Plantation of grasses and shrubs etc. have been included in the estimates. ANR has been prescribed in Chapter 1.</p>
<p>State of Glaciers in the BESZ Report: WIHG has submitted a brief situation analysis report that makes important recommendations at the end. But the present chapter neither makes any concluding comments on its observations and recommendations, nor outlines a strategy to deal with the challenges outlined.</p>	<p>The concluding comments regarding devising proper guidelines in future, has been made in the end of chapter -2</p>
<p>The impacts of the recession and thinning of the smaller BESZ glaciers (most of which -- 209 out of 238-- are small, <5km²) include their fragmentation, enhancing GLOF hazards. The chapter should therefore have prioritized glacier conservation activities and necessary regulations based on WIHG's recommendations</p>	<p>Devising guidelines for glacier conservation with the help of technical institutions like ISRO, USAC etc. has been mentioned at the end of the Chapter -2</p>
<p>Conclusion: Participatory watershed management based on micro- planning at the village level to enhance resource conservation, ecological and livelihood security is meant to be the core strategy for preparing the ZMP.³ Despite committee members emphasizing this point in earlier comments and meetings, it has been ignored. The final draft is a departmental product like the other chapters.</p>	<p>The village-based activities involving local people as per Watershed Guidelines 2008 shall be included in future in site specific Watershed Management Plans. The NGT Committee in the meeting dated 02.05.2018 clearly stated that site specific Management Plans, if prepared and incorporated in the Zonal Master Plan, at this stage, may not prove effective for future planning. Site specific Watershed management plans under the broad purview of Zonal Master Plan shall be prepared in future on a participatory approach involving local people.</p>



<p>The neglect of a participatory approach to watershed development is all the more disappointing because Uttarakhand state boasts of a dedicated Watershed Management Directorate. The latter has implemented several participatory watershed management projects under IWMP. Nor has the suggestion to extend an IWMP-like program to cover a larger number of BESZ villages been considered.</p>	
<p>The chapter is sloppily prepared as evident from several numerical errors. In the two sections of the Table on p.50, the proposed watershed treatment areas of Gawanagad, Mahargad and Soundhar gad (Swarigad?) are larger than the treatable areas. The spellings of the stream names in the same table have not been reconciled.</p> <p>On p. 55, the non-reserve forest area of the entire watershed is 72000 ha whereas on p.vi of the General Observations chapter it is only 72.66 km² or 7266 ha. This error was pointed out in past meetings too. The 75 per cent dependable surface water flow (presumably in R. Bhagirathi) at Maneri Bhali-I is greater than the similar flow downstream at Uttarkashi, which is unscientific. And so on.</p>	<p>The mismatch of data regarding treatable area and total area as highlighted is not true.</p> <p>The numerical error has been corrected.</p>

Chapter-3 Agriculture and allied Sector

S.No.	Comments	Compliance status
1.	Agricultural and allied activities are the primary livelihood in the BESZ villages. A comprehensive but brief situation analysis of agriculture in the BESZ along with assessment of the potential of agriculture to provide remunerative livelihood to different socio-economic categories would have been helpful. The text on p.no. 81 inadequate and the response given on this issue in the Compliance report of may2, 2018 betrays a lack of understanding of the concept of situation analysis.	All the Agricultural and allied activities related to this chapter are of livelihood support and provides better opportunity for growth in socio-economic development of the villages. For this proposed the potential of Agricultural and Horticultural activities are incorporated in BESZ plan. All desirable vision, suggestions and situation analysis are incorporated in plan on chapter 3 part I in present status Page no. 81
2-	The vision, objective and therefore the proposed activities should have emerged from a situation analysis. The objective stated on p.no. 82-83 are repetitious and could have been better rationalized. Shri Chandi Prasad Bhatt had proposed a desirable vision of developing sustainable and remunerative agriculture in the BESZ. Village as a model for another mountain region of Uttarakhand.	Revised Consolidated objectives have been incorporated in page. No. 82 of part 1 chapter 3.
3-	Present status: This section accounts for about half the chapter text. It briefly describes the various schemes that are operating in the zonal areas. The response in the May 2018 Compliance Report misses the significance of a discussion of the targets, achievement and outcomes of the schemes that have been operating for several year now. There is lack of compatibility between the different schemes. Thus, while some schemes highlight sustainable agriculture, other promote the use of chemical fertilizers and pesticides. Some data may have to be rationalized or restated, e.g. average land ownership.	Description of various scheme has been incorporated in ZMP and all proposed scheme are compatible to each other. Some of the schemes present organic mean of farming whereas in other chemical fertilizers and pesticides have been prescribed to some extent with objective to gradually shift from inorganic farming to organic one. Use of chemical cannot be stop at once, as it may have adverse effect on production Horti- Agri produces and therefore may affected the economy of the farmers. Suggestion has been incorporated in chapter 3 Part 1 under Present status on P.No. 84 and in future strategy on P.No. 94-96. The related targets are reflected in Physical and financial targets in chapter 3 under part 2 on page no. 15-23

4-	<p>Future strategy: The proposed activities are limited to resource available from the exiting schemes. There is no evidence of fresh thinking. No new schemes are proposed. The large number of proposed activities suggests an attempt to garner maximum resources from the available schemes. A focus on fewer effective activities based on the situation analysis and clear goal would have been more desirable. ZMP offered an opportunity to mobilized the extra resources required for this but that appear to have been lost upon the state officials.</p>	<p>Various important schemes of the central and state Govt. with time bound physical and financial goal have been incorporated in the chapter. The purposed the chapter is to integration and implementation of various activities in different schemes in time bound manner for sustainable development of Agriculture in region along with improving the income of the small farmers in the region. The important scheme like PMKSY, RKVY, HMNEH, BADP etc. shall be implemented to achieve the above goal. Related targets has been incorporated in chapter 3 part 2 on P.No. 15-23</p>
	<ul style="list-style-type: none"> The text on p. 94 suggests a goal of converting all the agricultural land to organic cultivation. The outlays table does not reflect achievement of this goal in the 15-year Plan period. At the last meeting (May 2, 2018) the state Chief Secretary had disagreed with this objective and proposed modifying the goal. Clearly there is some confusion on this issue at the top echelons of decision-making and the stated goal has not been adequately thought through. 	<p>For the organic conversion of land only 1700 hectare will be covered by government schemes and for conversion of rest land in organic itself by farmers and department provides only technical advice and suggestion to the farmers to ensure the adopting the organic Farming. Incorporated under Part 1 Chapter 3 with P. No. 94</p>
	<ul style="list-style-type: none"> Paddy and wheat cluster demonstrations, including SRI, are proposed only for 600 ha. The System of Crop Intensification increases land and water productivity (more crop per drop). It is organic and more resilient to extreme weather events. It has enhanced productivity of other crops like maize, rajma, other pulses and some vegetables in several parts of Uttarakhand. Hence this approach should have been extended to cover a maximum area and more crops, along with appropriate marketing support. 	<p>We revised the target of paddy and wheat cluster demonstration including SRI from 600 ha. to 1600 ha. And also, under horticulture Crops such as Apple, Pear, Peach walnut, Potato and Vegetable Production is enhanced by use of Bio-Fertilizers. Revised physical and financial targets are incorporated in chapter 3 part 2 on P.No. 15 to 17</p>
	<ul style="list-style-type: none"> It is proposed to distribute high yielding seeds for a variety of crops. They usually require inorganic chemical fertilizers. They may not give high yields with organic bio-fertilizers whose use will be necessary if the all-organic goal is to be met. Stating that they will also give high yields with organic bio-fertilizers requires supporting evidence.¹ 	<p>Studies will be conducted regarding use of Bio fertilizers and pesticide as their effect on Agri-Horti produces. For adopting organic farming various schemes are purposed in BESZ plan for this region under Part 1 chapter 3 with future strategy and targets are reflected in chapter 3 part 2 on P.No. 15 to 23</p>



ANNEXURE

	<ul style="list-style-type: none"> Roof rain water harvesting is proposed under PMKSY. The water yield will be inadequate for agriculture. Farm ponds for direct rain water harvesting and irrigation tanks to use streams/springs discharges would be more effective. Roof rain water harvesting can more effectively augment availability of water for household use. 	<p>Suggestion has been incorporated in future strategy under PMKASY in chapter 3-part 1 P.No. 95 and 96</p>
	<ul style="list-style-type: none"> The coverage of lift irrigation, power weeders/tillers, farm machinery banks and custom hiring centres and marketing support could be increased. The ZMP could seek CSR support in case government funds are not forthcoming. 	<p>The target coverage of farm mechanization is revised and establishment of FMB's and custom hiring centers are proposed in the schemes. Under BESZ plan for this region FMB scheme are purposed in Part 1 chapter 3 with future strategy P. No 95, 96 and targets are reflected in Part 2 chapter 3 with P. No 16 and 18</p>

Chapter-4 Rural Development

S.N.	Comments/Suggestion	Compliance Status
1-	The Rural Development chapter is also a compilation of existing schemes of the Government of India (GoI), extrapolated to run over a 15 years period. What will happen if the GoI discontinues any of these schemes is not discussed.	Zonal Master Plan for Rural Development consists of the schemes that shall continue over a projected period of time as per the need and outcome of the scheme. It is an evolving document, so if any schemes discontinue or changes, the targets will be updated accordingly.
2-	Most suggestions made have not been responded to, except for an improved presentation of the Physical & Financial Outlays tables. A critical suggestion of involving people in preparing Village Development Plans has not found acceptance.	All suggestions found applicable have been incorporated in the draft, like road construction issue, springs revival, clarity in outlays etc. As for involvement of local people in preparing Gram Panchayat Development plan, Village development plans by Gram Sabha in open meetings itself. These plans are prepared and approved via three tier system of Panchayat raj act. In future Gram Panchayat Development plan shall confirm to Zonal Master Plan.
3-	The suggestion to redraft the introduction so that it specifically focuses on the BESZ, instead of arguing the importance of RD in India, has been largely ignored. The stated vision and objectives are very general. No specific objectives in terms of enhanced livelihood security are mentioned. The proposed activities lack a focus. It has been suggested earlier that instead of including so many schemes, a few critical activities be chosen for the ZMP, so that good results could be delivered. Funds could be sought for just these activities. But the final draft has ignored the suggestion.	BESZ is a completely Rural area, lacking in many developmental activities. Rural Development Department focuses on the needs, necessities and availabilities of the resources to their discretionary utilization. Livelihood, women empowerment, education and training have been included as specific objectives of the RD department. The Department aims at overall and sustainable growth of the area so the general and specific activities have been included in Zonal Master Plan to avoid any ambiguity.

4-	<p>Future Strategy: Though there is a section on the present scenario there is no mention of the future strategy to implement the vision and objectives. Perhaps we are expected to assume that the present strategy and activities are adequate and will continue! Also, just listing schemes does not amount to a strategy. A section on future strategy was required in the chapter. The activities proposed in it could have followed the format of the P & F Outlay so that the two could be easily correlated. It was suggested that the table on pp 103-105 be appropriately amended to show compliance with the clauses of the Gazette Notification, instead of general statements of compliance. This has not been done</p>	<p>All schemes under Rural Development are based on targeted strategies to achieve objectives. Department has to follow and act according to the guidelines to achieve targeted and expected outcomes. As per suggestion a section on future strategy on specific objectives has been incorporated in Part 01-chapter 04 Rural development page number 103 heading “Future Strategy”.</p>
5-	<p>The critical activity of reviving dried or drying springs, near habitations, is missing. This is needed since the springs-related activities in the Watershed Management chapter are restricted to departmental forest areas only. It is a sanctioned activity in the MGNREGS Guidelines and funds should be easily available. Hence it should be included in this chapter and not elsewhere. Poor families can raise nurseries for the afforestation works rather than purchasing saplings from the Forest Department or commercial vendors.</p>	<p>As per the suggestion, Rejuvenation of water sources has already been taken as a priority by Rural Development Department under MGNREGA scheme. Check dams, percolation tanks, trenches, farm ponds etc are being constructed under MGNREGA.</p> <p>Suggestion has been incorporated in Part 01-chapter 04 Rural development page number 102 heading “Present scenario” & part 02-chapter 04 on page number 29.</p> <p>As per the suggestion and specific objective for Rural Development Department in BESZ, regarding women empowerment the Women SHG’s will be trained to raise nurseries.</p>
6-	<p>It had been proposed earlier that there were several good voluntary organizations in the state whose experience could be called upon, especially for the establishment of strong village level institutions. Specifically, it was pointed out that dairy development led by women had been successfully promoted in Uttarakhand by Himmatan (with whom the GoU has a memorandum of understanding) and BAIF. Their support could have been sought. But the suggestion has been ignored</p>	<p>The suggestion for inclusion of NGO’s in training and other activities has been taken into account under the NRLM scheme. Other than that, efficient and working NGO’s are being used in capacity building of local people.</p>

7-	Proposals made by committee members to promote solar or micro-hydel energy to lift water for domestic supply or irrigation, with the help of UREDA, did not find much favour with the ZMP drafting group. This could strengthen decaying farmers' managed irrigation systems	Rural development department has involved UREDA under BADP for establishment of mini-hydel project. The same has been included under Part 01-chapter 04 Rural development page number 106 heading " Micro hydro power ".
8-	A mechanism for monitoring and reporting would have also been useful. The existing monitoring committee has not functioned well, with the state dragging its feet even on holding meetings	Social Audit under MGNREGA scheme has been found very useful in monitoring mechanism. The same can be applied to other scheme also with the approval of State govt.
9-	The remarks column could have been used to specify necessary restraints. For example, it was agreed at the January 9 th meeting of the Experts Committee that only one road linking a village to a National/ State highway would be considered, with all the necessary precautions in place, in order to minimize the cutting of trees. No remark has been made that none of the roads proposed here are in addition to existing village roads or the roads proposed in Chapter 10. There can be no blanket approval for all roads.	The remark column has been used for specific reasons their in. Regarding road and tree cutting issue, this chapter (Rural Development) mainly focuses on small bridle paths, c-c roads, internal roads etc with in the village for internal connectivity only.
10	The text proposes to build houses for BPL families, but the relevant budget item in the Physical and Financial Outlay table is not clear. While the target is 712 units, in the first 10 years only 56 units are targeted and there is no mention of a target for the remaining Plan period. If the remaining units have been built already, then why are 712 mentioned here? Also, current construction rarely conforms to traditional architecture now, as required by Para 2(7) of the Gazette Notification. No specific monitoring of future structures is mentioned.	Necessary data correction has been done. All costing is done on present unit costs basis. As per according to Para 2(7) of notification, the specific guidelines for traditional and indigenous architecture is yet to be finalized. The targeted units will be constructed under these guidelines only.

Chapter 5: Urban Development

Sr.No.	Comments	Compliance Status
1	<p>Urban development in the BESZ requires basic information of the trends in the growth of its urban population and centers and the provision of adequate infrastructure, amenities and services. Given the special character of the BESZ priority needs to given to the preservation of the national heritage.</p> <p>The present chapter lacks this kind of a comprehensive picture of the current status and there are only a few isolated numbers of future growth/needs. It focuses primarily on solid waste management (SWM) in Uttarkashi (Barahat Nagar palika) and Gangotri (Nagar Panchayat) towns. It is recommended that all urban services provided by other departments should be integrated in this chapter so that a comprehensive picture emerges of the present status and future needs. The chapter also requires maps of the urban areas. A comprehensive revision will require taking cognizance of various provisions of the BESZ notification, specific to urban development in paras 2, 3a, 3b and 3c.</p> <p>The revised draft must consider the needs of the residents and the floating population. It is quite likely that during summer besides tourists the number of service providers also increases significantly.</p> <p>The situation analysis should therefore highlight the shortfall in the existing infrastructure and services, as well as in the foreseeable future. There is an urgent need for the proposed Master Plan for the urban areas to be completed at the earliest and incorporated in the ZMP.</p> <p>The present draft provides information about the SWM infrastructure in the towns but is silent on the outcome. Data on p. 6 is not the actual collection but only an estimate based on an assumed rate of 250 grams/per person. It does not take into account the floating population. This may explain the presence of garbage heaps in Uttarkashi and solid waste dumped in dry stream beds during the summer tourist season.</p> <p>The table on p. 10 related to the Swatchh Bharat Mission (urban) is not clear whether it gives the present status or the 10 year target. Even though the mission identifies awareness generation, behavioral change and people's participation in the mission in its objectives, the proposed activities have ignored these aspects.</p> <p>The revised draft must emphasize the priority for safety and security in approving building plans giving special attention to the need of disabled people. Public buildings, especially schools, need to follow the fire fighting codes, earthquake safety construction principles and allocation of adequate space for the disabled to exit.</p>	<p>As per the Census 2011 population of Uttarkashi town/ Nagar Palika Parishad was 41377 and as per the previous trend it may be 47583.</p> <p>As per this increase all the Urban Infrastructures are to be strengthen accordingly i.e. Water Supply, Sanitation/ Sewerage Treatment and Disposal, Solid Waste Management, Urban Transport, Housing need of the town etc.</p> <p>Under Swachh Bharat Mission following activities and schemes are under implementation:</p> <ol style="list-style-type: none"> 1. As per the town need and applications from the beneficiaries 140 IHHL (Individual House Hold Latrines) are targeted to be constructed up to 2019, till date 77 IHHL has been constructed. Rs. 5.77 Lakhs has been released to Nagar Palika Parishad, Uttarkashi. 2. 40 Seat Community/Public Toilets are to be constructed upto 2019, Rs. 39.20 Lakhs has been released. 3. Under Solid Waste Management, door to door collection of waste has been started by ULB in all the 9wards of the town. 4. As per "Polluters to Pay Principle", User Charges Bye Laws has been notified by the ULB and average collection is Rs. 0.27 Lakhs per month. 5. As per the provisos of "Anti Littering and Anti Spitting Act 2016", Rs. 8000 has been collected from the violators. 6. Plastic Compactor unit installed in ULB Uttarkashi was damaged in 2013 Disaster. ULB has initiated the process of reinstallation of the same. 7. Uttarkashi Town has been self-declared ODF/ Open Defecation Free as per the process of Swachh Bharat Mission Guide Lines. Intimation has been sent to GoI, MoHUA (Ministry of Housing and Urban Affairs) for the verification. Verification from QCI is awaited. 8. Nagar Palika Parishad, Uttarkashi has initiated the process of identification and allotment of land for safe and scientific disposal of solid waste. 9. After than DPR shall be prepared with the provisions of scientific treatment and disposal of MSW as per SWM Rules 2016. Three months is expected to complete the process of DPR preparation and approval and after that six months shall be required to set up the SWM plant i.e. plastic segregation of recyclable, compost and Sanitary Landfill Site construction. 10. For floating population two dust bins of Green and Blue are proposed to be fixed by the Nagar Palika Parishad, Uttarkashi within a short time as per Swachh Bharat Mission Guide Lines. <p>Related to building plan and other provisions, compliance by Housing Department/ District Development Authority, Uttarkashi.</p>

Urban development in the BESZ requires integrating all the plans to provide the basic urban services by different departments in this chapter so that a comprehensive plan of urban development emerges. This has not been done despite earlier recommendations of the committee members and the Central Government.¹ The new draft again focuses only on solid waste management (SWM) and education facilities in Uttarkashi (Barahat Nagar palika) and Gangotri (Nagar Panchayat) towns.

The statements on page 111 of the final ZMP draft that, “Nagar Palika Parishad, Barahat hasan area of approximately 14.71Sq. Km (includes 2.2 Sq.Km area of merged villages).According to Census 2011, total population in the Palika is 17475 population has been increased to 27102 after area expansion of NPP Uttarkashi” are most disturbing.²**This urban expansion will lead to a massive change in land use, particularly a reduction in green cover, which is not permitted under para 2(12) of the BESZ Gazette Notification.** The new clause in the BESZ Amendments notified on April 17, 2018 also does not permit such a land conversion. The committee members have received representations from the 16 GPs that have been merged with NPP Uttarkashi that the action has been taken without any public consultations. This too violates the spirit of the BESZ Gazette Notification, clause 2(1) that the ZMP will be prepared in consultation with the local people, particularly women. Such a major change which is being opposed by the local people and directly infringes a critical clause 2(12) of the BESZ Notification, cannot be condoned without even a discussion.

Fresh data has been included in the final draft on projected increases in the population of NPP Uttarkashi. Similar data has not been presented for Gangotri Nagar Panchayat. This is surprising because the GoI has launched an ambitious scheme to convert NH 34 to an all-weather road by December 2018 and the Tourism Department GoU has followed it up with a proposal to promote char dham tourism in the winter (final ZMP draft, p.179). This will lead to a significant increase in the permanent population of Gangotri and a floating population increase in winter for both Uttarkashi and Gangotri.

Despite expanding the NPP Uttarkashi area there appears to be no change in the services to be provided to the increased population. In the earlier and final drafts it is stated that there are 26 dustbins in the town for solid waste disposal. No proposal has been made for the expected larger population. This reflects a cut-and-paste approach rather than a thoughtful planning exercise.

A proper situation analysis should highlight the shortfall in the existing infrastructure and services, as well as in the foreseeable future. There is an urgent need for the proposed Master Plan for the urban areas to be completed at the earliest and incorporated in the ZMP.

The present draft provides information about the SWM infrastructure in the towns but is silent on the outcome. Data on p. 6 is not the actual collection but only an estimate based on an assumed rate of 250 grams/ per person. It does not take into account the floating population. This may explain the presence of garbage heaps in Uttarkashi and solid waste dumped in dry stream beds during the summer tourist season as described by Sh. CP Bhatt in the meeting of 9th Dec 2017. No plan to promote decentralized waste management and thereby decrease the pressure of land requirement, as mentioned in page-115, is included as a future strategy. This had been suggested by Dr. Tare at an earlier meeting.

Even though the Swachh Bharat mission identifies awareness generation, behavioral change and people’s participation in the mission in its objectives, the proposed activities have ignored these aspects.

There is no commitment to clause 2(7) of the BESZ Notification which requires that specific guidelines be laid down in the ZMP for ensuring that the construction of buildings will follow traditional architecture of the area. There is a need to emphasize the priority for safety and security in approving building plans giving special attention to the need of disabled people. Public buildings, especially schools, need to follow the fire fighting codes, earthquake safety construction principles and allocation of adequate space for the disabled to exit safely.

As per the earlier suggestion a futuristic plan of urban development incorporating waste management, town planning and education has been incorporated and was duly accepted and approved by the NGT committee in its meeting dated 02 may 2018.

The inclusion of villages in NP Badahath Uttarkashi will increase the total urban area been increased logically if won’t put any pressure on the need for land use change areas in future, the same may be permitted as per the provisions of the notification and with the convergence of monitoring committee.

The merged villages are already urbanized so that there is no need of land use and if we don’t take that villages under Nagar Palika, Barahath resulted in a unsystematic development of areas because NP has to made plans like SWM and urban development and schemes for public welfare. If we merge that villages in Nagar Palika a systematic development plan could have made easily and it would be better for ecological balance too. Moreover, within the inclusion of villages in NP Barahath, the social and administrative management of the same will be more systematic and in tune with ecological norms & standards as established by BESZ notification.

The physical and financial outlay shall be updated and upgraded in future. ZMP is a dynamic document and subjected to improvement as per the need in future.

The proposed master plan is at the preparation stage presently. However, it will be made as part of ZMP once finalize in future.

In this chapter the waste generation have been shown on page no. 114 Nagar Palika Parishad Barahat has waste treatment place at Tekhla. For segregation of waste nagar palika has place at Maszid Mohalla and Nagar Palika is searching other places for waste treatment so that decentralized waste management have been made and pressure of land requirement could have decreased.

Nagar Palika Parishad Barahat conducts awareness programme under Swachh Bharat Mission for the behavioral change and people’s participation in the mission to get objectives.

District administration and Nagar Palika Parishad Barahat have been made in building bylaws ensuring safety, security and needs of all kinds of people.

Chapter 7, Energy

Comments	Compliance Status
<p>The chapter begins with the contention that Uttarakhand state, Uttarkashi district and the BESZ face power shortages which affects the economic development of the local population. This is neither factually true nor quite relevant since a basic objective for the formation of the BESZ and the subsequent Gazette Notification was to ensure the preservation of the pristine Bhagirathi and its watershed in the Goumukh to Uttarkashi stretch.</p>	<p>At present State of Uttarakhand is purchasing power of worth 1000 crore every year outside form the state, which is a burden to the hilly state having limited resources.</p>
<p>The draft ZMP has proposed the construction of 10 hydroelectric projects – HEPs ($2 \leq MW \leq 24$) with a total installed capacity (I/C) of 82.5 MW.¹ Also proposed are transmission lines and distribution works in the BESZ. In its single-minded focus on the 10 HEPS, however, the Energy chapter makes no mention of ensuring EFlows downstream of existing projects, particularly Maneri-Bhali I & II. E Flows are essential for maintaining the river’s health and enabling it to carry out its natural functions.</p>	<p>The member has mixed up the issue of commissioned and proposed hydro projects. Neither the Notification of GoI nor the ZMP speaks about commissioned HEP.</p> <p>Moreover, it is stated clearly in ZMP that in all purposed SHP’s E-Flow, as mentioned by GoI will be maintained.</p> <p>However, in compliance of NGT order dated 09.08.2017 GoU has issued a Government Order dated 05.06.2018 to developers of hydro-power projects to release a minimum 15% of average lean season flow from dam/ weir and barrage of the projects.</p>
<p>The power needs and capacities of Uttarakhand, Uttarkashi district and the BESZ were known to the GoI when the resolution to form the BESZ was approved by the NGRBA.² Hence not approving the proposed 10 HEPs was a considered decision. Furthermore, the matter was raised afresh by the GoU at a meeting of the ESZ Expert Committee of MoEF & CC (December 18, 2017?). The latest Gazette Notification (April 16, 2018) amending earlier clauses of the BESZ Gazette Notification makes no amendment to increase the acceptable size to >2MW as proposed by GoU. Hence the proposal to build the 10 HEPs must be dropped.</p>	<p>NGRBA never indicated to ban SHPs below 25 MW. Only three hydropower projects namely Loharinagpala, Pala Maneri, & Bhaironghati HEPs which were large projects on main Bhagirathi river were stated to be discontinued in the 2nd meeting of the NGRBA. There was no decision either by the GoM or in the 2nd NGRBA meeting to prevent implementation of small hydropower projects on the tributaries of river Bhagirathi. In this meeting it was also clarified by Hon’ble Minister, MoEF&CC that “the activities to be prohibited and the activities to be regulated will be duly identified and listed in the notification, which will be issued after due consultations’.</p> <p>There is absolutely no scientific or technical basis in fixing a limit of 2 MW for development of SHP in BESZ.</p> <p>However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>

<p>At present the BESZ has two HEPs (MB-I & MB-II) with an I/C of 394 MW and 4 small HEPs with total I/C of 2.62 MW. Further, the rear end of the Tehri reservoir (I/C 1000MW) also lies in Uttarkashi district. The power produced by the existing projects in the BESZ alone is adequate to meet the current and future needs of the entire Uttarkashi district, let alone the BESZ. The BESZ need has been estimated at just a few MW (~3 MW or 24 MU) in the final ZMP draft (p.139)!</p>	<p>The electricity generated from MB-I & II is distributed equally to the state and from Tehri Project, Uttarakhand state gets only 12% from the total electricity generated.</p> <p>Uttarakhand state has limited resources for revenue and income generation. Implementation of SHP in BESZ area will usher development to the local area which are remotely located. Development of remote area is of vital importance considering the strategic importance of the area close to the international border.</p>
<p>There is no guarantee that all the power generated by the 10 proposed HEPs will be available only for the BESZ or Uttarkashi district. Almost 60 per cent of their capacity will be generated at three stations by an IPP who is only obliged to give the state 12 percent of the power produced (equivalent to an I/C of < 6MW). The total new capacity to be generated by the state utilities is barely 10 per cent of the current installed capacity. Its loss can be made up by reducing the usual transmission and distribution losses (generally above 20 per cent of the generated power) and using alternate renewable energy sources.</p>	<p>SHP's are renewable sources of energy. Projects will be implemented as per the provisions of BESZ Notification, issued by MoEF&CC, GoI.</p> <p>However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>
<p>At earlier meetings of the present committee it was pointed out that the construction of the 10 proposed small HEPs violates the Gazette Notification. Shri Chandi Prasad Bhatt had also pointed out that the 10 proposed HEPs lie on tributaries of the Bhagirathi. Most of them have recent histories of flash floods with ensuing destruction of existing projects and downstream ecological damage. In the light of this record, several committee members recommended that HEPs with I/C > 2MW not be constructed, in keeping with the Gazette Notification guidelines.</p>	<p>There is absolutely no scientific or technical basis in fixing a limit of 2 MW for development of SHP in BESZ.</p> <p>The dimension of structure in case of SHPs and mini/micro hydel projects is very small and in general they don't disturb the stability of slopes, which can eventually cause landslides.</p> <p>However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>
<p>Alternative Recommendations: Instead of HEPs, Shri Chandi Prasad Bhatt and Dr. Chopra had proposed that alternate sources of renewable energy like solar power and biogas be considered. The BESZ Gazette Notification recommends promotion of solar energy for local use (para 3.c.vi). But the Uttarakhand Energy Department has paid lip service to this suggestion (see Compliance Notes para below). Shri Chandi Prasad Bhatt had also proposed upgrading the Harsil HEP to 0.8 or 1.0MW and renovating the 2.25 MW Pilang Gad-I HEP. But there is no cognizance of this recommendation in the present draft.</p>	<p>Energy deptt has given due cognizance to the recommendation of Shri Chandi Prasad Bhatt and have mentioned about proposed installation of 100 solar street light, proposal of installations of roof top grid interactive solar power plants for 500 families, proposal of 3 mobile solar cold storages, proposal for 50 solar dryers and proposal of 250 numbers of bio gas plants in the ZMP of UREDA.</p>



<p>If not sanctioning the 10 HEPs caused a loss of revenue to the state the committee members proposed that the state seek Payment for Ecological Services grants or a green bonus from the Centre. It was also proposed that a separate chapter be added on Payment for Ecological Services. This suggestion too has not been followed up.</p>	<p>Not in the purview of Energy Deptt.</p>
<p>Compliance Notes: Various recommendations and suggestions of the committee members on the Energy chapter contents have been responded to on pp138-140 of the final ZMP draft and in the Compliance Report of May 2, 2018. These responses indicate the obduracy of the GoU on the issue of the construction of the 10 small HEPs. Installation of 500 roof top solar photovoltaic power units for street lights, three mobile solar powered cold storage units and installation of 250 biogas plants in five years have been mentioned in the Compliance Report. This is tokenism compared to the investment for the proposed 10 HEPs.</p>	<p>GoU has been very considerate to the suggestion given by members of NGT committee. If honoring the suggestion of committee members means obduracy and tokenism to one of the fellow committee member then GoU has nothing to comments on that.</p> <p>However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>
<p>Conclusions: In light of the above it is reiterated that no HEP with an I/C of >2MW can be permitted in the BESZ. It is once again recommended that the GoU looks at alternative renewable sources of energy, to meet local power needs so that BESZ can set an example for the rest of the state and country.</p>	<p>However, in the spirit of the provisions contained in the BESZ notification dated 18.12.2018 and honouring the views expressed by some of the members of NGT committee, Energy Department has not proposed any small hydro projects of more than 2 MW capacity in the BESZ.</p>

Chapter 9, Tourism

Comments	Compliance Status
The state tourism planners lapse into old ways of thinking when they seek to promote a 'winter Char Dham'. This Proposal needs to be dropped.	The Proposal of 'Winter Char Dham' is at its initial stage as mentioned on Page no. 183 of ZMP. However, if the proposal is taken up in future, the number of visitors shall be regulated as per the carrying capacity. In addition to it, the concept may increase the livelihood generation to the local people of the otherwise neglected area. This may have a very inclusive impact on the employment and economy of the local inhabitant. This may also reduce the frequency of winter migration.
There is a need to develop a clear strategy to ensure that all tourism in the BESZ is ultimately based on ecotourism principles.	On page no. 164, under MoEF Guidelines for preparation of ZMP, All the developments related to tourism are based on ecotourism principles. Traditional concepts and architecture are promoted so that 'Responsible Tourism' in BESZ is promoted.
Increasing the use of solar and waste disposal facilities. Controlling noise Pollution in the BESZ.	The necessary suggestions have been considered and incorporated on page no. 170 and 171, Part 1 of ZMP.
Carrying Capacity based planning and analysis has not considered critical geographical and topographical limitations.	Carrying Capacity based planning and analysis, is carried out by JPS associates. Suggestions has been considered and incorporated by JPS associates while calculating carrying capacity on page no.179, Part 1 of ZMP.
Voluntary organization can be jointly involved with Gram Panchayats to promote these villages as natural, cultural and living heritage sites, to develop home stay facilities and sale of local home products.	Various organizations already involved in BESZ to promote said suggestions. Home stays training are provided and local home products are promoted by various SHGs and other Voluntary Organizations in the BESZ.

CHAPTER 10 : ROAD INFRASTRUCTURE DEVELOPMENT

Comments	Compliance Status
Re: Steep Slopes	
<p>In the final draft ZMP the official road construction agencies have cited the needs of border security to justify their demand for relaxing the 20° slope restriction. There is no dispute about according primacy to national security concerns. But it must still be ensured that only minimal damage is caused to the natural heritage in the BESZ. Slopes stability is also of utmost importance for ensuring rapid and uninterrupted movement of heavy defense vehicles during an emergency. Hence border roads must have safer construction in these fragile areas. Keeping in mind the concerns for border security, in earlier meetings of the present Expert Committee it had been proposed that alternative ideas be considered. But no alternate ideas have been put forth in the final draft.</p>	<p>According to amended Gazette notification, "steep hill slope" shall have the same meaning as assigned in categorization in IS 14496 (Part 2) : 1998 : Indian Standards for preparation of landslide Hazard Zonal Maps in Mountainous Terrains Guidelines. Such types of provisions have been incorporated on page no 205 of ZMP. For Slope stability, necessary provisions have been incorporated on Page No. 205 of part 1 Chapter 10. To minimize the environmental damage the Bypass of NH 34 from Jhala to Jangla has been proposed in ZMP</p>
<p>In the May 2, 2018 committee meeting reference was made by Dr. Chopra to a discussion with a former Director General of the Border Road Organization (BRO) who suggested the following ideas for consideration:</p>	<p>While preparing DPR for Construction of road and Bridges, all possible measures are considered for sustainable development and conservation of environment. So, far as future defensive strategy is concerned widening of NH is necessary for deployment of heavy machines. Such type of provisions shall be considered as per site conditions. Such type of provisions shall be considered as per site conditions.</p>
<p>(i) Wherever possible safer alternative routes may be considered. This may increase costs, but that is no longer a constraint for GoI where border security is concerned.</p>	
<p>(ii) In general the width in the mountain region should be limited to two lanes so that cutting of slopes and trees can be minimized.</p>	
<p>(iii) Where critical, additional road space can be provided on stilts (as in flyovers). They can also be provided with shades to shield against falling rocks or snow.</p>	
<p>(iv) Tunnels can be dug without resorting to blasting, by using tunnel boring machines.</p>	
<p>(v) A series of drainage trenches need to be dug upslope to divert the surface runoff from the crown and into cross drains.</p>	
<p>These suggestions need to be considered seriously. For village roads other alternatives like rope ways and bridle paths can be considered.</p>	

<p>It is also suggested that a small multi-disciplinary team with experienced experts in mountain ecology, geology, road construction engineering – instead of one geologist as stated in the May 2018 Compliance Report (p.44) -- should review the various roads proposals with site visits and recommend alternate/safety measures for steep slope stretches and landslide prone zones. This team could also later guide the BESZ Monitoring Committee in its deliberations.</p>	<p>The detailed geological investigation is done by a qualified geologist in each case before taking up the project for construction purpose. The amended notification however contains the provision for environmental impact assessment and mitigation measures which will be conducted as per the norms and rules.</p>
<p>Re: Conserving Green Cover:</p>	
<p>A key concern is the need to protect the forests and green cover in the BESZ. It requires minimal cutting of trees in the BESZ for road construction and avoiding multiple roads connecting a village to the state or national highways. This caution was supported by the Uttarakhand CS in the December 9, 2017 meeting and reiterated in the May 2, 2018 meeting.</p>	<p>Guidelines for minimum loss to environment are incorporated in ZMP on page no 210 and 211. The guidelines also include minimum felling of trees. Multiple road connectivity is discouraged in ZMP.</p>
<p>In the January 9, 2018 committee meeting, Shri Chandni Prasad Bhatt referred to the immense damage potential of the Uttarkashi-Gangotri National Highway widening project currently underway. The plan for widening this stretch will fell 12,995 trees in the BESZ. Almost 6000 Deodhar trees are to be felled between Jhala and Gangotri. Shri Bhatt had pointed out that in the latter stretch, currently a road is under construction from Mukhba to Harsil and Jangla. In the same stretch the Gangotri NH lies on the opposite bank of the river. Its widening was threatening a pristine deodhar-oak forest. By two-laning the Mukhba-Jangla road, which has few trees, the widening on the opposite bank can be avoided and the pristine forest can be saved. Shri Bhatt had also highlighted the importance of deodhar forests in sustaining the special properties of river Ganga. The CS then asked the PWD officials to examine Shri Bhatt's suggestion and rethink its own proposal. It is important that Shri Bhatt's recommendation be understood and acted upon</p>	<p>The Proposal for Bypass road from Jhala to Jangla is under process and BRO is conducting technical feasibility survey of the road. The proposal has been incorporated on Page No. 210 of ZMP.</p>
<p>On April 26, 2018 Shri Bhatt wrote to propose that the Uttarkashi-Gangotri NH not be widened since it was already a two-lane highway and its widening threatened thousands of deodar trees and other precious flora of the High Himalayan region. He called for the protection of deodhar, oak and other species, by limiting the road width to seven metres, not cutting trees and by carrying out maintenance of drains and other repair works in time.</p>	<p>Uttarkashi gangotri Highway as stated "Two Lane" is not actually two lanes. At some places it is single and somewhere one and Half lane. As this road connects the china border, keeping in view carrying of defence equipment's, widening proposal shall be moved with proper approval from Monitoring Committee with width as justified.</p>



In the final ZMP draft of April 2018, several road construction projects have been proposed that amount to multi-connectivity for certain villages and violate the planning criteria for hill roads laid down by Indian Road Congress in the Hill Road Manual (IRC:SP:48-1998). They include (ZMP Part 1, p.205):

i- Bagori – 2 km.

ii- Hinna- 3 Km.

iii- Kankradi- 1.5 km

iv- Maneri- 18km +0.80 km

v- Silla- 9.60 km.

vi- Pokhri- 0.80 km

Some roads mentioned in the future scenario are also linked with other roads like the Jamak-Bayna motor road to Syaba motor road link. The connectivity of two motor roads does not appear justified and needs to be reviewed. In the January 9, 2018 meeting, the Uttarakhand CS had also recommended against multi-connectivity of villages if required to save green cover and had proposed following the standard road construction guidelines for mountain areas.

The Hill Road Manual, Chapter 4 Planning Criteria under section 4.4 'Planning of roads in hill areas' (sub section 4.4.2) states that, "In hilly areas road links should be provided on the basis of cluster or group of villages as far as feasible because of the population of each village may be very low. Villages located within a radius of 1.6 kms and having an altitude difference not more than 200 m can be considered as one cluster or group. Isolated villages, having a population of more than 500 should be provided with an all weather road link road. For a cluster of villages of population less than 500, a selective approach of an all weather road within 5 kms from village may be considered to start with. Where funds do not permit for construction of regular motor road, road may be constructed for light vehicular traffic to link villages." Furthermore, in tune with the above planning criteria, the Pradhan Mantri Gram Sadak Yojna (PMGSY) Program Guidelines (January 2015) state in Chapter 1: para 3.3: "An Unconnected Habitation is one with a population of designated size located at a distance of at least 500 m or more (1.5 Km of path distance in case of hills) from an all-weather road or a connected habitation. "And, "The population recorded in the census 2001 shall be the basis for determining the population size. The population of all habitations within a radius of 500m (1.5km of path distance in case of hills) may be clubbed together for the purpose of determining the population size." These planning criteria do not appear to have been followed in some cases as can be seen in the table of ongoing work roads no. 2 and 3 (ZMP, Part 2, p.75). They need to be reviewed.

Multi connectivity has been discouraged in ZMP. The name of villages mentioned by honorable member will be connected with single connectivity. It is not possible to connect the villages in a cluster due to geographical conditions of the area. Village Maneri Listed at point (iv) has been removed from ZMP. Villages Jamak, Bayana and Syaba lies in a line, to connect these villages, road has been proposed in two parts. Jamak to Bayana and Bayana to Syaba. Village Kamar is far away from this road. So, it has been proposed to connect village Kamar from Jamak Syaba road near Bayana. Hence there is no multi connectivity for any village.

<p>Re: Dumping of Debris For every road, debris-dumping sites, clearly marked on an appropriate map, with schematic drawings of the enclosures with sizes, should be presented to the Monitoring Committee for approval before any road construction begins. The sample map shown in Annexure 42 is blurred and of no use. The guidelines for construction of roads (pp 206-207) - including guidelines for disposal of debris—are encouraging. But there is no mention of any monitoring mechanism. An effective monitoring system needs to be established.</p>	<p>It has been incorporated as Guidelines for construction of road on page no 210 and 211 of ZMP In Forest Land Transfer cases there is a detailed provision for muck disposal sites, which includes the detailed map showing coordinates and estimates for preparing muck disposal plan. Such type of proposal has been sent to monitoring committee for their approval.</p>
<p>Re: Compliance Table (pp 200-202): Additional clauses 2.12 (no land use change), 2.14 (no change in green cover), 2.17 (protection of natural heritage) and 3b (ii) (tree cutting) also need to be addressed in this section.</p>	<p>clauses 2.12 (no land use change), 2.14 (no change in green cover), 2.17 (protection of natural heritage) and 3b (ii) (tree cutting) has been incorporated in Page 204 of ZMP. Protection of natural heritage and tree cutting have been covered in guidelines for construction of road on page 210 and 211 of ZMP</p>
<p>Re: Maps: Suitably coded maps to show critical stretches are needed as a part of this chapter to help comply with clauses 2.16 (i), (ii), (iii) and (v).</p>	<p>The amended gazette notification clarifies the steep slope and such type of provisions have been incorporated in Zonal Master plan. For Implementing the projects at site, such type of restrictions shall be followed.</p>

Chapter-1

FOREST & WILDLIFE

FLORA AND FAUNA

Flora

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
(1) Tree species			
1	अखरोट	जुगलांस रेजिया	<i>Juglans regia</i> Linn.
2	अंगरू/अंगो	यूनिमस लैसरस	<i>Euonymus lacerus</i> Hom.
3	अंगू	फ्रैक्सिनस माईक्रैन्था	<i>Fraxinus micrantha</i> Linn.
4	अंजीर/बेडू	फाइकस पामेटा	<i>Ficus palmata</i> Forsk.
5	अनार/दाड़िम	प्यूनिका ग्रेनेटम	<i>Punica granatum</i> Linn.
6	अमलारा/तितरी	रस पन्जाबेन्सिस	<i>Rhus punjabensis</i> Stewart
7	अमलतास	कैसिया फिस्टुला	<i>Cassia fistula</i> Linn.
8	अमी/चूक	हिप्पोफी सैलिसीफोलिया	<i>Hippophae salicifolia</i> Don
9	अयार	लायोनिया ओवेलीफोलिया	<i>Lyonia ovalifolia</i> (Wall.) Drude
10	अरखोल/अरखोई	रस बालिचाई	<i>Rhus wallichii</i> Stewart
11	आडू	प्रूनस पर्सिका	<i>Prunus persica</i> Benth.&Hook.
12	आम	मैन्जीफेरा इन्डिका	<i>Mangifera indica</i> Linn.
13	आलू बुखारा	प्रूनस कम्यूनिस	<i>Prunus communis</i> Hodgson
14	आंवला	फाइलेन्थस एम्बलिका	<i>Phyllanthus emblica</i> L.
15	उतीस	अल्नस नेपालेन्सिस	<i>Alnus nepalensis</i> D.Don
16	उडाता/बड़ाला	स्टरकुलिया विलोसा	<i>Sterculia villosa</i> Roxb.ex D. Don
17	काकड़/ककरा	पिस्टेसिया खिंजुक	<i>Pistacia khinjuk</i> Stocks
18	कचनार/कवैराल	बौहीनिया वेरीगेटा	<i>Bauhinia variegata</i> Linn.
19	कटौंसा/कटौंज	कैस्टेनोप्सिस ट्रिईब्यूलॉईडिस	<i>Castanopsis tribuloides</i> A.DC.
20	कठकौंकण/भम्बेला	यूनिमस पेन्डुलस	<i>Euonymus pendules</i> Wall.
21	कठभोज/कठभुंज	बेटुला एलनॉईडिस	<i>Betula alnoides</i> Ham.
22	कठमहवा/कठमालू/कठमौवा	ग्लौकीडियॉन वेल्यूटिनम	<i>Glochidion velutinum</i> Wight
23	कन्डेरू/कन्डेला	आईलैक्स डायपाईरेना	<i>Ilex dipyrena</i> Wall.
24	कमेला/रोहिणी	मैलोटस फिलिपाईनेन्सिस	<i>Mallotus philippinensis</i> Muell.
25	क्वासी	एसर कैपेडोसिकम	<i>Acer cappadocicum</i> Gled.
26	कांचुला	एसर सीजियम (मैपल)	<i>Acer caesium</i> Wall.
27	काजल	एसर एक्यूमिनेटम (मैपल)	<i>Acer acuminatum</i> Wall.
28	काफल	मायरिका इस्कुलेंटा	<i>Myrica esculenta</i> Buch.-Ham. ex D. Don
29	किदमारा/हिमरी	उल्मस वालिचियाना	<i>Ulmus wallichiana</i> Planch.
30	किरमोला/पुतली	एसर ऑब्लॉंगम	<i>Acer oblongum</i> Wall.
31	कीमू	मोरस सेराटा	<i>Morus serrata</i> Roxb.
32	कुनीस	अल्नस निटिडा	<i>Alnus nitida</i> Endl.

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
33	कुमकुम	आईलैक्स डोनियाना	<i>Ilex doniana</i> DC.
34	कुम्हार	कैलिकार्पा आरबोरिया	<i>Callicarpa arborea</i> Roxb.
35	कुसुम	स्लाइचेरा ओलियोसा	<i>Schleichera oleosa</i> (Lour.) Oken.
36	केल	पाइनस वालीचियाना	<i>Pinus wallichiana</i> A.B. Jacks.
37	कौऊ	ओलिया फेरुजीनिया	<i>Olea ferruginea</i> Royle.
38	कौला	मैकाईलस ओडोरेटिस्सिमा मैकाईलस डुथीई	<i>Machilus odoratissima</i> Nees <i>Machilus duthiei</i> King ex Hook. Kosterm.
39	कंगू/कंडई	फ्लैकोर्सिया इन्डिका	<i>Flacourtia indica</i> Merr.
40	कंछी/पापड़ी	बक्सस वालीचियाना	<i>Buxus wallichiana</i> Baill.
41	खड़िक	सैल्टिस औस्ट्रेलिस	<i>Celtis australis</i> Linn.
42	खरसू	क्वेरकस सेमीकार्पीफोलिया	<i>Quercus semecarpifolia</i> Smith.
43	खागसी/खागसा	कॉर्नुस मैक्रोफिला	<i>Cornus macrophylla</i> Wall.
44	खीना/खिन्ना/च्यूना	सेपियम इनसिग्नी	<i>Sapium insigne</i> Trin.
45	खुमानी/चुलू	प्रूनस आर्मिनियेका	<i>Prunus armeniaca</i> Linn.
46	खैना/खानू/खनाई	फाईकस सेमीकॉर्डेटा	<i>Ficus semicordata</i> Buch.-Ham
47	खैर	आकेशिया कटेचू	<i>Acacia catechu</i> Willd.
48	गढ़भैस/बैस	सैलिकस वालीचियाना	<i>Salix wallichiana</i> Anders.
49	गढ़महवा/गढ़मालू	एन्जलहार्डसिया कोलब्रूकियाना	<i>Engelhardtia colebrookiana</i> Lindl. ex Wall.
50	गढ़मेहल	स्ट्रेनवेसिया ग्लोकेसैन्स	<i>Stranvaesia glaucescens</i> Lindl.
51	गुरयाल/कवैराल	बाहीनिया परप्यूरिया	<i>Bauhinia purpurea</i> Linn.
52	गूलर	फाइकस रेसीमोसा	<i>Ficus racemosa</i> , Linn.
53	गेंटी	बोहमेरिया रुगुलोसा	<i>Boehmeria rugulosa</i> Wedd.
54	गौदा/गोई	मिलियोसमा डिलेनीफोलिया	<i>Meliosma dilleniaefolia</i> Bl.
55	चमखड़िक	कार्पिनस विमीनिया	<i>Carpinus viminea</i> Wall.
56	चमरोड़	एहरीशिया लेविस	<i>Ehretia laevis</i> Roxb.
57	चीड़	पाइनस रौक्सबर्घाई	<i>Pinus roxburghii</i> Sarg.
58	चीला	कैजीरिया टोमेन्टोसा	<i>Casearia tomentosa</i> Roxb.
59	जमनोई/जमोई (बर्ड चेरी)	प्रूनस कॉर्नुटा	<i>Prunus cornuta</i> Wall.
60	जमुन	साइजीजियम क्यूमिनी	<i>Syzygium cumini</i> (L.) Skeels.
61	झिंगन	लैनिया कोरोमैन्डेलिका	<i>Lannea coromandelica</i> (Houtt.) Merril
62	टिबरी/अरखोई/दसमिला	रस सेमीअलाटा	<i>Rhus semialata</i> Murray.
63	डेकन/बकैन	मीलिया आजेडोरक	<i>Melia azedarach</i>
64	तिमला	फाइकस औरीकुलाटा	<i>Ficus auriculata</i> Wall.
65	तिलौंज/मोरू	क्वैरकस फ्लोरिबन्डा	<i>Quercus floribunda</i> Rehrd.
66	तून	तूना सिलिएटा	<i>Toona ciliata</i> Roem.
67	थुनेर	टैक्सस वाल्लिचियाना	<i>Taxus wallichiana</i> Zucc.

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
68	दरली / दर्ली, (हिल तुन)	तूना सिरेटा	<i>Toona serrata</i> (Royle) Roem.
69	दालचीनी / तेजपात	सिन्नेमोमम तमाला	<i>Cinnamomum tamala</i> Fr.Nees.
70	दुधला	फाईकस नेमोरैलिस	<i>Ficus nemoralis</i> Wall.
71	देवदार	सीड्रस देवदारा	<i>Cedrus deodara</i> Loud.
72	धामन	ग्रीविया एशियाटिका	<i>Grewia asiatica</i> Royle.
73	धौला ढाक / मादरा	एरिथ्राईना सुबेरोसा	<i>Erythrina suberosa</i> Roxb.
74	नरखा / सुरुड़	लिट्सिया अम्बरोसा	<i>Litsea umbrosa</i> Nees.
75	नारंगी	साइट्रस औरन्टियम	<i>Citrus aurantium</i> Linn.
76	नाशपाती	पाइरस कम्यूनिस	<i>Pyrus communis</i> Linn.
77	नीबू	साइट्रस मेडिका	<i>Citrus medica</i> Linn.
78	पहाड़ी पीपल / वन पीपल	पॉपुलस सिलिएटा	<i>Populus ciliata</i> Wall.
79	पदम / फाजा	प्रूनस सरैसोइडिस	<i>Prunus cerasoides</i> D.Don.
80	पांकड / पिलागू	फाइकस वीरेन्स	<i>Ficus virens</i> Ait.
81	पटल	स्टीरियोस्पर्मम सुवियोलेंस	<i>Stereospermum suaveolens</i>
82	पांगर / हौर्स चैस्टनट	एस्क्युलस इन्डिका	<i>Aesculus indica</i> Colebr.
83	पाथा / पापामेहल	सोरबस लनाटा	<i>Sorbus lanata</i> (D. Don) S.Chauer
84	पुतली	एसर लेविगेटम	<i>Acer laevigatum</i> Wall.
85	फल्यांट / बानी	क्वैरकस ग्लौका	<i>Quercus glauca</i> Thunb.
86	बहेड़ा	टर्मिनेलिया बेलेरिका	<i>Terminalia bellirica</i> Roxb.
87	बांज / बान	क्वैरकस ल्यूकोट्रोईकोफोरा	<i>Quercus leucotrichophora</i> Camus
88	बुरांस	रोडोडेन्ड्रोन आरबोरियम	<i>Rhododendron arboreum</i> Smith
89	बूसा / बुक्षुआ	मिलिओस्मा सिम्प्लीसिफोलिया	<i>Meliosma simplicifolia</i> Wall.
90	भमोरा / भमोर	बेन्थामिडिया कैपिताटा	<i>Benthamidia capitata</i> (Wall.) Hara
91	भखेर / सिरस	अल्बिजिया जूलिब्रिसिन	<i>Albizia julibrissin</i> Durazz.
92	थीरन	अल्बिजिया चाइनेन्सिस	<i>Albizia chinensis</i> (Osb.) Merr.
93	भीमल	ग्रीविया ऑप्टीवा	<i>Grewia optiva</i> Roxb.
94	भोजपत्र / भुज	बेटुला यूटीलिस	<i>Betula utilis</i> D.Don.
95	भोटिया बादाम	कोराईलस जैकमौनशियाई	<i>Corylus jacquemontii</i> Decne.
96	मेहल	पायरस पशिया	<i>Pyrus pashia</i> Buch-Ham.
97	मौरिन्डा / रागा / फर (सिल्वर फर)	एबीज पिन्ड्रो	<i>Abies pindrow</i> Spach.
98	रई / स्पूस	पीसिया स्मीथियाना	<i>Picea smithiana</i> Boiss.
99	रतेन्दू रत्नियली	डैफनीफिल्लम हिमालयेन्स	<i>Daphniphyllum himalayense</i> Muell. Arg.
100	रीठा (सोप नट)	सैपिन्डस म्यूकोरोसी	<i>Sapindus mukorossi</i> Gaertn.
101	लम्पतिया	नीयोलिट्सिया लानूजिनोसा	<i>Neolitsea lanuginosa</i> (Nees) Gamble
102	लोध / लोथू	सिम्प्लोकोस चाइनेन्सिस	<i>Symplocos chinensis</i> Lour.
103	शहतूत (मल्बरी)	मोरस अल्बा	<i>Morus alba</i> Linn.

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104	शीशम	डलबर्जिया सिस्सू	<i>Dalbergia sissoo</i> Roxb.
105	सान्जना / सैंजन (झमस्टिक)	मोरिंगा ओलीफेरा	<i>Moringa oleifera</i> Lamk.
106	सान्दन	औजीनिया औजीनैन्सिस	<i>Ougeinia oojainensis</i> (Roxb.)Hoch.
107	सिरिस काला	अल्बीजिया लेबेक	<i>Albizia lebbek</i> Benth.
108	सुरई / ल्यूरी (साइप्रस)	क्यूप्रेसस टोरुलोसा	<i>Cupressus torulosa</i> D.Don
109	सेमल (द रेड कॉटन ट्री)	बौम्बेक्स सीवा	<i>Bombax ceiba</i> Linn.
110	सेब	पायरस मैलस	<i>Pyrus malus</i> Linn.
111	हरड़	टर्मिनेलिया चेबुला	<i>Terminalia chebula</i> Retz.
112	हुरचा / धूप / पदमाक्षा	जूनिपेरस मेक्रोपोडा	<i>Juniperus macropoda</i> Boiss.

(2) Shrubs

1	टछाई	रुबस बाईपलोरस	<i>Rubus biflorus</i> Buch.-Ham.
2	बेचिया	सैलिक्स इलीगैन्स	<i>Salix elegans</i> Wall.
3	अपामार्ग / चिरचिता	एकाइरैन्थस अस्पेरा	<i>Achyranthes aspera</i> Linn.
4	असेड / वन तम्बाकू	सोलेनम वरबैसीफोलियम	<i>Solanum verbascifolium</i> Linn.
5	आक	कैलोट्रोपिस प्रोसेरा	<i>Calotropis procera</i> (Willd.) Dryand ex W. Ait.
6	कजरूवा / कैस्वा / सतावर / सतमूली	एसपैरागस रैसिमोसस	<i>Asparagus racemosus</i> Willd.
7	करौंदा	कैरिसा स्पाइनेरम	<i>Carissa spinarum</i> Linn.
8	किल्मोडा / किंगोरा / कसमोई	बरबेरिस एरिस्टैटा	<i>Berberis aristata</i> D.C.
9	कुखरही	ड्यूट्रिजिया कम्पेक्टा	<i>Deutzia compacta</i> Craib
10	कुजोई	रोजा मोस्काटा	<i>Rosa moschata</i> Mill.
11	कुजोई / कुन्जा / भोनरा	रोजा मैक्रोफिला	<i>Rosa macrophylla</i> Lindl.
12	कुरिन्जा / तितपाती / पाती	आर्टीमीसिया नीलगिरिका	<i>Artemisia nilagirica</i> Pampanini
13	कुरी	लैन्टाना कैमारा	<i>Lantana camara</i> Linn.
14	केदारपाती / नैर	स्किमिया लाउरियोला	<i>Skimmia laureola</i> Seib. & Zucc.
15	खजूर	फोनिक्स ह्यूमिलिस	<i>Phoenix humilis</i> Royle grandiflorum.
16	खंजू	लेस्पेडेजा सेरीसिया	<i>Lespedeza sericea</i> Miq.
17	गढ़ रोन्स / भरौला	सालिक्स एक्यूटीफोलिया	<i>Salix acutifolia</i> Willd.
18	गन्धेला / धिनू	मुर्रया कोनीगाई	<i>Murraya koenigii</i> Spreng.
19	गुइयां / धिन्ना	वाइबरनम ग्रेन्डीपलोइम	<i>Viburnum grandifloium</i> . Wall. ex D.C
20	गुग्ती / धुधताई	डियुट्रिजिया स्टैमीनिया	<i>Deutzia staminea</i> R.Br.
21	गेई	मिलिओस्मा डिलेनीफोलिया	<i>Meliosma dilleniaefolia</i> Wall.
22	धिंघारू	पायरेकैन्था क्रैनुलेटा	<i>Pyracantha crenulata</i> D.Don.
23	धिंघारू छोटा	रंडिया टेट्रास्पेर्मा	<i>Randia tetrasperma</i> Roxb.
24	चमतुंगला / जलतुंगा	रस कोटीनस	<i>Rhus cotinus</i> Linn.

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25	चर्मरुईस	कोटोनिआस्टर वैसीलेरिस	<i>Cotoneaster bacillaris</i> Wall.
26	चमलाई / मतोई	डेस्मोडियम एलिगैन्स	<i>Desmodium elegans</i> Don.
27	चया / बसंत / पेंडली	हाईपेरिकम ओवलांगीफोलियम	<i>Hypericum oblongifolium</i> Choisy.
28	छेडुला / जई	जसमिनम आरबोरीसेन्स	<i>Jasminum arborescens</i> Roxb.
29	छेडुला / चडयूल	रैमनस विरगोटा	<i>Rhamnus virgata</i> Roxb.
30	छोटी बशरोई / बोगीचा / गढ़भैस	सैलिक्स एलीगैन्स	<i>Salix elegans</i> Wall.
31	तगीसा / तगासा / सिमरिस	रोडोडेन्ड्रोन लेपीडोटम	<i>Rhododendron lepidotum</i> Wall.
32	तरुड़	कैसिया लैवीगेटा	<i>Cassia laevigata</i> Willd.
33	तकाई / कठरुईस	स्पाईरिया कैनीसेन्स	<i>Spiraea canescens</i> Don.
34	तलीसिरी	रोडोडेन्ड्रोन ऐन्थोपोगोन	<i>Rhododendron anthopogon</i> D.Don.
35	तितमेला / तिता / तिमुलिया	वाईबरनम कोरिएसियम	<i>Viburnum coriaceum</i> Blume
36	तितमया	रौयलिआ साइनेरिआ	<i>Roylea cinerea</i> (D.Don) Baill.
37	तिलिद्री / पलियाली	सार्कोकोका सैलिग्ना	<i>Sarcococca saligna</i> Muell-Arg.
38	तिमूर	जैन्थोजाइलम आर्माटम	<i>Zanthoxylum armatum</i> DC.
39	तुग / तुंगला / चमतुंग	रस पार्विफ्लोरा	<i>Rhus parviflora</i> Roxb.
40	तेतर	बरबेरिस लाईसियम	<i>Berberis lycium</i> Royle
41	थेसारी / स्यारु	डेब्रेगेशिया लांगीफोलिया	<i>Debregeasia longifolia</i> (Burm.f.)Wedd.
42	थाकल	फोनिक्स एकौलिस	<i>Phoenix acaulis</i> Roxb. ex Buch.-Ham
43	थेल्का	राइब्स ग्लैसियेल	<i>Ribes glaciale</i> Wall.
44	दड़बिया	वाईबरनम नर्वोसम	<i>Viburnum nervosum</i> Don.
45	दाड़िम	प्युनिका ग्रेनेटम	<i>Punica granatum</i> Linn.
46	दाड़मिया	रैमनस प्रोकम्बेन्स	<i>Rhamnus procumbens</i> Edgew.
47	छुरकुंज	रोजा सेरीसिया	<i>Rosa sericea</i> Lindl.
48	दैया	कैलीकार्पा मैक्रोफिला	<i>Callicarpa macrophylla</i> Vahl.
49	दुधिला	एक्सकोकेरिया एसरीफोलिया	<i>Excoecaria acerifolia</i> F.Didri.
50	धतूरा	डटूरा मेटल	<i>Datura metel</i> Linn.
51	धौला	वुडफोर्डिया फ्रूटीकोसा	<i>Woodfordia fruticosa</i> Kurz.
52	नीबू / विजोरा	साइट्रस मेडिका	<i>Citrus medica</i> Linn.
53	पत्यूड़ा	टेराकैन्थस अंगुस्टीफ्रॉस	<i>Pteracanthus angustifrons</i>
54	पदलर	इयूरया एक्यूमिनेटा	<i>Eurya acuminata</i> DC.
55	पिन्डारा / पथेरा	लैप्टोडर्मिस लैन्सियोलेटा	<i>Leptodermis lanceolata</i> Wall.
56	पियूली / पैंगुल	रेनवार्डशिया इंडिका	<i>Reinwardtia indica</i> Dumor
57	पुमर	जुनीपेरस स्यूडोसबिना	<i>Juniperus pseudo-sabina</i> Fisch.
58	बकरछा	प्रेम्ना बारबेटा	<i>Premna barbata</i> Wall.
59	बड़आ / सतपुड़ा	डैफनी पेपाईरिसिया	<i>Daphne papyracea</i> Wall. ex Steud
60	बनाड़	कैसिया औक्सीडेन्टैलिस	<i>Cassia occidentalis</i> Linn.

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61	बसिंगा	अधाटोडा वैसिका	<i>Adhatoda vasica</i> Nees.
62	बिन्दू	कोलेब्रूकिया अपोजिटीफोलिया	<i>Colebrookea oppositifolia</i> Smith
63	बिलगाड़ा / बेलगू	पलैकोर्सिया इन्डिका	<i>Flacourtia indica</i> (Burm.f.) Merr.
64	बेर / बेरी	जीजीफस मौरीसियाना	<i>Zizyphus mauritiana</i> Lamk.
65	बैराड़ा	साइडा एक्यूटा	<i>Sida acuta</i> Burm.
66	बेनेर	डैस्मोडियम माइक्रोफाइलम	<i>Desmodium microphyllum</i> DC.
67	भटककड़ी	सोलेनम वायोलेसियम	<i>Solanum violaceum</i> Ortega
68	भटककुड़ा	लोनीसेरा क्विनक्वीलाक्यूलेरिस	<i>Lonicera quinquelocularis</i> Hardw.
69	भटुला	पलैमिन्जिया फ्रूटीकुलोसा	<i>Flemingia fruticulosa</i> Wall.
70	भांग	कैन्नाबिस सैटाइवा	<i>Cannabis sativa</i> Linn.
71	थालोका	स्पाईरिया सॉर्बीफोलिया	<i>Spiraea sorbifolia</i> Linn.
72	भुतनोई	वाइबर्नम कोटीनीफोलियम	<i>Viburnum cotinifolium</i> Don.
73	भेंकल / भेकुला	प्रिन्सिपिया यूटीलिस	<i>Prinsepia utilis</i> Royle.
74	भैंशारा / बैसरोई	सैलिक्स डेफनोइडिस	<i>Salix daphnoides</i> Villars.
75	मखोटा / चाचरी	फाइकस स्कैन्डेन्स	<i>Ficus scandens</i> Roxb.
76	मन्सूरी / कमरोली मरबोई	कोरिएरिया नेपालैन्सिस	<i>Coriaria nepalensis</i> Wall.
77	मरचुला / मारचुल्या	मुराया पैनीकुलेटा	<i>Murraya paniculata</i> Linn.
78	मरनोई / मशनोई	टेराकैन्थस अर्टिसीफोलियस	<i>Pteracanthus urticifolius</i> Bremek.
79	मरोड़फल	हेलिक्टेरेस आइसोरा	<i>Helicteres isora</i> Linn.
80	मासी / धूप	जुनीपेरस रिकर्वा जुनीपेरस स्कूआमाटा	<i>Juniperus recurva</i> Buch.-Ham. <i>Juniperus squamata</i> Buch.-Ham. ex D.Dun
81	श्रामबांस	अगेव अमेरिकाना	<i>Agave americana</i> L.
82	रुईस	कोटोनिआस्टर एक्यूमिनेटस	<i>Cotoneaster acuminatus</i> Lindl.
83	रुहीस	रैमनस परप्युरियस	<i>Rhamnus purpureus</i> Edgew.
84	सकीना / काठी	इन्डिगोफेरा हेटरैन्था इन्डिगोफेरा कैस्सिऑइडिस इन्डिगोफेरा डोसुआ	<i>Indigofera heterantha</i> Wall <i>Indigofera cassioides</i> Rottl. ex. Dc. <i>Indigofera dosua</i> Ham. ex D.Dun
85	समेर / सिवाली / सेमालू	वाईटेक्स निगण्डू	<i>Vitex nigundo</i> Linn.
86	सफेद मुसली	एस्पैरागस एडसेन्डेन्स	<i>Asparagus adscendens</i> Roxb.
87	सरनोई	एस्पैरागस फिलीसिनस	<i>Asparagus filicinus</i> Buch.-Ham. ex D.Don
88	सिमरू / सेमरू	रोडोडेन्ड्रान कम्पैनुलेटम	<i>Rhododendran. campanulatum</i> Don.
89	सुरू	यूफोर्बिया रॉयलियाना	<i>Euphorbia royleana</i> Bois.
90	सोमलता / समलता	इफेड्रा जिरार्डियाना	<i>Ephedra gerardiana</i> Wall.
91	हिंसालू	रुबस इलिप्टिकस	<i>Rubus ellipticus</i> Smith
92	हिंसालू काला	रुबस लेसियोकार्पस	<i>Rubus lasiocarpus</i> Smith

(3) Herbs

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
1	अजवाईन/वन अजवाईन	थाईमस सरफाईलम	<i>Thymus serpyllum</i> L.
2	अतीस	एकोनिटम हेटरोफाइलम	<i>Aconitum heterophyllum</i> Wall.
3	अमिल्दा/भिलमोड़ा	र्यूमेक्स हेस्टेटस	<i>Rumex hastatus</i> D.Don.
4	अमेला	पोलीगोनम चाईनेन्स	<i>Polygonum chinense</i> Linn.
5	आर्चा	रियूम वेबियानम	<i>Rheum webbianum</i> Royle.
6	कंडाली/बिच्छू	अर्टिका पार्वीपलोरा	<i>Urtica parviflora</i> Roxb.
7	कपूर कचरी	हैडीकियम स्पाईकेटम	<i>Hedychium spicatum</i> Smith
8	करन/किमोकोलिया	राइबस रुब्रम	<i>Ribes rubrum</i> Linn.
9	कुटकी	पिकरोराइजा कुर्रोआ	<i>Picrorhiza kurroa</i> Royle.
10	कुथ/कुठ	सास्सूरिया लप्पा	<i>Saussurea lappa</i> (Decne.) Sch. Bip.
11	कुरखा	प्लेक्ट्रैन्थस रुगोसस	<i>Plectranthus rugosus</i> Wall. ex Benth.
12	कुरी/हरसिंगार	निकटेनथिस अरबोरट्रिसटिस	<i>Nyctanthes arbor-tristis</i> Linn
13	गुग्गल	जुरीनिया मैक्रोसेफाला	<i>Jurinea macrocephala</i> Benth.
14	गुलवनस्फा/वनप्सा	वायोला कैनीसैन्स वायोला सरपैन्स	<i>Viola canescens</i> Wall. <i>Viola serpens</i> wall. ex Ging
15	चिरायता	स्वैर्सिया चिरायिता	<i>Swertia chirayita</i> (Roxb.) Buch.-Ham. ex C. B. Clarke
16	चौलाई/मरसा	अमरैन्थस पैनिकुलेटस	<i>Amaranthus paniculatus</i> Linn.
17	जटामांसी	नार्डोस्टैकिस	<i>Nardostachys jatamansi</i> (D.Don) DC.
18	जानू/जिमला	स्टौविलैन्थस वैलीचीआई	<i>Strobilanthes wallichii</i> Nees.
19	झूला	जरबेरा गोस्सीपिना	<i>Gerbera gossypina</i> Royle
20	तुमरिया	इनुला कुसोईडाटा	<i>Inula cuspidata</i> (DC) C.B. Clarke
21	दुधिया	टेरेक्सैकम औफीसीनेल	<i>Taraxacum officinale</i> wiggers.
22	थनरबिसी	डेल्फिनियम डेन्युडेटम	<i>Delphinium denudatum</i> Wall.
23	पीलीजई/शानजई	जेसमिनम ह्यूमाइल	<i>Jasminum humile</i> Linn.
24	पेदीना	मेन्था सिल्वेस्ट्रिस	<i>Mentha sylvestris</i> Linn.
25	बच	एकोरस कैलेमस	<i>Acorus calamus</i> Linn.
26	बज्रदन्ती	पोटेन्सिला फल्जेन्स	<i>Potentilla fulgens</i> Wall.
27	बनवान	मिर्सीन अफ्रीकाना	<i>Myrsine africana</i> Linn.
28	ब्रह्मी नकली	सेन्टेला एसियाटिका	<i>Centella asiatica</i> Linn.
29	बिच्छू/कंडाली	जिरार्डीनिया हेटरोफिला	<i>Girardinia heterophylla</i> Decne
30	बिच्छू/कंडाली	अर्टिका डायोका	<i>Urtica dioica</i> L.
31	बेरड़	एकमैन्थेरा गोस्सीपिना	<i>Aechmanthera gossypina</i> Nees.
32	भूतकेश	सेलीनम टेनुईफोलियम	<i>Selinum tenuifolium</i> Wall.
33	मनुआ	क्लेरोडेन्ड्रन विस्कोसम	<i>Clerodendrum viscosum</i> Vent.
34	ममीरी/ममेरी	थैलिक्ट्रम फोलियोलोसम	<i>Thalictrum foliolosum</i> DC.
35	मीठा विष/मौरा	एकोनिटम बालफोराई	<i>Aconitum balfourii</i> Stepf

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
36	महामेदा	पोलीगोनेटम वर्टीसीलेटम	<i>Polygonatum verticillatum</i> (L.) All.
37	श्रतनजोत	एनीमोन ऑब्ट्यूसीलोबा	<i>Anemone obtusiloba</i> D.Don.
38	वनककड़ी	पोडोफार्डलम हेक्सान्ड्रम	<i>Podophyllum hexandrum</i> Royle
39	विष/मीठा विष	एकोनिटम फाल्कोनेरी	<i>Aconitum falconeri</i> Stapf
40	सालम पंजा	डाक्टैलोराइजा हाटागिरेया	<i>Dactylorhiza hatagirea</i> (D.Don) Soó
41	सालम मिश्री	युलोफिया डाविया	<i>Eulophia dabia</i> (D.Don) Hochr.
42	सिलफोड़ा	बर्जीनिया सिलियेटा	<i>Bergenia ciliata</i> Haw.
43	सुगन्धबाला/समोया/समेवा	वैलेरियाना हार्डविकिआई	<i>Valeriana hardwickii</i> Wall.

(4) Climbers

1	अगाली/अगली/बनोई	साइजैन्ड्रा ग्रैन्डीफलोरा	<i>Schizandra grandiflora</i> Hook.
2	असोली/पानीबेल	एम्पेलोसिसस लटीफोलिया	<i>Ampelocissus latifolia</i> Planch.
3	आकाश बेल	कस्क्यूटा रेपलेक्सा	<i>Cuscuta reflexa</i> Roxb.
4	इन्द्रारियन/इलाडू	ट्राइकोसैन्थस पामेटा	<i>Trichosanthes palmata</i> Roxb.
5	कंडार	वाइटिस सेमीकार्डेटा	<i>Vitis semicordata</i> Wall.
6	कंटुला/कटूला	रुबस पैनीकुलेटस	<i>Rubus paniculatus</i> Smith
7	कठतरुड़/गेठी	डायोस्कोरिया डेल्टोयडिया	<i>Dioscorea deltoidea</i> Wall.
8	कफ लगुला	होलम्सकिओलडिआ सैनुईनिया	<i>Holmskioldia sanguinea</i> Retz.
9	किंगारी/अड़ी	सीजलपीनिया डेकापिटैला	<i>Caesalpinia decapetala</i> Roxb.
10	कुकुरदड़ा/कुकुरदाना	स्माइलेक्स पार्वीफोलिया	<i>Smilax parvifolia</i> Wall.
11	कुंज/कुन्जा	रोजा ब्रूनोनाई	<i>Rosa brunonii</i> Mill.
12	वुटजू	प्यूररिया थन्बर्जियाना	<i>Pueraria thunbergiana</i> (Siebold & Zucc.) Benth.
13	केनिया/कौनिया/कौंजा	क्लीमैटिस मोन्टाना	<i>Clematis montana</i> Ham.
14	कौंणीवाली	क्लीमैटिस कोनाटा	<i>Clematis connata</i> DC.
15	खुदेरा/मजेठी	रुबिया कॉर्डिफोलिया	<i>Rubia cordifolia</i> Linn.
16	गिलोय/गिलोरि/गुरिया	टिनोस्पोरा कॉर्डिफोलिया	<i>Tinospora cordifolia</i> (Willd.) Hook. f. & Thoms
17	गोफला/जंगली शरीफा	होल्बोलिया लेटीफोलिया	<i>Holboellia latifolia</i> Wall.
18	गौज	मिलेशिया औरीकुलाटा	<i>Milletia auriculata</i> Baker.
19	चिपारी/छिपारी	वाइटिस मैक्रोफाइला	<i>Vitis macrophylla</i> Maiden.
20	सिंधानी, सेधा, सिंधी	क्रिप्टोलेपिस बुकनाई	<i>Cryptolepis buchmanii</i> Roem. & Sch.
21	दुधी-बेल	वेलैरिस सोलेनेसिया	<i>Vallisneria spiralis</i> (L.) L.
22	पड़ी/दाख निर्बिंसी	सिसेम्पेलोस परेरा	<i>Cissampelos pareira</i> Linn.
23	पुलियाना/पुदीना	वाइटिस लैनाटा	<i>Vitis lanata</i> Roxb.
24	मन्जीठ/मजेठी	रुबिया मंजीठ	<i>Rubia manjith</i> Roxb.
25	मालू/मालझन	बौहीनिया वैहलाई	<i>Bauhinia vahlii</i> Benth.
26	मठियारी/मथियारी	हेडेरा नेपालेन्सिस	<i>Hedera nepalensis</i> K. Koch.
27	सिरौला	प्यूररिया ट्यूबरोसा	<i>Pueraria tuberosa</i> DC.

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
28	चमेली / चम्बई	जैसमिनम मल्टीपलोरम	<i>Jasminum multiflorum</i> (Burm.f.) Andrews
(5) Bamboo			
1	गोल रिंगाल / गढ़ रिंगाल	अरुण्डिनेरिया फल्काटा	<i>Arundinaria falcata</i> Nees.
2	जमूरा रिंगाल	अरुण्डिनेरिया जौनसारेन्सिस	<i>Arundinaria jaunsarensis</i> Gamble.
3	थाम रिंगाल	थैम्नोकैलामस स्पेथीपलोरस	<i>Thamnocalamus spathiflorus</i> (Trin.) Munro
4	देव रिंगाल	थैम्नोकैलामस फालकोनेराई	<i>Thamnocalamus falconeri</i> Hook.f.
5	बंस	डेन्ड्रोकेलामस स्ट्रिक्टस	<i>Dendrocalamus strictus</i> Nees.
(6) Grasses			
1	टजन	सेन्क्रस सीलियेरिस	<i>Cenchrus ciliaris</i> Linn.
2	औचाई घास	डैक्टाइलिस ग्लोममेरटा	<i>Dactylis glomerata</i> Linn..
3	उला कुमेंरिया	थीमेडा अरुन्डीनेसिया	<i>Themeda arundinacea</i> Roxb.
4	वांस	सैकरम स्पॉन्टेनियम	<i>Saccharum spontaneum</i> Linn.
5	किकुयू	पैनीसिटम क्लैन्डेस्टिनम	<i>Pennisetum clandestinum</i> Hochst.
6	कुमिरिया / कुमरा	हेटरोपोगान कॉन्टोर्टस	<i>Heteropogon contortus</i> Linn.
7	कुश / सालमा / सालम	क्राईसोपोगॉन ग्राईलस	<i>Chrysopogon gryllus</i> Linn.
8	गिन्नी घास	पैनिकम मैक्सीमम	<i>Panicum maximum</i> Jacq.
9	गोल्ड / गोरिया	क्राईसोपोगॉन फल्वस	<i>Chrysopogon fulvus</i> Linn.
10	जाईन्ट स्टार	साइनोडॉन प्लैक्टोस्टैकियस	<i>Cynodon plectostachyus</i> Pilger
11	तचला / तछीला / छारी	एफ्ल्यूडा म्यूटिका	<i>Apluda mutica</i> Linn.
12	तुतनालिया / सुइना / विच्छारता	अरुन्डिनेला नेपालैन्सिस	<i>Arundinella nepalensis</i> Trin.
13	दूब	साइनोडॉन डेक्टीलौन	<i>Cynodon dactylon</i> Pers.
14	नरकुल	फ्रैगमाइटिस कार्का	<i>Phragmites karka</i> (Retz.)Trin.
15	नलसरा / नवसुरा	नेरौन्डिया अरुन्डिनेसिया	<i>Neyraudia arundinacea</i> Linn.
16	नली	डिचान्थियम एन्यूलेटम	<i>Dichanthium annulatum</i> Stapf.
17	नल	अरुन्डो डोनाक्स	<i>Arundo donax</i> Linn.
18	नैपियर हाईब्रिड	पैनीसिटम परप्यूरियम	<i>Pennisetum purpureum</i> Schumach.
19	पंगोला	डिजीटेरिया डिक्म्बेन्स	<i>Digitaria decumbens</i>
20	पिरिया	थीमेडा अनाथेरा	<i>Themeda anathera</i> (Nees.)Hack.
21	पैराघास	ब्रैकिएरिया म्यूटिका	<i>Brachiaria mutica</i> (Forssk.)Stapf.
22	बजरा	सॉरघम हालेपेन्स	<i>Sorghum halepense</i> Linn.
23	बाबिला / बाबला	सिम्बोपोगॉन मार्टिनी	<i>Cymbopogon martinii</i> Stapf.
24	बैव / भाभड़	यूलैलियोप्सिस बाइनेटा	<i>Eulaliopsis binata</i> C.E.Hubb.
25	मुरकिया / घुलेरी	अरुन्डिनेला सेटोसा	<i>Arundinella setosa</i> Trin.
26	मूज	सैकरम बेन्गालेन्स	<i>Saccharum bengalense</i> Retz
27	सिटेरिया घास	सिटेरिया स्फैसिलाटा	<i>Setaria sphacelata</i>

S. No.	Hindi Name	Hindi Scientific Name	English Scientific Name
28	सिरु घास	इम्पेरेटा सिलिन्ड्रिका	<i>Imperata cylindrica</i> Linn.
(7) Parasites			
1	आकाश बेल / अमर बेल	कस्क्यूटा रेपलेक्सा	<i>Cuscuta reflexa</i> Roxb.
2	चुलुबन्डा	विस्कम अल्बम	<i>Viscum album</i> Linn.
3	डालमी	ऑसिरिस वाईछियाना	<i>Osyris wightiana</i> Wall. ex Wight
4	पन्ड	टैक्सीलस वैस्टीटस	<i>Taxillus vestitus</i> (Wall.) Banser
5	बन्डा	लोरेन्थस जातियां	<i>Loranthus</i> spp.
6	बुद्ध	विस्कम आर्टिकुलेटम	<i>Viscum articulatum</i> Burm.
(8) Exotics			
1	आइलेन्थस	आइलेन्थस ए कसेल्सा	<i>Ailanthus excelsa</i> Roxb.
2	गुलमोहर	डेलोनिक्स रेजिया	<i>Delonix regia</i> (Hook.) Raf.
3	जकरैन्डा	जैकरैन्डा माईमोसीफोलिया	<i>Jacaranda mimosifolia</i> D. Don
4	बॉटल ब्रुश	कैलिस्टिमॉन लैन्सियोलेटस	<i>Callistemon lanceolatus</i> (Sm.) Sweet
5	यूकेलिप्टस / गम	यूकेलिप्टस ग्लोबुलस	<i>Eucalyptus globulus</i> Labill.
6	रोबीनिया	रोबीनिया स्यूडअकेशिया	<i>Robinia pseudoacacia</i> L.
7	वटल	अकेसिया मॉलीसीमा, अकेसिया डिकरेन्स, अकेसिया डियालवाटा	<i>Acacia mollissima</i> Willd. <i>Acacia decurrens</i> Willd. <i>Acacia dealbata</i> Link
8	सिल्वर ओक	ग्रेवेलिया रोबस्टा	<i>Grevillea robusta</i> A. Cunn. ex R. Br.

Fauna

S.No.	Hindi name	English name	Scientific name
1. Mammals			
1	हिम तेदुवा	Snow Leopard	<i>Uncia uncia</i>
2	गुलदार या तेंदुवा	Common Leopard	<i>Panthera pardus</i>
3	भूरा भालू	Brown Bear	<i>Ursus arctos</i>
4	तिब्बती भेडिया	Tibetan Wolf	<i>Canis lupus chanco</i>
5	वन विलाव / चीता बिल्ली	Leopard Cat	<i>Prionailurus bengalensis</i>
6	लाल लोमड़ी	Red Fox	<i>Vulpes vulpes</i>
7	जंगली बिल्ली	Jungle Cat	<i>Felis chaus</i>
8	यूरेशियन लिंक्स	Eurasian Lynx	<i>Lynx lynx</i>
9	भरल / बरड़	Blue Sheep	<i>Pseudois nayaur</i>
10	थार	Himalayan Tahr	<i>Hemitragus jemlahicus</i>
11	काकड़	Barking Deer	<i>Muntiacus muntjak</i>
12	घुरल	Goral	<i>Naemorhedus goral</i>

S.No.	Hindi name	English name	Scientific name
13	सेराव	Himalayan Serow	<i>Capricornis thar</i>
14	सांभर या जड़ाव	Sambar	<i>Rusa unicolor</i>
15	चुईत्रोल	Stone Marten	<i>Martes foina</i>
16	कुरसाला	Pale Weasel	<i>Mustela altaica</i>
17	थचतरौला	Yellow Throated Marten	<i>Martes flavigula</i>
18	मास्कड पाम सीविट	Masked Palm Civet	<i>Paguma larvata</i>
19	सेही	Indian Porcupine	<i>Hystrix indica</i>
20	उड़न गिलहरी	Red Giant Flying Squirrel	<i>Petaurista petaurista</i>
21	उड़न गिलहरी	Kashmir Flying Squirrel	<i>Eoglaucomys fimbriatus</i>
22	लंगूर	Central Himalayan Langur	<i>Semnopithacus scistaceus</i>
23	बंदर	Rhesus Macaque	<i>Macaca mulatta</i>
24	रूंडा	Royale's Pika	<i>Ochotona roylei</i>
25	चमगादड़	Great Himalayan Lef-Nosed Bat	<i>Hipposideros armiger</i>
26	कस्तूरा	Himalayan Musk Deer	<i>Moschus spp.</i>
27	कुरसाला	Siberian Weasel	<i>Mustela sibirica</i>
28	मुरन्द	Himalayan Marmot	<i>Marmota himalayana</i>
29	काला भालू या रीछ	Asiatic Black Bear	<i>Ursus thibetanus</i>
30	सैंड फॉक्स	Tibetan Sand Fox	<i>Vulpes ferrilata</i>
31	जंगली कुत्ता	Wild Dog	<i>Cuon alpinus</i>
32	तिब्बती खरगोश	Tibetan Woolly Hare	<i>Lepus oiostolus</i>
33	रूंडा	Plateau Pika	<i>Ochotona curzoniae</i>
34	नयन	Argali	<i>Ovis ammon</i>
35	जंगली सुअर	Indian Wild Boar	<i>Sus scrofa</i>
36	गीदड़	Golden Jackal	<i>Canis aureus</i>
37	थगलहरी	Northern Palm Squirrel	<i>Funambulus pennantii</i>
38	इण्डियन मोल रैट	The Indian Mole Rat	<i>Bandicota bengalensis</i>
39	चूहा	Indian Field Mouse	<i>Mus booduga</i>
40	चूहा	The House Mouse	<i>Mus musculus</i>
41	चूहा	Common House Rat	<i>Rattus rattus</i>

2. Birds

1	अबलक झाड़ी —पिद्दा	Pied Bushchat	<i>Saxicola caprata</i> –
2	काला गिद्ध	Cinereous Vulture	<i>Aegypius monachus</i>
3	काल्हक फाख्ता	Oriental Turtle Dove	<i>Streptopelia orientalis</i> S.o. meena & S.o. Agricola
4	काफल पक्का	Indian Cuckoo	<i>Cuculus micropterus</i>
5	कोकलास	Koklass Pheasant	<i>Pucrasia macrolopha</i>

ANNEXURE

S.No.	Hindi name	English name	Scientific name
6	कौरिल्ला किलकिला	Pied Kingfisher	<i>Ceryle rudis</i>
7	खुरपा –पूँछ हरियल	Wedge-tailed Green Pigeon	<i>Treron sphenurus</i>
8	घरेलू गोरेया	House Sparrow	<i>Passer domesticus</i>
9	चमर गिद्ध	White –Rumped Vulture	<i>Gyps bengalensis</i>
10	चकोर	Chukar	<i>Alectoris chukar</i>
11	चितली अखरोटफोड़ा	Spotted Nutcracker	<i>Nucifraga caryocatactes</i> N.c. mltipunctata & N.c. hemispila
12	चितिया दुमफांट	Spotted Forktail	<i>Enicurus maculatus</i>
13	चीर	Cheer Pheasant	<i>Catreus wallichii</i>
14	चोटी पत्थर चिरटा	Crested Bunting	<i>Melophus lathamii</i>
15	छोटी चोंच राजलाल	Short-billed Minivet	<i>Pericrocotus brevirostris</i>
16	छोटा किलकिली	Common Kingfisher	<i>Alcedo atthis</i>
17	जटायु गिद्ध	Lammergeier	<i>Gypaetus barbatus</i>
18	जंगली मैना	Jungle Myna	<i>Acridotheres fuscus</i>
19	टुइया तोता	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>
20	पहाड़ी कबूतर	Hill Pigeon	<i>Columba rupestris</i>
21	पछिमी सिर पतफुदकी	Western Crowned Warbler	<i>Phylloscopus occipitalis</i>
22	पिपलेट पतफुदकी	Tickell's Leaf Warbler	<i>Phylloscopus affinis</i>
23	पिलपेट हरी-तूती	Yellow-breasted Greenfinch	<i>Carduelis spinoides</i>
24	बड़ पूँछी छपका	Large-tailed Nightjar	<i>Caprimulgus macrurus</i>
25	बड़ा बटेर	Common Quail	<i>Coturnix coturnix</i>
26	बड़ी अबाबील	Alpine Swift	<i>Tachymarptis melba</i>
27	त्रेहो बसन्था	Great Barbet	<i>Megalaima virens</i>
28	थदवाररेंगनी	Wallcreeper	<i>Tichodroma muraria</i>
29	देसी मैना	Common Myna	<i>Acridotheres tristis</i>
30	देसी नीलकण्ठ	Indian Roller	<i>Coracias benghalensis</i>
31	धवर फाख्ता	Eurasian Collared Dove	<i>Streptopelia decaocto</i>
32	धारीपेट कठफोड़ा	Scaly- Bellied Woodpecker	<i>Picus squamatus</i>
33	धारियां डुन्डल	Asian Barred Owlet	<i>Glaucidium cuculoides</i>
34	धारीपूँछ तरुरेंगनी	Bar-tailed Treecreeper	<i>Certhia himalayana</i>
35	यूरेशियाई गिद्ध	Eurasian Griffon	<i>Gyps fulvus</i>
36	रगड़ उकाब	Steppe Eagle	<i>Aquila nipalensis</i>
37	राजगिद्ध	Red -Headed Vulture	<i>Sarcogyps calvus</i>
38	लम्बचोंच कौवा	Large-Billed Crow	<i>Corvus macrorhynchos</i>
39	ललछती फूलचुकी	Fire-breasted Flowerpecker	<i>Dicaeum ignipectus</i>
40	लाल चोंच लम्बपूँछिया	Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>

S.No.	Hindi name	English name	Scientific name
41	लाल जंगली मुर्गी	Red Junglefowl	<i>Gallus gallus</i>
42	लालछौह वन-उल्लू	Tawny Owl	<i>Strix aluco</i> <i>S.a.nivivola</i> & <i>S.a. biddulphi</i>
43	लालगाल हंसिया चोंच -चरखी	Rusty-Cheeked Scimitar Babbler	<i>Pomatorhinus erythrogyens</i>
44	हिम कबूतर	Snow Pigeon	<i>Columba leuconota</i>
45	हिमालयी-मोनाल	Himalayan Monal	<i>Lophophorus impejanus</i>
46	हिमालयी बर्फ कुक्कुट	Himalayan Snowcock	<i>Tetraogallus himalayensis</i>
47	हिमालयी कठफोड़िया	Himalayan Woodpecker	<i>Dendrocopos himalayensis</i>
48	हिमालयी कलजेठ कस्तूरा	Blue Whistling Thrush	<i>Myophonus caeruleus</i>
49	हिमालयी गिद्ध	Himalayan Griffon	<i>Gyps Himalayensis</i>
50	हिमालयी बुलबुल	Himalayan Bulbul	<i>Pycnonotus leucogenys</i>
51	सफेद खंजन	White Wagtail	<i>Motacilla alba</i>
52	सफेद गिद्ध	Egyptian Vulture	<i>Neophron percnopterus</i>
53	सफेद -चोटी कलीज	Kalij Pheasant	<i>Lophura leucomelanos</i>
54	सफेद गला बतासी	White-throated Needletail	<i>Hirundapus caudacutus</i>
55	श्यामल कीटमार	Dark-sided Flycatcher	<i>Muscicapa sibirica</i>
56	स्वर्ण पीलक	Eurasian Golden Oriole	<i>Oriolus oriolus</i>
57	सफेद पूँछ सिरी	White-tailed Nuthatch	<i>Sitta himalayensis</i>
58	सफेदकंठ चिलचिल	White-throated Laughingthrush	<i>Garrulax albogularis</i>
59	सामान्य चील	Black Kite	<i>Milvus migrans</i>
60	शाहीन	Peregrine Falcon	<i>Falco peregrinus</i> <i>F.p. peregrinator</i> , <i>F.p. babylonicus</i> & <i>F.p. calidus</i>
61	सामान्य प्यौरा	Common Hill Partridge	<i>Arborophila torqueola</i>
62	सामान्य कबूतर	Rock Pigeon	<i>Columba livia</i>
63	सिलेटी सिर तोता	Slaty-Headed Parakeet	<i>Psittacula himalayana</i>
64	सिलेटी भुजंगा	Ashy Drongo	<i>Dicrurus leucophaeus</i>
65	सिलेटी रामगंगरा	Grey-crested Tit	<i>Lophophanes dichrous</i>
66	सिलेटीपर चिलचिल	Variiegated Laughingthrush	<i>Trochalopteron variegatum</i>
67	सुनहरा उकाब	Golden Eagle	<i>Aquila chrysaetos</i>
68	सोनपरी तूती	European Goldfinch	<i>Carduelis carduelis</i>
69	सोनसिर कठफोड़िया	Brown-Fronted Woodpecker	<i>Dendrocopos auriceps</i>

3. Reptiles

(A) Lizards

1	गिरगिट	Indian Garden Lizard	<i>Calotis versicolor</i>
2	गेह	Common Indian Monitor	<i>Varanus bengalensis</i>

S.No.	Hindi name	English name	Scientific name
3	छिपकली	Kashmir Agama	<i>Agama tuberculata</i>
4	छिपकली	Brooks Becko	<i>Hemidactylus brooki</i>
(B) Snakes			
1	अजगर	Indian Python	<i>Python molurus</i>
2	करैत	Common Indian Krait	<i>Bungarus caeruleus</i>
3	धामन	Rat Snake	<i>Ptyas mucosus</i>
4	नग	Cobra	<i>Naja naja</i>
5	हिमालयन पिट वाइपर	Himalayan Pit Viper	<i>Gloudius himalayanus</i>
4. Pisces			
1	कामनकार्प	Common Carp	<i>Cyprinus carpio</i>
2	महासीर	Mahseer	<i>Tor tor</i>
3	रेनबो ट्राउट	Rainbow Trout	<i>Salmo girdhari</i>
4	सुनहरा महाशोर-कली	Golden Mahseer	<i>Tor putitora</i>

Annexure No. 30

Species planted under different schemes in Uttarkashi Forest Division

S. NO.	Name of Scheme	Trees Species	Shrubs Species	Herbs/Medicinal Plants Species	Grasses Species	Bamboo Species
1	Namami Gange	देवदार, तुनसी, रस, कचनार, मेहल, भीमल, सेमला, बांज, बांस, मजनु, आडू, चूल्नु	धिंघारू, किंगोड़, बेर, जंगली गुलाब, रोबानिया मौरिया, दाडिम, हिंसर	आर्चा, सतावर, रीठा, आवंला, तेजपात, सतावरी	जाव घास, नैपियर घास	रिंगाल
2	Working Plan	देवदार, सुरई, अंगा तुन, सादण, सेमल, मौरू, पागर, बकेन, कचनार, अकेशिया मो०, मोरपंखी, जैकरैण्डा, सिल्वर, ओक पदम, अखरोट, आम, अमरूद, नीबू, सेब, जामुन, आवंला, आड, काफल, माल्टा	बांज, सेमला, तिमला, सिरस, मेहल, भण्डेर, अमलतास, पिलखन, चमलाई, कौजल, पापडी	किंगोड़ा, बहेडा, बेर, रीठा, हिंसालु, तेजपात, दाडिम, गुडहल, धिगारू, भमोर, सहतुत, पहाड़ी पीपल, बेलपत्री, वन ककडी, अत्तीस, लैवेण्डर, केसर, जंगली गुलाब, लादु, बाल, छड़, थुनेर, कुट	गिनी, घास, नैपियर घास, गोल्डा घास, ताछिला घास, कुमरिया घास, तुसीयारी	बांस, रिंगाल
3	Campa	देवदार, तुन, सादण, सेमल, मौरू, पागर, कचनार, अकेशिया मो०, जैकरैण्डा, सिल्वर, ओक पदम,	बांज, सेमला	लदु, बाल, छड़, थुनेर, कुट, सतावरी नीलकटी, पत्थरचटा, हिप्पोपी, घोला	जाव घास, नैपियर घास	बांस, रिंगाल
4	Other	देवदार, सुरई, अंगा तुन, सादण, सेमल, मौरू, पागर, बकेन, कचनार, अकेशिया मो०, मोरपंखी, जैकरैण्डा, सिल्वर, ओक पदम, अखरोट आम, अमरूद, नीबू, सेब, जामुन, आवंला, आड, काफल, माल्टा	बांज, सेमला, तिमला, सिरस, मेहल, भण्डेर, अमलतास, पिलखन, चमलाई, कौजल, पापडी	किंगोड़ा, बहेडा, बेर, रीठा, हिंसालु, तेजपात, दाडिम, गुडहल, धिगारू, भमोर, सहतुत पहाड़ी, पीपल, बेलपत्री, वन ककडी, अत्तीस, लैवेण्डर, केसर, जंगली गुलाब लादु, बाल, छड़, थुनेर, कुट	गिनी घास, नैपियर घास, गोल्डा घास, ताछिला घास, कुमरिया घास, तुसीयारी	बांस, रिंगाल

बाँज एवं उच्च तलीय विविध प्रजाति रोपण श्रेणी के अन्तर्गत बाँज सहायतित प्राकृतिक पुनर्जनन (A.N.R.)
वार्षिक कूप

सारणी-8.2

क्र० सं०	नियंत्रण वर्ष	रेंज का नाम	कक्ष का नाम	कक्ष का कुल क्षेत्रफल (है०)	Oak A.N.R. हेतु प्रस्तावित क्षेत्रफल (है०) (वार्षिक लक्ष्य/कूप)	क्षेत्रीय कार्य का नाम
1	2016-17	गंगोत्री	जांगला 5 ए	240.8	10	देवदार एवं केदार
		गंगोत्री	हर्षिल 2 बी	2858.7	10	संरक्षण एवं सुव्यवस्था
		टकनौर	त्यार 4 ए	68.8	10	देवदार एवं केदार
		टकनौर	भुक्की 5 बी	288.6	10	राई एवं मुरिण्डा
		बाड़ाहाट	डोडीताल 1 बी	68.0	10	राई एवं मुरिण्डा
		बाड़ाहाट	निसमोर 8	528.5	10	बाँज
		मुखेम	जलकुरगाड़ 25	411.2	10	बाँज
		डुण्डा	गमरी 5 सी	118.7	10	बाँज
		डुण्डा	धनारी 4 बी	346.4	10	बाँज
		धरासू	नगुणगाड़ 4 बी	210	10	बाँज
				योग	5138.9	100
2	2017-18	गंगोत्री	हर्षिल 7 ए	148.5	10	देवदार एवं केदार
		गंगोत्री	हर्षिल 6 बी	350.1	10	संरक्षण एवं सुव्यवस्था
		टकनौर	भुक्की 4 बी	216.8	10	देवदार एवं केदार
		टकनौर	हुरी 3 बी	367.7	10	राई एवं मुरिण्डा
		मुखेम	जलकुरगाड़ 19 बी	260.0	10	बाँज
		बाड़ाहाट	निसमोर 6 ए	120.2	10	बाँज
		बाड़ाहाट	मनेरी 5 बी	434.2	10	बाँज
		डुण्डा	धनारी 9 बी	276.8	10	बाँज
		डुण्डा	धनारी 14 बी	320.9	10	बाँज
		धरासू	दिचली 5 बी	228.6	10	बाँज
				योग	2722.8	100
3	2018-19	गंगोत्री	हर्षिल 7 ए	148.5	10	देवदार एवं केदार
		गंगोत्री	जांगला 3 ए	325.8	10	संरक्षण एवं सुव्यवस्था
		टकनौर	हुरी 6 ए	179.8	10	देवदार एवं केदार
		टकनौर	भुक्की 4 ए	231.2	10	संरक्षण एवं सुव्यवस्था
		बाड़ाहाट	निसमोर 5 बी	105.2	10	बाँज
		बाड़ाहाट	निसमोर 7 ए	360.2	10	बाँज
		मुखेम	जलकुरगाड़ 25	411.2	10	बाँज

भाग-2 (अध्याय-8) वृक्षारोपण (अतिच्छादी) कार्यवृत्त

		डुण्डा	गमरी 4 सी	285.5	10	बॉज
		धरासू	दस्की 3 बी	349.7	10	बॉज
		धरासू	नगुणगाड 4 बी	210.1	10	बॉज
			योग	2607.2	100	
4	2019-20	गंगोत्री	जांगला 5 ए	240.8	10	देवदार एवं कैल
		गंगोत्री	धराली 6 बी	307.6	10	संरक्षण एव सुधार
		टकनौर	त्यार 5 ए	162.7	10	देवदार एवं कैल
		टकनौर	रैथल 4 ए	1407.1	10	संरक्षण एव सुधार
		बाड़ाहाट	डोडीताल 6 ए	1717.5	10	बॉज
		बाड़ाहाट	कर्वो 2	305.5	10	बॉज
		मुखेम	जलकुरगाड 18 बी	198.3	10	बॉज
		डुण्डा	धनारी 9 बी	276.8	10	बॉज
		धरासू	नगुणगाड 5 बी	229.9	10	बॉज
		धरासू	दिचली 4 बी	348.0	10	बॉज
			योग	5193.4	100	
5	2020-21	गंगोत्री	सुक्की 4 बी	3915.7	10	संरक्षण एव सुधार
		गंगोत्री	सुक्की 4 बी	3915.7	10	संरक्षण एव सुधार
		टकनौर	भुक्की 5 बी	288.6	10	राई एवं मुरिण्डा
		टकनौर	गंगनानी 2 ए	112.5	10	संरक्षण एव सुधार
		बाड़ाहाट	कर्वो 1	468.6	10	बॉज
		बाड़ाहाट	मनेरी 4 बी	336.3	10	बॉज
		बाड़ाहाट	मनेरी 5 बी	434.2	10	बॉज
		मुखेम	जलकुरगाड 29 ए	268.7	10	चीड
		डुण्डा	धनारी 15 डी	289.0	10	बॉज
		धरासू	दिचली 9 बी	224.6	10	बॉज
			योग	10253.9	100	
6	2021-22	गंगोत्री	हर्षिल 11 सी	1465	10	संरक्षण एव सुधार
		गंगोत्री	हर्षिल 11 सी	1465.3	10	संरक्षण एव सुधार
		टकनौर	गंगनानी 5	436.3	10	राई एवं मुरिण्डा
		टकनौर	रैथल 2 ए	272.4	10	संरक्षण एव सुधार
		बाड़ाहाट	कर्वो 1	468.6	10	बॉज
		बाड़ाहाट	उत्तरो 5 बी	110.9	10	बॉज
		मुखेम	जलकुरगाड 27 ए	461.8	10	चीड
		डुण्डा	रानुकीगाड 5 बी	450.0	10	बॉज
		धरासू	नगुणगाड 5 बी	229.9	10	बॉज
		धरासू	दिचली 9 बी	224.6	10	बॉज
			योग	5584.8	100	
7	2022-23	गंगोत्री	सुक्की 4 बी	3915.7	10	संरक्षण एव सुधार
		गंगोत्री	धराली 1 बी	308	10	संरक्षण एव सुधार
		टकनौर	रैथल 6 ए	65.3	10	बॉज

		टकनौर	गंगनानी 6	233.0	10	बोंज
		बाड़ाहाट	उत्तरो 2 बी	500.6	10	बोंज
		बाड़ाहाट	उत्तरो 2 बी	500.6	10	बोंज
		मुखेम	जलकुरगाड़ 28 बी	494.5	10	बोंज
		डुण्डा	रानुकीगाड़ 6 बी	412	10	बोंज
		धरासू	दस्की 5	318.5	10	चीड
		धरासू	खुरमोला 5	419.7	10	संरक्षण एव सु
			योग	7168.5	100	
8	2023-24	गंगोत्री	हर्षिल 10 बी	10691	10	संरक्षण एव सु
		टकनौर	रैथल 7 ए	908.8	10	संरक्षण एव सु
		टकनौर	भुक्की 2	800.5	10	संरक्षण एव सु
		टकनौर	त्यार 7	108.9	10	संरक्षण एव सु
		बाड़ाहाट	निसमोर 7 ए	360.2	10	बोंज
		बाड़ाहाट	निसमोर 8	528.5	10	बोंज
		बाड़ाहाट	मनेरी 4 बी	336.3	10	बोंज
		डुण्डा	रानूकीगाड़ 3 बी	498.2	10	बोंज
		धरासू	दिचली 4 बी	348	10	बोंज
		धरासू	खुरमोला 8 बी	385.3	10	बोंज
			योग	14965.7	100	
9	2024-25	गंगोत्री	धराली 6 बी	307.6	10	संरक्षण एव सु
		टकनौर	हुर्ी 5	292.6	10	संरक्षण एव सु
		टकनौर	रैथल 6 बी	720.8	10	संरक्षण एव सु
		टकनौर	भुक्की 1	1007.7	10	संरक्षण एव सु
		बाड़ाहाट	मनेरी 1	274.4	10	बोंज
		बाड़ाहाट	डोडीताल 6 ए	1717.5	10	बोंज
		मुखेम	जलकुरगाड़ 29 ए	268.7	10	चीड
		डुण्डा	रानूकीगाड़ 4 बी	456.1	10	बोंज
		धरासू	नगुणगाड़ 8 बी	118.7	10	बोंज
		धरासू	दिचली 9 ए	179.3	10	चीड
			योग	5343.4	100	
10	2025-26	गंगोत्री	जांगला 2 बी	434.6	10	संरक्षण एव सु
		टकनौर	गंगनानी 4 ए	1018.7	10	संरक्षण एव सु
		टकनौर	पिलंग 3 ए	37.2	10	बोंज
		टकनौर	रैथल 5 ए	54.6	10	बोंज
		बाड़ाहाट	निसमोर 4 बी	70.8	10	बोंज
		बाड़ाहाट	डोडीताल 1 सी	52.8	10	बोंज
		बाड़ाहाट	गवानागाड़ 4 बी	1059.1	10	बोंज
		मुखेम	बाड़ागड्डी 9 डी	223.3	10	बोंज
		मुखेम	बाड़ागड्डी 7 बी	241.1	10	बोंज
		धरासू	नगुणगाड़ 3 बी	251.7	10	बोंज

भाग-2 (अध्याय-8) वृक्षारोपण (प्रतिवर्षीय) कार्यक्रम

		योग	3443.9	100	
		कुल योग	62,422.5	1,000	

(4) रोपण कार्य को सफल बनाने एवं कार्य की सुगमता हेतु प्रभागीय वनाधिकारी अपन विवेक से ए0एन0आर0 (A.N.R.) हेतु उपरोक्त वार्षिक कूपों के क्रम में परिवर्तन कर सकते हैं। प्रतिवर्ष किसी एक कूप का चयन कर सकते हैं।

(5) यदि कतिपय कारणों से उपरोक्त सारणी-8.2 में प्रस्तावित कक्षा में ए0एन0आर0 (A.N.R.) करना उपयुक्त न हो तो प्रभागीय वनाधिकारी द्वारा व्यक्तिगत निरीक्षण के उपरान्त कारण बतलाते हुए अन्य कक्षा में ए0एन0आर0 (A.N.R.) किया जा सकता है। प्रभागीय वनाधिकारी द्वारा इसकी सूचना क्षेत्रीय वन संरक्षक को दी जायेगी।

(6) निर्देशित वार्षिक लक्ष्य से अधिक क्षेत्र ए0एन0आर0 (A.N.R.) हेतु लिये जा सकते हैं। यह विचलन नहीं माना जायेगा। परन्तु निर्देशित लक्ष्य से कम क्षेत्र में ए0एन0आर0 (A.N.R.) करना विचलन माना जायेगा।

(6.1) बाँज एवं उच्च तलीय विविध प्रजाति रोपण श्रेणी के अन्तर्गत बाँज सहायतित प्राकृतिक पुनर्जनन (A.N.R.) हेतु पौधालयों में पौध उगाने के वार्षिक भौतिक लक्ष्य

वर्ष	गंगोत्री रेन्ज		टकनौर रेन्ज		बाड़ाहाट रेन्ज		मुखेम रेन्ज		डुण्डा रेन्ज		धरासू रेन्ज	
	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)	रोपण लक्ष्य (है0)	पौध उगाने का लक्ष्य (पौध संख्या)
2016-17	20	4000	20	4000	20	4000	10	2000	20	4000	10	2000
2017-18	20	4000	20	4000	20	4000	10	2000	20	4000	10	2000
2018-19	20	4000	20	4000	20	4000	10	2000	10	2000	20	4000
2019-20	20	4000	20	4000	20	4000	10	2000	10	2000	20	4000
2020-21	20	4000	20	4000	30	6000	10	2000	10	2000	10	2000
2021-22	20	4000	20	4000	20	4000	10	2000	10	2000	20	4000
2022-23	20	4000	20	4000	20	4000	10	2000	10	2000	20	4000
2023-24	10	2000	30	6000	30	6000	0	000	10	2000	20	4000
2024-25	10	2000	30	6000	20	4000	10	2000	10	2000	20	4000
2025-26	10	2000	30	6000	30	6000	20	4000	0	0	10	2000
योग	170	34000	230	46000	230	46000	100	20000	110	22000	160	32000

टिप्पणी- पौधालयों में तथा वनीकरण क्षेत्रों में विभिन्न प्राकृतिक कारणों यथा ओला वृष्टि, बर्फवारी, तीव्र वर्षा, बादल फटना, सूखा, वन्य पशुओं आदि कारणों से काफी पौधे नष्ट होते हैं। कई बार शासन की नई योजनाओं के कारण पौधारोपण का अतिरिक्त लक्ष्य निर्धारित हो जाता है। इसके अतिरिक्त विभिन्न वन पर्वों यथा वन महोत्सव आदि में पौधे लगाये जाते हैं। विभिन्न विभागों, संस्थाओं, विद्यालयों, वन पंचायतों, स्थानीय जनता द्वारा भी पौधों की मांग की जाती है। अतः इन विभिन्न कारणों से उपरोक्त लक्ष्य से अधिक पौधे उगाने पर विचलन नहीं माना जायेगा।

कार्यालय प्रमुख वन संरक्षक, मूल्यांकन एवं कार्य योजना, उ.प्र. लखनऊ ।
संख्या /दिनांक/लखनऊ/मार्च 29, 1997 ।

सेवा में,

समस्त वन संरक्षक,
पर्वतीय, उ.प्र.।

मा. उच्चतम न्यायालय द्वारा रिट याचिका संख्या 202/95-टी.एन.गोडावर्मन थेरूमल्वपाद बनाम यूनियन आफ इण्डिया व अन्य में दिनांक 12.12.1996 को पारित निर्णय के अनुपालन में उ.प्र. के पर्वतीय क्षेत्रों में सूखे, गिरे तथा रूग्ण वृक्षों के विदोहन व निस्तारण हेतु गुणात्मक व मात्रात्मक मानक निर्धारण के लिए संस्तुतियां प्रदान करने के उद्देश्य से कार्यालय ज्ञाप संख्या 7120/14-2-96 दिनांक 23.12.1996 द्वारा प्रमुख वन संरक्षक, उत्तराखण्ड उ.प्र. की अध्यक्षता में एक विशेषज्ञ समिति का गठन किया गया था।

उक्त समिति द्वारा अपनी संस्तुति/रिपोर्ट (संलग्न) उपलब्ध करा दी गयी है, इस आख्या के अध्याय-4 में पर्वतीय क्षेत्रों को परिभाषित किया गया है। इन पर्वतीय क्षेत्रों में केवल गिरे, सूखे तथा रूग्ण वृक्षों जहाँ वन्यजीव संरक्षण अधिनियम 1972 की धारा-18 व 35 के अन्तर्गत पातन पर प्रतिबन्ध है, विभागीय रूप से या वन निगम के माध्यम से ही पातन अनुमन्य है। इस सम्बन्ध में संलग्न आख्या के अध्याय-5 में उपरोक्त प्रकार के वृक्षों का गुणात्मक मानक निर्धारित कर परिभाषित किया गया है, साथ ही साथ मात्रात्मक मानकों पर भी निर्देश दिया गया है। उपरोक्त मा. उच्चतम न्यायालय के निर्णय के पैरा-III (तीन) के अनुसार उ.प्र. शासन को यह सुनिश्चित करना है कि पर्वतीय क्षेत्रों के इन वनों में किसी भी पातन व निस्तारण उपरोक्त मानकों के आधार पर ही किया जाय।

आप सुनिश्चित करें कि उपरोक्त निर्णय का पूर्ण अनुपालन हो। इस हेतु आप अपने स्तर से संबंधित प्रभागीय वनाधिकारियों को व अन्य अधिकारियों को कड़े निर्देश देने का कष्ट करें जिससे कोई भी पातन कार्य उपरोक्त निर्देशों के विरुद्ध न हो। यदि उपरोक्त निर्णयों के कार्यान्वयन में वर्तमान कार्य योजनाओं का कोई विचलन हो तो उस सम्बन्ध में तत्काल भारत सरकार की पूर्व अनुमति प्राप्त करने हेतु निर्धारित प्रपत्र में प्रस्ताव संबंधित वन संरक्षक, कार्य योजना वृत्त के माध्यम से प्रस्तुत करने का कष्ट करें।

संलग्नक-समिति की आख्या के अध्याय 4 व 5 की सात प्रतियाँ ।

(आर.पी.सिंह)
प्रमुख वन संरक्षक,
मूल्यांकन एवं कार्य योजना, उ.प्र. लखनऊ

संख्या- 141 (५)/20-2-1/दिनांकित ।

प्रतिलिपि मुख्य वन संरक्षक, गढ़वाल, कुमाऊँ, उत्तराखण्ड, क्षेत्रीय प्रबन्धक, कुमाऊँ, रामनगर, कोटद्वार, गढ़वाल, टेहरी, देहरादून को उपरोक्तानुसार माननीय उच्चतम न्यायालय के आदेशों की कड़ाई से अनुपालन करने हेतु प्रेषित।

संलग्नक- समिति की आख्या के अध्याय 4 व 5 की सात प्रतियाँ ।

(आर.पी.सिंह)
प्रमुख वन संरक्षक,
मूल्यांकन एवं कार्य योजना, उ.प्र. लखनऊ

संख्या शि0-141(प)20-2-1, स0के0 1 दिनांकित।

प्रतिलिपि मुख्य वन संरक्षक, उत्तराखण्ड, उ.प्र. नैनीताल एवं प्रबन्ध निदेशक, उ.प्र. वन निगम, इन्दिरानगर, लखनऊ को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

संलग्नक— समिति की आख्या के अध्याय 4 व 5 की सात प्रतियाँ।

(आर.पी.सिंह)
प्रमुख वन संरक्षक,
मूल्यांकन एवं कार्य योजना, उ.प्र. लखनऊ

कार्यालय प्रमुख वन संरक्षक, कार्ययोजना वृत्त 2 उ.प्र., नैनीताल

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प्रतिलिपि—समस्त कार्ययोजना अधिकारी (का.यो.वृत्त-2 उ.प्र. नैनीताल) को सूचनार्थ एवं उपरोक्तानुसार आवश्यक कार्यवाही हेतु प्रेषित।

(एन.के.उपाध्याय)
वन संरक्षक, कार्ययोजना वृत्त-2, उ.प्र., नैनीताल

विशेषज्ञ समिति की संस्तुतियाँ

अध्याय-4

गिरे, सूखे व रूग्ण वृक्षों के लिए गुणात्मक एवं मात्रात्मक मानक

4.1 गुणात्मक मानकों का निर्धारण— पर्वतीय क्षेत्र में माननीय उच्चतम न्यायालय के अन्तरिम आदेश दिनांक 12.12.1996 के अनुपालन में केवल गिरे, सूखे तथा रूग्ण वृक्षों का ही निस्तारण किया जाना है। अतः सर्वप्रथम ऐसे वृक्षों को विशिष्ट रूप से परिभाषित करना आवश्यक होगा। इस विषय पर चर्चा के आरम्भ में भारतीय वानिकी व शिक्षा परिषद् के दो तकनीकी विशेषज्ञ आमंत्रित किये गये थे, जिनके द्वारा मृत वृक्ष को निम्न प्रकार परिभाषित किया गया —

Dead trees- A tree which is physiologically nonfunctional is a dead tree.

रोग ग्रस्त वृक्ष के सम्बन्ध में निम्न दो प्रकार के वृक्षों को सम्मिलित किया गया जो कि मरने की प्रक्रिया में हों।

(अ) पैथोलोजिकल— रोग के कारण, जो संक्रामक हो सकता है।

(ब) नान-पैथोलोजिकल— आग, जैविक दबाव, भूमि व मृदा में कमी, छाल काटने, अत्यधिक शाख-तरासी आदि कारणों से वृक्ष के छत्र में सूख आती है। वृक्ष के सूखने व मरने के कारणों का पता स्थल व वृक्षों के परीक्षण करने से ही लगाया जा सकता है।

समिति की बैठक में यह मत भी व्यक्त किया गया कि गिरे, सूखे व रूग्ण वृक्षों को चिन्हित करने के लिए कार्य योजनाओं में जो मानदण्ड निर्धारित हैं, उन्हीं को आधार माना जाय।

4.1.1 समिति की द्वितीय बैठक में इस विषय पर पुनः चर्चा हुई, जिसमें सर्व सम्मति से सूखे, गिरे व रूग्ण वृक्षों को निम्न प्रकार परिभाषित किया गया—

1- गिरा वृक्ष— जो वृक्ष अपने जड़तंत्र के सहारे खड़ा नहीं रह सके उसे गिरा वृक्ष माना जायेगा, वह सूख या हरा हो सकता है। तने से टूटकर विलग हुआ भाग भी गिरे वृक्ष की परिभाषा में सम्मिलित होगा।

2- सूखा वृक्ष— वह वृक्ष जिसमें सभी फिजियोलोजिकल प्रक्रिया समाप्त हो गयी है, जिसका पूरा छत्र सूख गया है और जड़ से चोटी तक कोई भी शाखा हरी न हो। यह खड़ा या गिरा हो सकता है।

3- रूग्ण वृक्ष—वन अनुसंधान संस्थान के प्रकाशन तकनीकी शब्दावली (Glossary of technical terms) के अनुसार रूग्ण वृक्ष की परिभाषा निम्नवत् है —

Diseased trees- Tree which are infected with Parasites to such an extent that their growth is seriously affected or they are a danger to their neighbors.

समिति के सदस्यों ने इस तथ्य की ओर भी ध्यान आकृष्ट किया कि पर्वतीय क्षेत्र के वृक्षों में होने वाले अधिकांश रोग संक्रामक रूप से नहीं होते हैं एवं इक्का-दुक्का वृक्षों के रोगी होने पर उनको पूर्णतया सूखने के पश्चात् ही सूखे वृक्षों की श्रेणी में वर्गीकृत किया जाना चाहिए।

4.1.2 समिति ने सर्व सम्मति से यह भी निर्णय लिया कि यदि किसी क्षेत्र में बड़ी मात्रा में वृक्षों का सूखना पाया जाय तो सूखने के कारणों व बीमारी का परीक्षण विशेषज्ञ व विभागीय अधिकारियों के द्वारा किया जाय। समिति ने यह सावधानी बरतने के लिए भी संस्तुति दी है कि बिना विशेषज्ञों व विभागीय अधिकारियों के परीक्षण किये रूग्ण वृक्ष के नाम पर किसी भी वृक्ष का पातन न किया जाय।

4.1.3 समिति की विभिन्न बैठकों में गिरे, सूखे व रूग्ण वृक्षों के गुणात्मक मानकों के सम्बन्ध में उपरोक्तानुसार स्पष्ट संस्तुतियां की गयी है तथा उन्हीं के आधार पर उत्तर प्रदेश, वन निगम द्वारा वृक्षों का निस्तारण किया जाना चाहिए।

4.2 मात्रात्मक मानकों का निर्धारण— माननीय उच्चतम न्यायालय के अन्तरिम आदेश में समिति को यह भी दायित्व दिया गया है कि वे निस्तारित किये जाने वाले गिरे, सूखे व रूग्ण वृक्षों के मात्रात्मक मानक निर्धारित करें।

4.2.1 इस विषय पर समिति की दिनांक 20.1.1997 को हुई दूसरी बैठक में यह मत व्यक्त किया गया कि शासन द्वारा संयुक्त स्थानीय हक-हकूकों की आपूर्ति के पश्चात्; जो गिरे, सूखे व रूग्ण वृक्ष अवशेष रहते हैं, उनका चीड़ व कचरे के रूप में 5 वर्षीय पातन चक्र एवं देवदार, कैल, फर, ल्यूरी कार्यवृत्त में 10 वर्षीय पातन चक्र पर वन विभाग द्वारा छपान कर वन निगम के माध्यम से निस्तारण किया जाय। बैठक में यह भी मत व्यक्त किया गया कि यदि प्राकृतिक कारणों से किसी वर्ष में भारी मात्रा में वृक्ष गिर जाते हैं तो निरीक्षण के पश्चात् संयुक्त संस्तुति के आधार पर अपवाद स्वरूप उनको उसी वर्ष निकाला जा सकता है। इस क्रम में यह भी मत व्यक्त किया गया कि जिन सूखे, गिरे, रूग्ण वृक्षों की भूमि एवं जल संरक्षण की दृष्टि से उसी रूप में उस स्थल पर बने रहने की उपयोगिता रहती है, उनको नहीं हटाया जाना चाहिए। बैठक में यह मत उभरकर आया था कि कुछ वर्षों से भारी क्षति के दृष्टिगत देवदार, कैल व फर के उच्च क्षेत्र के वनों के अलग 10 वर्षों तक सभी प्रकार के वाणिज्यिक कटान पर रोक लगायी जाय तथा वीर वनों में कार्ययोजनाओं में दर्शाये गये 10 वर्षीय पातन चक्र पर गिरे, सूखे, रूग्ण वृक्षों को निस्तारण किया जाय। पिछले कुछ वर्षों में अधिक कटान होने के कारण देवदार, कैल व फर के वनों में अगले 10 वर्षों तक कटान पर पूर्ण रोक लगाये जाने के लिए विचार व्यक्त किया गया।

4.2.2 समिति की दिनांक 4.2.97 की तृतीय बैठक में मासिक मानक निर्धारण पर पुनः चर्चा की गयी तथा यह मत व्यक्त किया गया कि प्रति वर्ष गिरे, सूखे, रोगग्रस्त वृक्षों की संख्या अनिश्चित होने के कारण उनकी वार्षिक मात्रा का निर्धारण करना संभव नहीं है। अतः पातन प्रयोगों में क्षेत्रफल के आधार पर वार्षिक कूपों के निर्धारण करने पर चर्चा हुई। चर्चा में यह निन्द्य पुनः उभर कर आया कि उच्च स्तरीय देवदार, कैल, फर के क्षेत्रों में आगामी 10 वर्षों तक गिरे, सूखे, रोगग्रस्त वृक्षों के व्यापारिक निस्तारण पर प्रतिबन्ध लगाया जाय तथा चीड़ क्षेत्रों में कार्ययोजना में निर्धारित 10 वर्षों तक पर ही ऐसे वृक्षों के निस्तारण का कार्य किया जाय। उच्च स्तरीय कैल, देवदार, फर क्षेत्रों में 10 वर्षों के लिए पूर्ण प्रतिबन्ध लगाये जाने पर सदस्य एक मत नहीं हो सके।

4.2.3 सदस्यों द्वारा ऐसे वृक्षों के संख्यात्मक रूप से वार्षिक मात्रा निर्धारित करने के लिए पूर्व के दो दशकों में हुए विभिन्न प्रकार के वृक्ष पातन के आंकड़ों की जानकारी चाही ताकि अगली बैठक में इस पर निर्णायक चर्चा की जा सके। पिछले वर्षों में प्रत्येक वन प्रभाग में वृक्षों के पातन सूची और प्रकाष्ठ उत्पादन के आंकड़ों का परीक्षण और विश्लेषण किया गया। इस प्रकरण पर दिनांक 17.2.97 की चतुर्थ बैठक में पुनः गहन विचार विमर्श किया गया, जिसमें अन्तिम रूप में निम्न प्रकार सहमति व्यक्त की गयी।

1. उत्तर प्रदेश पर्वतीय क्षेत्र में विभिन्न शासनादेशों से मुद्रतल से 1000 मीटर से अधिक ऊँचाई के क्षेत्रों में हरे वृक्षों के पातन पर वर्ष 1981 से रोक लगी हुई है जिसको शासन के अन्तिम आदेश दिनांक 27.9.96 द्वारा आगामी 10 वर्षों तक प्रभावी रखा गया है। इस सम्बन्ध में पूर्व अध्यायों में भी विस्तृत चर्चा की गयी है। उक्त शासनादेश के परिपेक्ष्य में तथा माननीय उच्चतम न्यायालय के आदेशों के अनुरूप समुद्रतल से 1000 मीटर से ऊपर के क्षेत्रों में केवल गिरे, सूखे व रूग्ण वृक्षों के निस्तारण के सम्बन्ध में इस विशेषज्ञ समिति ने अपनी संस्तुतियाँ सीमित रखी हैं। समुद्रतल से 1000 मीटर के नीचे के क्षेत्रों में संबंधित कार्ययोजनाओं, जिनका अनुमोदन भारत सरकार द्वारा कर दिया गया हो, के अनुसार ही वृक्षों के निस्तारण की कार्यवाही किए जाने पर सहमति हुई। शासनादेश के अनुरूप सभी वन प्रभागों की वर्तमान कार्ययोजनाओं में ऐसे संवेदनशील क्षेत्रों के सम्बन्ध में विशेष परिस्थितियों और पातन पर प्रतिबन्ध सम्बन्धी निर्देशों का समुचित समावेश कर दिया गया है।
2. समिति में प्रो. कोल समिति द्वारा दी गयी वैज्ञानिक तथ्यों पर आधारित रिपोर्ट पर भी चर्चा हुई तथा विभाग द्वारा समय-समय पर इस सम्बन्ध में वैज्ञानिक आधार पर शासन को दी गयी आख्याओं पर भी चर्चा हुई जिसमें चीड़ के वनों में छोटी पौध उपज के ऊपर बड़े हरे पेड़ों सहित सभी हरे वृक्षों के पातन पर लगे प्रतिबन्ध के कारण चीड़ के पुनर्जनन व वृद्धि में हो रही क्षतियों के सम्बन्ध में भी विचार व्यक्त किये गये। परन्तु इन संस्तुतियों एवं विभागीय मतों के वावजूद भी शासन द्वारा समुद्रतल से 1000 मीटर से अधिक ऊँचाई वाले क्षेत्रों में हरे पेड़ों के कटान पर अगले 10 वर्षों के लिए फिर से पूर्ण प्रतिबन्ध लगा दिया गया है। अतः 1000 मीटर से ऊँचाई वाले क्षेत्रों के लिए समिति को अपनी संस्तुति गिरे, सूखे व रूग्ण वृक्षों के निस्तारण तक ही सीमित रखनी आवश्यक समझी गयी।
3. समिति के समक्ष उत्तर प्रदेश के पर्वतीय क्षेत्रों के विभिन्न प्रभागों में पिछले 20 वर्षों में विभिन्न माध्यमों से निकाले गए विभिन्न प्रजाति के वृक्ष व प्रकाष्ठ के आंकड़े विचारार्थ रखे गए थे। इनके अवलोकन से ज्ञात होता है कि यद्यपि कुछ प्रभागों में समय-समय पर प्रकाष्ठ विदोहन में अप्रत्याशित वृद्धि रहीं परन्तु अधिकांश प्रभागों में यह भी परिलक्षित होता है कि 1982-83 के पश्चात् (हरे वृक्षों के पातन पर प्रतिबन्ध लगने पर) आवंटित वृक्ष/प्रकाष्ठ की वार्षिक मात्रा में कमी आयी। परन्तु इससे गिरे, सूखे वृक्षों की उपलब्धता के विषय पर कोई निश्चित रूझान परिलक्षित नहीं होता है। चर्चा में यह मत भी व्यक्त किया गया कि गिरे, सूखे व रोगग्रस्त वृक्षों की वार्षिक उपलब्धि को वृक्षों की संख्या अथवा आयतन के आधार पर परिमाणित करना संभव नहीं है। अतः क्षेत्रफल को आधार मानकर ही वार्षिक पातन कूप निर्धारित किये जा सकते हैं।
4. समस्त बैठकों में हुई चर्चाओं और विश्लेषण के आधार पर अन्ततः समिति द्वारा सर्वसम्मति से यह संस्तुति की गयी है कि विभाग में चली आ रही कार्ययोजनाओं में 10 वर्षीय अवधि के आधार पर समस्त कार्यवृत्तों जिनमें

कार्ययोजनाओं के प्राविधानों के अनुसार वृक्षों वाणिज्यिक निस्तारण किया जा सकता है को 10 वर्षीय पातन चक्र में विभक्त करते हुए प्रभागवार वार्षिक पातन कूप बनाये जाए। ऐसे समस्त वन क्षेत्रों के किसी भी कक्ष में दस वर्ष से पूर्व वृक्षों के वाणिज्यिक छपान व पातन पर प्रतिबन्ध रहेगा। संरक्षण कार्यवृत्त में सभी प्रकार के वृक्षों के वाणिज्यिक पातन पर प्रतिबन्ध के प्राविधानों का पूर्णतया अनुपालन किया जाय। यह भी निर्णय लिया गया कि यदि किसी अदृश्य, असाधारण और अप्रत्याशित आपदा जैसे अग्नि दुर्घटना, तूफान, अधिक वर्षवारी, भू-स्खलन, संक्रामक व अन्य रोगों से महामारी के कारण किसी क्षेत्र में अधिक संख्या में वृक्षों के गिरने, सूखने व रोगग्रस्त होने की दशा में संबंधित वन संरक्षक की स्वीकृति और कार्य योजना वृत्त के सहयोग पर एक समिति बनाकर उक्त स्थान पर वृक्षों का संयुक्त निरीक्षण करने के पश्चात् वन प्रभाग के वार्षिक कार्यक्रम में सम्मिलित करते हुए अपवादस्वरूप ऐसे रोगग्रस्त वृक्षों का निस्तारण किया जा सकता है।

5. समिति की विभिन्न बैठकों में हुई चर्चाओं व सुझावों के आधार पर यह मत व्यक्त किया गया कि राष्ट्रीय वन नीति 1988 के दिशा निर्देशों के अनुरूप स्थानीय क्षेत्र की जनता की घरेलू आवश्यकताओं की पूर्ति हेतु गिरे, सूखे, रोगग्रस्त वृक्षों के उपयोग हेतु सर्वोच्च प्राथमिकता दी जानी चाहिए। चूंकि पर्वतीय क्षेत्र के गाँव व कस्बों में अभी भी जनता द्वारा खाना पकाने के लिए लकड़ी का प्रयोग किया जाता है, गिरे, सूखे व रोगग्रस्त सभी वृक्षों को वाणिज्यिक विधि से निस्तारित किया जाता है तो स्थानीय जनता की दैनिक आवश्यकताओं के लिए हरे वृक्षों पर दबाव अधिक पड़ेगा अतः लम्बी अवधि का 10 वर्षीय पातन चक्र निर्धारित करके स्थानीय निजी आवश्यकताओं हेतु अधिक सूखी, गिरी पड़ी लकड़ी उपलब्ध हो जाने से आवश्यकता की पूर्ति को संतुलित किया जा सकता है। कस्बाई व नगरीय जनसंख्या को जलाऊ लकड़ी व प्रकाष्ठ की आपूर्ति हेतु पर्वतीय क्षेत्र में रियायती दरों पर प्रकाष्ठ व जलाऊ लकड़ी उपलब्ध कराने हेतु अनेक स्थानों पर वन निगम द्वारा फुटकर विक्रय डिपो स्थापित किये गये हैं इन डिपो से आपूर्ति संभव करने हेतु उपलब्ध मात्रा में गिरे, सूखे व रूग्ण वृक्षों का वन निगम द्वारा वार्षिक निस्तारण किया जाना भी आवश्यक है।

6. पर्वतीय क्षेत्रों के प्रभागों में 50 प्रतिशत से अधिक वन क्षेत्रों को कार्य योजनाओं में संरक्षण कार्यवृत्त में रखा गया है, जिनमें गिरे, सूखे व रूग्ण वृक्षों का उपयोग केवल स्थानीय जनता के हक-हकूकों व निजी घरेलू प्रयोग किए जाने का प्राविधान है। यह भी व्यक्त किया गया कि वनों में गिरे, सूखे व खड़े वृक्षों का पर्यावरण और स्थानीय पारिस्थितिकीय संतुलन और संरक्षण के लिए महत्व बना रहता है। ऐसे वृक्षों को लम्बी अवधि तक बनाये रहने के उद्देश्य से दस वर्षों का पातन चक्र अधिक उपयोग रहेगा।

4.2.4 वन निगम द्वारा पूर्व निर्धारित उद्देश्यों की पूर्ति व उनकी कार्यप्रणाली पर समिति की विभिन्न बैठकों में विस्तृत विचार विमर्श किया गया तथा सभी सदस्य इस पर एक मत थे कि वन निगम और वन विभाग की कार्यप्रणाली में पूर्ण पारदर्शिता होनी चाहिए तथा स्थानीय जनता से सभी कार्यों पर निरन्तर संवाद किया जाना चाहिए। चूंकि वनों की सुरक्षा स्थानीय जनता की सहभागिता व सहयोग से ही सुनिश्चित की जा सकती है। इस सम्बन्ध में समिति द्वारा गहन विचार विमर्श के पश्चात् यह भी सहमति हुई कि वन निगम के लॉटों में टेण्डर द्वारा निर्धारित अथवा ठेकेदारी प्रथा के बजाय प्रत्येक कार्य की मद के विभागीय व्यय मानक निर्धारित करके सीधे वन श्रमिकों, श्रम संविदा समितियों/श्रम मंडलियों के माध्यम से वृक्ष पातन का विदोहन कार्य करवाये जाय। यह भी सहमति बनी कि ठेकेदारी प्रथा के समय नदी बहान की लकड़ी को राकने के लिए बूमों के समीप जो प्रकाष्ठ विक्रय के बड़े केन्द्र बनाये गये थे उन्हें अब सड़कों के जाल बिछाने के कारण यथासंभव भीतरी पर्वतीय क्षेत्रों में भी उपयुक्त स्थानों पर स्थापित किये जाने चाहिए। इससे स्थानीय प्रकाष्ठ मण्डी तैयार होने से अनेक प्रकार जनता को रोजगार और आर्थिक सुधार के अवसर भी प्राप्त हो सकेंगे।

अध्याय-5

विशेषज्ञ समिति की संस्तुतियाँ

5.1 पर्वतीय क्षेत्र के वनों में वृक्ष पातन पर माननीय उच्चतम न्यायालय के अन्तरिम आदेशों से लगाये गए प्रतिबन्ध और गिरे, सूखे व रूग्ण वृक्षों के निस्तारण के विषय पर ऐसे वृक्षों के गुणात्मक एवं मात्रात्मक मानक निर्धारण के लिए विशेषज्ञ समिति द्वारा अनेक बैठकों में विभिन्न पहलुओं पर विचार विमर्श का विवरण एवं विश्लेषण पूर्व अध्यायों में किया गया है। इसके आधार पर समिति निम्नलिखित संस्तुति करती है।

1. गिरे, सूखे तथा रूग्ण वृक्षों के निस्तारण हेतु ऐसे वृक्षों का गुणात्मक मानकों का निर्धारण-

गिरा हुआ वृक्ष- वह वृक्ष है जो अपने जड़तंत्र के सहारे खड़ा नहीं रह सकता है। वृक्ष के तने से टूट कर विलग हुआ भाग भी गिरे वृक्ष में सम्मिलित है।

सूखे वृक्ष-वह वृक्ष जिसमें वृक्ष की फीजियोलोजिकल प्रक्रिया पूर्ण तरह समाप्त हो गयी हो और वृक्ष छत्र सहित जड़ से चोटी तक पूरा सूख गया हो।

रूग्ण वृक्ष- ऐसे वृक्ष जो परजीवी रोगाणु से ग्रस्त होकर समीपवर्ती अन्य वृक्षों के लिए संक्रामक रोग का कारण बन रहे हों।

2. गिरे सूखे तथा रूग्ण वृक्षों के निस्तारण हेतु मात्रात्मक मानकों का निर्धारण- वनों में गिरे व सूखे वृक्षों की प्रतिवर्ष उपलब्ध होने वाली मात्रा का निर्धारण करना संभव नहीं हो सकता है। रूग्ण व महामारी की असाधारण घटना होने से ऐसे वृक्षों की उपलब्धता का वार्षिक अग्रिम मात्रीकरण भी संभव नहीं है। अनुमोदित वन प्रबन्ध कार्य योजना में उल्लिखित संरक्षण कार्यवृत्त के क्षेत्रों को छोड़ कर अन्य सभी वनों में गिरे और सूखे वृक्षों के वार्षिक निस्तारण हेतु कार्यवृत्तों के क्षेत्रफल को 10 वर्ष के पातन चक्र पर वार्षिक कूपों में विभाजित कर छपान/पातन कूप निर्धारित किये जायेंगे। कार्ययोजना में पहले से ही दस वर्ष के चक्र पर निर्दिष्ट वार्षिक कूपों के कक्षों में उसी के अनुसार प्रति वर्ष उपलब्ध गिरे व सूखे वृक्षों का छपान व निस्तारण किया जायेगा। संरक्षण कार्यवृत्तों में ऐसे उपलब्ध वृक्षों का छपान कर स्थानीय जनता द्वारा हक-हकूक में निजी उपयोग हेतु दिया जायेगा। स्थानीय जनता की घरेलू दैनिक आवश्यकताओं के परिपेक्ष्य में संरक्षण कार्यवृत्त में अतिरिक्त अन्य कार्यवृत्तों में 10 वर्ष का लम्बी अवधि के पातन चक्र बनाये जाने की संस्तुति की जाती है। प्राकृतिक आपदा व असाधारण विशेष कारणों, जैसे अग्नि दुर्घटना, तूफान, अत्यधिक वर्षवारी व संक्रामक रोगों आदि की महामारी के कारण किसी क्षेत्र विशेष में अधिक संख्या में वृक्षों के सूखने/गिरने अथवा संक्रामक रोग ग्रस्त होने की दशा में क्षेत्रीय वन वृत्त स्तर पर क्षेत्रीय एवं कार्ययोजना के अधिकारियों की एक समिति जिसमें यथा संभव स्थानीय पर्यावरण संरक्षण में लगी संस्था का वरिष्ठ कार्यकर्ता भी शामिल किया जाय, बनाकर स्थल और वृक्षों का निरीक्षण व परीक्षण करने के फलस्वरूप की गयी संयुक्त संस्तुति के पश्चात् वार्षिक संवर्धन कार्यक्रम में इसे सम्मिलित करते हुए अपवाद स्वरूप ही ऐसे वृक्षों का निस्तारण किया जा सकेगा।

(भागवत प्रसाद मलेटा

(ए.आर.चड़ड़ा)

(डी.पी.जोशी)

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अध्यक्ष

उप महानिरीक्षक वन
वन एवं पर्यावरण मंत्रालय
भारत सरकार

सेन्ट्रल हिमालयन इन्वायरमेंट
एसोसिएशन जुबली बिला
नैनीताल

सदस्य

(चण्डी प्रसाद भट्ट)

(जवाहर लाल)

दशोली ग्राम स्वराज्य

प्रबन्ध निदेशक

मण्डल गोपेश्वर, चमोली

ए सदस्य उत्तर प्रदेश वन निगम, सदस्य/सचिव नैनीताल, दनांक 6 मार्च, 1997.

Crew Stations in Uttarkashi Forest Division

क्र० सं०	रेंज नाम	का कू- स्थान	नियंत्रणाधीन कक्ष	क्षेत्रफल
1	गंगोत्री (02)	सोनगाड	सुक्खी 1,2,3,4 व 1 बी	1348.10 है०
		हर्षिल	हर्षिल 1ए, 2ए, 3ए, 4, 5, 6ए धराली 1 ए, 2ए, 3ए, 4ए, 4सी, 5ए, धराली 6ए, 7ए, धराली 8ए, हर्षिल 7ए, 8ए 9ए	3798.10 है०
2	टकनौर (04)	भटवाड़ी	रैथल 1 से 8 तक भुक्की 1 से 4 तक	5832.20 है० 2497.00 है०
		हुरी/गंगनानी	हुरी 4 से 11, जलारी 1 से 4	13590.20 है० 7830.10 है०
		भुक्की/संगलाई	तिहार 1 से 7 गंगनानी 1 से 6 तक भुक्की 5 से 6	2139.50 है० 6354.00 है० 5461.70 है०
		सिल्ला/पिलग	पिलंग 1 से 6 तक	23051.20 है०
		बाड़ाहाट (07)	कोटबंगला	महीडांडा ब्लाक
3	बाड़ाहाट (07)	गंगोरी	उत्तरों 6 से 7, नाल्ड 1 से 4 बी एवं गंवाणा 1 से 5	5881.60 है०
		मनेरी	मनेरी ब्लॉक 1 से 8 तक	2611.10 है०
		साल्ड	कंवा से निसमोरब्लॉक तक	3272.00 है०
		गजोली	डोडीताल 1, उत्तरों 1 से 5 व डोडीताल 8 ए से 9 डी तक	4672.21 है०
		अगोडा	डोडीताल 1 एवं 7 तक	2997.10 है०
		गणेशपुर	गवाणा 1 से 5 बी उत्तरों 6 व 7 एवं नाल्ड 1 से 4 बी तक	5881.60 है०
		वरुणावत	महिडाण्डा-1,2,3 एवं रिपीटर	613.90 है०
		4	मुखेम (04)	कुटेटी
मनेरा/कोटियाल गांव	दिलासौड़ 1 से 7बी तक बाडागड्डी 1 ए से बाडागड्डी 5 तक			1150.10 है० 1001.90 है०
जमक	सिरोर 1 से 4 बी तक व जामक 1 से 3 बी तक जामक 5 ए से 7 डी तक जामक 4 ए से 4 सी तक			2319.40 है० 1131.60 है० 1025.50 है०
सौरा	सौरा ब्लाक			4730 है०

Annexure No. 34

Equipments used in Fire Control.

क्र० सं०	औजार का नाम	उपलब्ध औजार की संख्या	औजारों की मांग
1	फावड	59	541
2	बेलचे	82	400
3	फायर रैक	274	326
4	फायर विटर	49	500
5	पाठल	131	469
6	सबल	29	400
7	पानी की बोतल	103	500
8	टार्च	25	575
9	फायर डांगरी	30	570
10	फायर सूज	25	575
11	फायर हेलममेट	64	536
12	फस्ट एड बॉक्स	08	200
13	गमछा	5	495
14	पीठ वाला बैग	23	300
15	पुलास्की	20	400
16	छरांती	22	580
17	ब्लोअर लाइट	02	35

Fire Sensitive Areas in Bhagirathi Eco Sensitive Zone

क्र० सं०	रेंज का नाम	कक्षों का विवरण	अति संवेदनशील क्षेत्र (है०में)	संवेदनील क्षेत्र (है०में)	संवेदनशील क्षेत्र (है०में)
1	बाड़ाहाट	गवांणा,1, निसमोर 5 ए, महीडांडा-2, मनेरी -4ए, उत्तरौं-4ए	439.10	(1) गवाणा-1, नाल्ड-2ए, निसमोर-5ए, मनेरी-5ए	556.90
				(2) उत्तरौं-3, उत्तरौं-7, कवां-4, कवां-5, गवाणा-4ए, निसमोर-1, मनेरी-3, मनेरी-6, मनेरी-8	963.20
				(3) उत्तरौं-2ए, उत्तरौं-5ए, उत्तरौं-6ए, मनेरी-2, गवाणा-5ए, नाल्ड-1, निसमोर-7बी	982.90
योग :-					2503.00
2	मुखेम	जामक-1, जामक-2, जामक-6बी, जामक-7बी, बाडागड्डी-3, बाडागड्डी-6, बाडागड्डी-11बी, सौरागाड-26ए, बाडागड्डी-5	1184.50	(1) जामक-5ए, निराकोट-1ए, दिलसौड-2, बाडागड्डी-1ए, 4, सिरोर -2बी, 3ए, 3बी, 4ए, सौरागाड-3ए	1840.50
				(2) जामक-2ए, जामक-4ए	168.80
				(3) दिलासौड-1, 4, 5, 6, बाडागड्डी-2, 8बी, 9बी, 9सी, 13ए, सिरोर-1, सौरागाड-5बी, 6ए, 7बी,	1491.20
योग :-					३५००.५०
Total -			1623.60		6003.50

Annexure No. 36

संख्या 454 / 1(2) व.प्रा.वि. / 2004-9(22) / 2001

प्रेषक,
बी0पी0 पाण्डेय,
सचिव,
उत्तरांचल शासन
सेवा में,
समस्त जिलाधिकारी,
उत्तरांचल,

वन एवं पर्यावरण अनुभाग - 2

देहरादून: दिनांक 27 मार्च, 2004

विषय:- वनाग्नि की रोकथाम के लिए प्रभावी रणनीति तैयार करने तथा उसका क्रियान्वयन व अनुश्रवण किये जाने हेतु प्रदेश में जनपद, विकास खण्ड एवं वन पंचायत स्तर पर समितियों का गठन।

महोदय,

आप अवगत हैं कि वनों में अग्नि घटनाओं से प्रतिवर्ष बहुमूल्य राष्ट्रीय वन सम्पदा की अपूर्णीय क्षति होती है, गत वर्ष अग्नि दुर्घटनाओं की बड़ी संख्या एवं अग्नि दुर्घटनाओं में हुई जनहानि को मध्यनजर रखते हुए इस वर्ष प्रभावी कदम उठान की आवश्यकता है। इसके लिए सभी संबंधित जनमानस की विशेष रूप से ध्यान आकर्षित किया जाना अत्यावश्यक है। वनों पर ग्रामीणों की अत्यधिक निर्भरा होने के कारण अग्नि घटनाएँ, बाढ़ व सूखे जैसी देवी आपदा के ही समान हैं। वनों में आग की रोकथाम के लिए यद्यपि वन विभाग द्वारा प्रभावी कार्यवाही हेतु काग्र योजना (एक्शन प्लान) तैयार कर ली गई है परन्तु वनाग्नि पर नियंत्रण पाने का दायित्व केवल वन विभाग द्वारा निर्वहन किया जाना सम्भव नहीं है। इस गम्भीर समस्या के निदान हेतु अनय राजकीय विभागों, स्थानीय जनता व सामाजिक कार्यकर्ताओं का सहयोग प्राप्त किया जाना, विशेषकर इस वर्ष की प्रतिकूल परिस्थितियों को दृष्टिकोण में रखते हुए अत्यावश्यक है।

2 - उत्तरांचल के समस्त जनपद अग्नि दुर्घटनाओं की दृष्टि से अत्यन्त संवेदनशील है। अतः वनाग्नि की रोकथाम के लिए रणनीति तैयार किये जाने, उसके क्रियान्वयन एवं अनुश्रवण के लिए प्रदेश के प्रत्येक जनपद के जिलाधिकारी की अध्यक्षता में "जिला स्तरीय समिति" का गठन किये जाने का निर्णय लिया गया है, जिसका स्वरूप निम्नवत रहेगा:-

जिला स्तरीय समिति

- | | |
|---|--------------|
| (1) जिलाधिकारी | अध्यक्ष |
| (2) वरिष्ठ पुलिस अधीक्षक/पुलिस अधीक्षक | सदस्य |
| (3) मुख्य विकास अधिकारी | सदस्य |
| (4) लोक निर्माण विभाग के नोडल अधिकारी जो अधिशासी अभियन्ता स्तर से कम न हो | सदस्य |
| (5) समस्त परगानाधिकारी | सदस्य |
| (6) जिलाधिकारी द्वारा नामित 2 ऐसे सामाजिक कार्यकर्ता जो पर्यावरण में रुचि रखते हो | सदस्य |
| (7) प्रभागीय वनाधिकारी | सदस्य संयोजक |

3- इसी प्रकार ब्लाक प्रमुख की अध्यक्षता में "विकास खण्ड स्तरीय समिति" का गठन किये जाने का निर्णय लिया है, जिसका स्वरूप रहेगा-

खण्ड विकास स्तरीय समिति

(1)	ब्लॉक प्रमुख	अध्यक्ष
(2)	खण्ड विकास अधिकारी	सदस्य
(3)	मुख्यालय पर संबंधित थाने का थानाध्यक्ष	
(4)	परगनाधिकारी द्वारा नामित राजस्व अधिकारी, जो नायाब तहसीलदार स्तर से कम न हो	सदस्य
(5)	ब्लॉक प्रमुख द्वारा नामित 2 ग्राम प्रधान	सदस्य
(6)	ब्लॉक प्रमुख द्वारा नामित 2 सामाजिक कार्यकर्ता जो पर्यावरण में रुचि रखते हों	सदस्य
(7)	सहायक वन संरक्षक	संयोजक

4- वन पंचायतों के स्तर प्रत्येक गांव में वनाग्नि अवरोधक समिति के गठन का निर्णय लिया गया है जिसका स्वरूप निम्नवत होगा-

वन पंचायत स्तरीय समिति

(1)	ग्राम प्रधान	अध्यक्ष
(2)	पटवारी/लेखपाल	सदस्य
(3)	संबंधित क्षेत्र का वन दरोगा	संयोजक
(4)	ग्राम विकास अधिकारी	सदस्य
(5)	वन रक्षक	सदस्य
(6)	उप प्रधान	सदस्य
(7)	ग्राम की महिला	सदस्य

– समितियों के कार्य एवं दायित्व निम्नवत होंगे:-

- (i) आरक्षित, सिविल व पंचायत वनों में अग्नि सुरक्षा हेतु जनपद में उपलब्ध संचार, यातायात व अनुरूप उपकरणों को चिन्हित करके आवश्यकतानुसार उपयोग किया जाना ।
- (ii) सिविल वनों में अग्नि सुरक्षा हेतु वन विभाग के अतिरिक्त राजस्व विभाग एवं ग्राम प्रधानों की भूमिका तय करके उनका सक्रिय सहायोग प्राप्त करना ।
- (iii) पंचायतों वनों की अग्नि सुरक्षा हेतु पंचायतीराज विभाग, वन विभाग, सरपंच एवं ग्रामीणों की भूमिका तय करना व उनका सक्रिय सहयोग प्राप्त करना ।
- (iv) लोक निर्माण विभाग, डी0जी0बी0आर0 की सड़कों को पक्का कराये जाने आदि के कार्यों के समय वनों की आग से सुरक्षा हेतु सतक्रता बरतना एवं इन विभाग के कर्मचारियों व श्रमिकों का सहयोग प्राप्त करना ।
- (v) वनों में अग्नि दुर्घटना से सुरक्षा कार्य का सहावलोकन व इनका अनुश्रवण किया जाना ।
- (vi) वनों की अग्नि से सुरक्षा के लिए अन्य ऐसी कार्यवाही करना जिसे समिति आवश्यक समझे, (यथा एस0एस0बी0 वन पंचायत, ग्राम वन समिति, इको डेवलपमेंट समिति, स्वयंसेवी संस्थान आदि का सहयोग)
- (vii) शासन को विशेष अतिरिक्त उपाय एवं संसाधनों के सम्बन्ध में अपनी रिपोर्ट प्रेषित करना ।

6- समितियों द्वारा अपनी बैठक विशेषरूप से माह फरवरी से जून की अवधि में प्रत्येक माह कम से कम एक बार अवश्य आयोजित की जाय। इसके अतिरिक्त आपातकाल में बैठक तत्समय आयोजित की जा सकती है।

7- समस्त जिलाधिकारी अपने जनपद में अग्नि सीजन 15 मार्च से जून की प्रथम वर्षा तक एक कंट्रोल रूम स्थापित कर उसे 24 घण्टे सक्रिय रखेंगे।

8- समस्त जिलाधिकारी अपने स्तर से पंचायत वनों तथा सिविल सोयम वनों में, वनाग्नि की दुर्घटनाओं का विवरण प्राप्त करके उसकी सूचना वन विभाग द्वारा निर्धारित रिपोर्टिंग प्रारूप (संलग्न) में अंकित कर उसकी दैनिक सूचना डी0एम0एस0सी0/एन0आई0सी0 को प्रेषित करेंगे।

9- कृपया समिति की बैठकें तत्काल आयेजिक कर अपेक्षित कार्यवाही करायी जाय तथाकृत कार्यवाही से शासन को नियमित तौर पर अवगत कराने का कष्ट करें।

संलग्नक:- उपरोक्तानुसार।

भवदीय,

(बी0पी0 पाण्डे)
सचिव

संख्या 454(1)/1(2) व.ग्रा.वि./2004, तददिनांकित।

प्रतिलिपि निम्नालिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित:-

अपर मुख्य सचिव/समस्त प्रमुख सचिव एवं सचिव, उत्तरांचल शासन।

प्रमुख सचिव, ग्राम्य विकास विभाग/गृह विभाग/लोक निर्माण विभाग/आपदा विभाग/सामान्य प्रशासन विभाग, उत्तरांचल शासन।

प्रमुख वन संरक्षक, उत्तरांचल, नैनीताल एवं समस्त मुख्य वन संरक्षक/वन संरक्षक/निदेशक, राष्ट्रीय पार्क/अभ्यारण्य, उत्तरांचल।

आयुक्त, कुमाऊँ/गढ़वाल मण्डल एवं वरिष्ठ पुलिस अधीक्षक/समस्त पुलिस अधीक्षक, उत्तरांचल।

समस्त मुख्य विकास अधिकारी/मुख्य अधिशाषी अभियन्ता, लोक निर्माण, उत्तरांचल।

निदेशक, सूचना विभाग, उत्तरांचल, देहरादून/प्रभारी अधिकारी, एन0आई0सी0 केन्द्र, उत्तरांचल सचिवालय।

स्टॉफ अफिसर, मुख्य सचिव, उत्तरांचल।

मा0 वन एवं पर्यावरण मंत्री जी के निजी सचिव को मा. मंत्री जी को सूचनार्थ।

गार्ड फाइल (ए)

(किशन नाथ)
अपर सचिव

Annexure No. 37

प्रेषक,

डॉ० रणबीर सिंह

सचिव

उत्तरांचल शासन,

सेवा में,

मुख्य वन्य जीव प्रतिपालक

उत्तरांचल, देहरादून,

देहरादून, दि० 28 जुलाई 2005

वन एवं पर्यावरण अनुभाग-2

विषय- वन्य जीवों द्वारा जान-माल की क्षति की दशा में देय आर्थिक अनुग्रह सहायता की दरों का पुनरीक्षण।

महोदय,

उपरोक्त विषयक आपके पत्र संख्या 2384/25-1, दि० फरवरी 2005 के सन्दर्भ में मुझे यह कहने का निर्देश हुआ है कि श्री राज्यपाल सम्यक विचारोपरान्त शासनादेश संख्या 238/14-4-96-836/92, दि० 6.12.1996 को अतिक्रमित करते हुए वन्य पशुओं द्वारा मारे गये व घायल किये गये व्यक्तियों को अथवा उनके आश्रितों को तथा वन्य पशुओं द्वारा ग्राम वासियों के पालतू पशुओं को मारे जाने एवं जंगली हाथियों तथा सुअरों द्वारा ग्रामवासियों के मकान व फसलों को क्षति पहुँचाये जाने की दशा में अनुग्रह (एक्स-ग्रेसिया) आर्थिक सहायता निम्नवत प्रदान किये जाने की सहर्ष स्वीकृति प्रदान करते हैं-

1- वन्य पशुओं बाघ, तेन्दुओं, लेपर्ड, स्नोलैपर्ड (लगडबग्धा), भालू, हाथी, मगरमच्छ एवं घड़ियाल द्वारा मानव क्षति पर देय मुआवजा

क्षति का प्रकार	देय धनराशि ₹० में
गम्भीर रूप से घायल	15000/-
आंशिक रूप से घायल	25000/-
पूर्ण रूप से अपंग	100000/-
अवयस्क की मृत्यु पर	50000/-
वयस्क की मृत्यु पर	100000/-

1.1 उक्त अनुग्रह सहायता का भुगतान निम्न प्रक्रिया एवं प्रतिबन्धों के अन्तर्गत किया जायेगा-

1- राजकीय चिकित्सक द्वारा पीड़ित व्यक्ति को वन्य प्राणी द्वारा मारे जाने, अपंग अथवा घायल कर दिये जाने के सम्बन्ध में प्रमाण पत्र दिया जायेगा तथा वन विभाग के सम्बन्धित प्रभाग के प्रभागीय वनाधिकारी अथवा उच्चतर स्तर के अधिकारी द्वारा इस सम्बन्ध में पृष्टि की जायेगी।

2- सम्बन्धित प्रभाग के प्रभागीय वनाधिकारी को अधिकार होगा कि वे किसी व्यक्ति की मृत्यु वन्य प्राणी के द्वारा होने पर मृत व्यक्ति की अन्त्येष्टि/क्रियाकर्म के लिये मृतक के परिवार या स्वजन को ₹० 5000/- (₹० पाँच हजार मात्र) की धनराशि का भुगतान तत्काल करेगे जो बाद में स्वीकृत होने वाली अनुग्रह राशि से कम कर ली जायेगी।

3- अनुग्रह राशि/आर्थिक सहायता की धनराशि स्वीकृत करने हेतु अन्तिम जॉच रिपोर्ट/संस्तुति मुख्य वन्य जीव प्रतिपालक, उत्तरांचल को प्रस्तुत की जायेगी जो मामले में निर्णय लेने हेतु सक्षम अधिकारी होंगे।

4- अनुग्रह राशि/आर्थिक सहायता का भुगतान करने से पूर्व मृतक/अपंग/घायल होने वाले व्यक्तियों के आश्रितों के सम्बन्ध में राजस्व विभाग के सक्षम अधिकारी से प्रमाण पत्र प्राप्त कर लिया जायेगा।

2- वन्य पशुओं-बाघ, तेन्दुआ, लैपर्ड/स्नोलैपर्ड तथा जंगली सुअरों द्वारा पालतू पशुओं के मारे जाने पर देय मुआवजा

पशु का प्रकार	देय धनराशि रु० में
गाय	3000/-
घोड़, खच्चर	5000/-
बैल (तीन वर्ष से अधिक आयु)	5000/-
भैस (तीन वर्ष से अधिक आयु)	5000/-
गाय का बछड़ा/बछिया तथा भैस का पड़वा/पड़िया	
क- दो वर्ष से अधिक तथा तीन वर्ष से कम आयु	1200/-
ख-एक वर्ष से दो वर्ष की आयु	500/-
ग-एक वर्ष से कम आयु तक	300/-
बकरी/भेड़	500/-

उक्त अनुग्रह सहायता का भुगतान निम्न प्रक्रिया एवं प्रतिबन्धों के अन्तर्गत किया जायेगा-

1- किसी राष्ट्रीय उद्यान एवं वन्य जीव बिहार में पालतू पशुओं के बाघ/गुलदार द्वारा मारे जाने की दशा में अनुग्रह आर्थिक सहायता तभी देय होगी जब पालतू पशुओं को प्रवेश की अनुज्ञा वन्य जीव संरक्षण अधिनियम 1972 (यथा संशोधित वर्ष 2002) के प्राविधानों के अनुसार सक्षम अधिकारी द्वारा दी गई हो।

2- मवेशी के स्वामी द्वारा मवेशी के मारे जाने की सूचना घटना के दो दिन के भीतर निकटतम रेंज कार्यालय में दी गयी हो।

3- यदि मवेशी गौशाला या पशुशाला से अन्यत्र मारा गया हो तो उसके स्वामी या चरवाहे के मृत मवेशी के साथ होने की दशा में अनुग्रह सहायता देय होगी।

4- मारे गये मवेशी के मृत शरीर की घटना स्थल से तब तक न हटाया जाय तब तक घटना की जाँच स्थानीय वनाधिकारी द्वारा नहीं कर ली जाती है। मृत मवेशी के शव पर किसी प्रकार का विष अथवा कीटनाशक पदार्थ न डाला जाय और न ही अन्यथा किसी भी प्रकार से मवेशी के शव से छेड़छाड़ की जाय।

5- घटना की सूचना घटना के 24 घण्टे के अन्दर निकटतम वनाधिकारी जो वन क्षेत्राधिकारी या सहायक वन्य जीव प्रतिपालक से कम स्तर का न हो को दी जानी चाहिए स्थानीय वनाधिकारी को सूचना मिलते ही घटना स्थल पर पहुँच कर जाँच कर लेनी चाहिए जिसमें यथासम्भव क्षेत्र के किसी सम्मानित व्यक्ति से भी सम्पर्क किया जाना चाहिए और गाँव के प्रधान से भी मवेशी के प्रकार आयु आदि के सम्बन्ध में प्रमाणित करा लेना चाहिए। जाँच रिपोर्ट शीघ्रातिशीघ्र सम्बन्धित क्षेत्रीय निदेशक/प्रभागीय/वन्य जीव प्रतिपालक को भेज दी जानी चाहिए।

6- घटना की अन्तिम जाँच उक्त क्षेत्र के सहायक वन संरक्षक/वन्य जीव प्रतिपालक द्वारा की जानी चाहिए।

7-जाँच के बाद अनुग्रह सहायता सम्बन्धी संस्तुति सम्बन्धित क्षेत्र के क्षेत्रीय निदेशक/प्रभागीय वनाधिकारी द्वारा मुख्य वन्य जीव प्रतिपालक, उत्तरांचल को भेजी जानी चाहिए जो ऐसे मामले में निर्णय लेने के लिए सक्षम अधिकारी होंगे।

3- जंगली हाथियों तथा सुअरों के द्वारा ग्रामीणों की फसलों तथा जंगली हाथियों द्वारा मकान को क्षति पहुंचाये जाने की दशा में देय आर्थिक सहायता-

3.1 कृषि फसल की क्षति

फसल का प्रकार	क्षति की मात्रा	देय धनराशि रु0 में
क-गन्ना	सम्पूर्ण फसल	4000/-
ख-धान/गेहूँ/तिलहन	सम्पूर्ण फसल	3500/-
ग-उपरोक्त को छोड़कर अन्य सभी फसलों के क्षतिग्रस्त होने पर	सम्पूर्ण फसल	2000/-

3.2 मकान की क्षति

मकान का प्रकार	क्षति की मात्रा	देय धनराशि रु0 में
क-कच्चा मकान	सम्पूर्ण क्षतिग्रस्त	5000/-
ख-कच्चा मकान	आंशिक क्षतिग्रस्त	2000/-
ग-झोपड़ी टट्ट से निर्मित आवास क्षतिग्रस्त होने पर		1000/-

3.3 उक्त अनुग्रह सहायता का भुगतान निम्न प्रक्रिया एवं प्रतिबन्धों के अन्तर्गत किया जायेगा।

1- घटना की सूचना के 24 घण्टे के अन्दर निकटतम वनाधिकारी जो वन क्षेत्राधिकारी या सहायक वन्य जीव प्रतिपालक से कम स्तर का न हो, को दी जानी चाहिए तथा स्थानीय वनाधिकारी को सूचना मिलते ही घटना स्थल पर पहुँच कर जाँच कर लेनी चाहिए, जिससे यथा सम्भव क्षेत्र के प्रधान एवं किसी सम्मानित व्यक्ति को भी साथ में लिया जाना चाहिए, जाँच रिपोर्ट शीघ्रातिशीघ्र स्थानीय प्रभागीय वनाधिकारी/वन्य जीव प्रतिपालक को भेज देनी चाहिए।

2- कृषि फसलों की आंशिक रूप से क्षति होने की दशा में हानि के प्रतिशत का आंकलन कर सम्पूर्ण क्षति हेतु प्राविधानित धनराशि के उतने प्रतिशत तक ही आर्थिक अनुग्रह सहायता देय होगी।

3- घटना की जाँच उक्त क्षेत्र के सहायक वन संरक्षक/वन्य जीव प्रतिपालक द्वारा की जानी चाहिए जिसमें भूमि के स्वामित्व की पुष्टि भी कर ली जाय।

4- जाँच के बाद मुआवजा सम्बन्धी संस्तुति संबंधित क्षेत्रके निदेशक/प्रभागीय वनाधिकारी द्वारा मुख्य वन्य जीव प्रतिपालक उत्तरांचल को भेजी जानी चाहिए। जो ऐसे मामलों में निर्णय लेने के सक्षम अधिकारी होंगे।

4- उपरोक्त के सम्बन्ध में होने वाला समस्त व्यय अनुदान संख्या-27 के लेखा शीर्षक 2406 वानिकी तथा वन्य जीवन-01-वानिकी-800-अन्य व्यय-09 जंगली जानवरों द्वारा सरकारी कर्मचारियों या आम जनता को जानमाल के नुकसान पर क्षतिपूर्ति-20-सहायक अनुदान/अंशदान राज सहायता के नामें जाला जायेगा।

- 5- ये आदेश किसी वित्त विभाग के अ०शा० संख्या-71 / वित्त अनु०-2, दि० जुलाई, 2005 में प्राप्त उनकी सहमति से जारी किए जा रहे हैं।

भवदीय

(डा० रणबीर सिंह)

सचिव

संख्या-2212(1)/2-2005, तददिनांकित

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित-

- 1- प्रमुख सचिव, वित्त विभाग / राजस्व विभाग उत्तरांचल शासन।
- 2- प्रमुख वन संरक्षक, उत्तरांचल देहरादून।
- 3- महालेखाकार, उत्तरांचल देहरादून।
- 4- मण्डलायुक्त, कुमायूँ मण्डल / गढ़वाल मण्डल, उत्तरांचल।
- 5- समस्त, अपर प्रमुख वन संरक्षक / मुख्य वन संरक्षक / वन संरक्षक / निदेशक, राष्ट्रीय पार्क / अभ्यारण्य, उत्तरांचल।
- 6- समस्त जिलाधिकारी, उत्तरांचल।
- 7- स्टाफ आफिसर, मुख्य सचिव उत्तरांचल शासन।
- 8- निदेशक कोषागार, पेन्शन एवं वित्त सेवाएं, उत्तरांचल, देहरादून।
- 9- निदेशक, सूचना विभाग, उत्तरांचल।
- 10- समस्त प्रभागीय वनाधिकारी, उत्तरांचल।
- 11- समस्त कोषाधिकारी, उत्तरांचल।
- 12- प्रभारी, एन०आई०सी० उत्तरांचल सचिवालय को इन्टरनेट पर प्रसारण हेतु।
- 13- निजी सचिव मा०वन एवं पर्यावरण मंत्री जी को मा० मंत्री जी के मंत्रालय।
- 14- गार्ड फाइल-ए

डा० रणबीर सिंह

सचिव

प्रेषक, हरीश चन्द्र गुप्ता
प्रमुख सचिव
उत्तर प्रदेश शासन।

सेवा में, प्रमुख वन संरक्षक
उत्तर प्रदेश,
लखनऊ।

वन अनुभाग- 4, दिनांक, लखनऊ, मई 21, 1999

विषय :- उत्तर प्रदेश में संरक्षित क्षेत्रों के विकास के लिये इकोडेवलपमेन्ट का कार्यक्रम लागू किया जाना।

महोदय,

उपरोक्त विषय पर आपकी पत्र संख्या - 60 परि०नि० कैम्प/ 29-4 दिनांक 17 मई, 1997 के संदर्भ तथा शासन के पत्र संख्या 1925/14-4-97-825/97 दिनांक 11 जुलाई, 1997 के क्रम में मुझे पत्र मिले हैं। कहना है कि शासन ने प्रदेश में संरक्षित क्षेत्रों के अन्दर एवं उसके समीपस्थ क्षेत्रों में वन्य जीव एवं जैव विविधता कार्यक्रमों में स्थानीय लोगों की सक्रिय भागीदारी को सुनिश्चित करने के उद्देश्य से इकोडेवलपमेन्ट के कार्यक्रम को अधिक सुनियोजित रूप से चलाने का निर्णय लिया है।

2. शासन के उक्त निर्णय को संलग्न शासकीय संकल्प के प्राविधानों के अनुसार लागू किया जायेगा।

3. कार्यक्रम को लागू किये जाने में यह सुनिश्चित किया जायेगा कि इस क्रियान्वयन के लिये कोई अतिरिक्त सरकारी स्टाफ नहीं होगा तथा योजना की समाप्ति पर शासन पर किसी प्रकार से कोई आवर्तक व्यय नहीं पड़ेगा।

4. अनुरोध है कि शासकीय संकल्प के प्राविधानों के अनुसार प्रदेश में इकोडेवलपमेन्ट के कार्यक्रम को लागू कराने के लिये आवश्यक प्रभावी कार्यवाही करने का कष्ट करें।

संलग्नक : उपरोक्तानुसार

भवदीय,

(हरीश चन्द्र गुप्ता)
प्रमुख सचिव

- संख्या यू0ओ0 / 94 / 14-प0भू0-99 दिनांकित ।
प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित ।
- (1) अपर प्रमुख वन संरक्षक, सामाजिक वानिकी, उ0प्र0, लखनऊ
 - (2) मुख्य वन संरक्षक (वन्य जीव) उ0प्र0, लखनऊ ।

आज्ञा से,

(हरीश चन्द्र गुप्ता)
प्रमुख सचिव

उत्तर प्रदेश में पारिस्थितिकी – विकास हेतु शासकीय संकल्प की रूप रेखा

उत्तर प्रदेश शासन के पत्र संख्या यू0ओ0 – 84 / 14-प0भू0- 99-63 / ९
वन अनुभाग-4, दिनांक 21 मई 1999 द्वारा जारी

प्रस्तावना :

राज्य में वन्य जीव एवं जैव विविधता के संरक्षण के उद्देश्य से कई संरक्षित क्षेत्र जैसे राष्ट्रीय उप वन, वन्य जीव विहार और बायोस्फियर रिजर्व स्थापित किए गये हैं।

अब संरक्षित क्षेत्रों के अन्दर एवं उसके समीपस्थ क्षेत्रों में वन्य जीव एवं जैव विविधता संरक्षण कार्यक्रमों में स्थानीय लोगों की सक्रिय भागीदारी को और अधिक बढ़ाने के उद्देश्य से महामहिम राज्यपाल ने यह निर्णय लिया है कि पारिस्थितिकी विकास कार्यक्रमों में सहभागिता की नीति अपनायी जाये।

अधोलिखित संकल्प के अनुसार पारिस्थितिकी विकास के कार्यक्रम तैयार किए जायेंगे।

2. परिभाषायें :

इस संकल्प में, जब तक कि संदर्भ में अन्यथा न अपेक्षित हो :

- (1) अधिनियम का तात्पर्य उत्तर प्रदेश में अपनी प्रवृत्ति के सम्बन्ध में संशोधित भारतीय वन अधिनियम 1927 से है।
- (2) "वार्षिक क्रियान्वयन योजना" का अर्थ अनुमोदित माइक्रोप्लान के आधार पर प्रति वर्ष क्रियान्वित होने वाले क्रिया कलापों से है।
- (3) "अध्यक्ष" का तात्पर्य अध्यक्ष ग्राम पारिस्थितिकी विकास समिति और ग्राम पारिस्थितिकी विकास समिति की कार्यकारी समिति से है।
- (4) "मुख्य वन्य जीव संरक्षक" का अर्थ वन्य जीव संरक्षण अधिनियम 1972 प्राविधानों के अन्तर्गत नियुक्त व्यक्ति से है।
- (5) "कार्यकारी समिति" का तात्पर्य सात सदस्यीय समिति जिसमें अध्यक्ष शामिल हैं, से है जो इस संकल्प के अधीन गठित ग्राम पारिस्थितिकी विकास समिति के प्रशासनिक और प्रबन्ध सम्बन्धी दायित्वों का निर्वाह करेगी।
- (6) "वन रक्षक" का तात्पर्य कार्यकारी इकाई बीट के प्रभारी व्यक्ति से है।

- (7) "वन अधिकारी" का तात्पर्य उस व्यक्ति से है जिसे राज्य सरकार ने भारतीय वन अधिनियम 1927 के सभी अथवा किसी भी उद्देश्य को क्रियान्वयन हेतु नियुक्त किया हो।
- (8) "वन दरोगा" का तात्पर्य उस श्रेणी के व्यक्ति से है जो सम्बद्ध अधिकारी के रूप में था जो वन रेंज के अन्तर्गत सेक्शन के पर्यवेक्षण कार्यों को करता है।
- (9) "शासन" का तात्पर्य उत्तर प्रदेश शासन से है।
- (10) "राज्यपाल" का तात्पर्य राज्यपाल, उत्तर प्रदेश से है।
- (11) "ग्राम सभा" "ग्राम पंचायत" "प्रधान" "उप-प्रधान" और "ग्राम" के अर्थ वही होंगे जो उनके लिये संयुक्त प्रान्त पंचायत राज्य अधिनियम 1947 में क्रमशः दिये गये हैं।
- (12) "परिवार" का अर्थ एक इकाई के रूप में घर में रह रहे अधिवासियों से है।
- (13) "सदस्य ग्राम पारिस्थितिकी विकास समिति" का तात्पर्य ग्राम में पारिस्थितिकी विकास में भागीदारी हेतु इच्छुक परिवारों द्वारा नामित व्यक्ति से है, जो ग्राम पारिस्थितिकी विकास समिति में प्रतिनिधित्व करेगा।
- (14) "माइक्रोप्लान" का अर्थ ग्राम स्तर पर प्रबन्धन हेतु पारिस्थितिकी विकास क्रियाकलापों की योजना से है।
- (15) "संरक्षित क्षेत्र" का अर्थ राष्ट्रीय उपवन, वन्य जीव विहार, एवं बायोस्फियर रिजर्व से है।
- (16) "प्रबन्धक संरक्षित क्षेत्रों का अर्थ मुख्य वन्य जीव संरक्षक द्वारा नामित संरक्षित क्षेत्र के प्रभारी वन अधिकारी से है।
- (17) "परियोजना" का अर्थ उत्तर प्रदेश वानिकी परियोजना से है।
- (18) "परियोजना इकाई" का तात्पर्य उत्तर प्रदेश वानिकी परियोजना की परियोजना इकाई से है।
- (19) "नियम प्रारूप/प्रपत्र" का अर्थ इस संकल्प के साथ संलग्न नियम प्रारूप/प्रपत्र से है।
- (20) "रेंज अधिकारी" का तात्पर्य कार्यकारी इकाई के प्रभारी अधिकारी से है।
- (21) "प्रेरक दल" का तात्पर्य समुचित तकनीकी ज्ञान वाले व्यक्तियों के उस दल से है, जो ग्राम स्तर पर ग्रामीणों को पारिस्थितिकी विकास के क्रिया कलापों को करने में सहायता प्रदान करेगा।
- (22) "ग्राम पारिस्थितिकी विकास समिति" का तात्पर्य ग्राम स्तरीय समिति जिसका गठन इस संकल्प में निहित प्राविधानों के अनुसार, सम्बन्धित ग्राम में पारिस्थितिकी विकास के क्रियाकलापों के क्रियान्वयन हेतु हुआ हो।

- (23) "वन्य जीव अधिनियम" का तात्पर्य वन्य जीव संरक्षण अधिनियम 1972 : इसके संशोधन तथा उत्तर प्रदेश में इसके प्रवृत्ति के संदर्भ में बने नियम है।
- (24) "वर्ष" का अर्थ 1 अप्रैल से 31 मार्च की अवधि से है।
- (25) "कार्यकारी इकाई" का अर्थ उस क्षेत्रीय भाग से है जिसके प्रशासन नियंत्रण हेतु घोषणा की गयी है।
- (26) "वन रेंज" का तात्पर्य उस क्षेत्र से है जिसकी घोषणा राज्य सरकार ; अधिसूचना से की गई हो या निहित प्राधिकारी द्वारा की गई हो।
- (27) "स्वयं सेवी संस्था" का तात्पर्य व्यक्तियों के उस समूह से है जो सरकारा सुसंगत अधिनियम के अन्तर्गत स्वैच्छिक संगठन के रूप में पंजीकृत।

3. उद्देश्य :

पारिस्थितिकी विकास कार्यक्रम के निम्न उद्देश्य होंगे—

- (1) संरक्षित क्षेत्र के अन्दर तथा उसके चारों ओर रहने वाले लोगों की आजीवन में समुचित विकल्प उपलब्ध कराते हुए इस प्रकार हस्तक्षेप (मध्यस्थ करना जिससे कि संरक्षित क्षेत्र के संसाधन सुरक्षित रह सकें।
- (2) जैव-विविधता संरक्षण में जनता की सहभागिता सुनिश्चित करना।
- (3) वन्य जन्तुओं द्वारा मानव जीवन एवं सम्पत्ति की क्षति को कम करना।
- (4) संरक्षित क्षेत्र एवं मानव के आपसी संघर्ष को कम करना।
- (5) संरक्षित क्षेत्र के संसाधनों पर निर्भरता एवं दबाव को कम करना।
- (6) संरक्षित क्षेत्र के प्रबन्ध क्षमताओं में सुधार करना एवं संरक्षित क्षेत्र संसाधनों की सुरक्षा में वृद्धि करना।
- (7) पारिस्थितिकी विकास कार्यक्रमों के माध्यम से ग्रामीणों की, नियोजन सतत् विकास कार्यक्रमों के क्रियान्वयन की क्षमताओं में विकास करना।
- (8) संरक्षित क्षेत्र के चारों ओर जैव विविधता संरक्षण कार्यक्रमों के उद्देश्य अनुरूप भूमि उपयोग पद्धतियाँ/प्रवृत्तियों को बढ़ावा देना।

4. क्षेत्र :

पारिस्थितिकी विकास कार्यक्रम पारिस्थितिकी विकास मंडलों में क्रिया किया जायेगा जो संरक्षित क्षेत्र की सीमा से 5 किमी० की दूरी तक विस्तृत सकता है तथा ऐसे क्षेत्र, लोगों पर संरक्षित क्षेत्र के संसाधनों एवं वन्य जन्तुओं प्रभाव का सावधानीपूर्वक अध्ययन/विचार करने के उपरान्त चिन्हित किये जा

पारिस्थितिकी विकास मंडल, संरक्षित क्षेत्र की सम्पूर्ण सीमा के साथ विस्तृत हो सकता है और नहीं भी।

प्रमुख/प्रबल जन्तु की पारिस्थितिकी सीमा को शामिल करने हेतु, संरक्षित क्षेत्र के समीप स्थित वन्य जन्तुओं की बहुतायत वाले आरक्षित वन क्षेत्र में भी पारिस्थितिकी विकास मंडल का विस्तार हो सकता है।

5. समितियाँ :

5 (ए) संरक्षित क्षेत्र स्तरीय पारिस्थितिकी विकास समिति :

सम्बन्धित संरक्षित क्षेत्र के वन संरक्षक निम्न प्रकार समिति बनायेंगे :-

- (1) प्रबन्धक संरक्षित क्षेत्र – अध्यक्ष
- (2) प्रबन्धक संरक्षित क्षेत्र द्वारा नामित एक वन अधिकारी – सदस्य सचिव
- (3) अध्यक्ष जिला पंचायत द्वारा नामित एक प्रतिनिधि – सदस्य
(यदि संरक्षित क्षेत्र समूह एक से अधिक जिलों में फैले हों तो प्रत्येक जिले से एक प्रतिनिधि)
- (4) समीपस्थ वन प्रभागों के उप वन संरक्षक – सदस्य
- (5) स्पियर हेड टीमों के प्रभारी सहायक वन संरक्षक – सदस्य
- (6) मुख्य वन्य जीव संरक्षक द्वारा नामित क्षेत्र में कार्यरत स्वयं सेवी संस्था का एक प्रतिनिधि – सदस्य

5 (बी) ग्राम पारिस्थितिकी विकास समिति : E.P.C.

प्रबन्धक संरक्षित क्षेत्र इस समिति का गठन इस प्रकार करेंगे :-

- (1) प्रबन्धक संरक्षित क्षेत्र पारिस्थितिकी विकास में किये जाने वाले ग्राम या ग्रामों का चयन करेंगे। संलग्नता के अनुसार एक ग्राम अथवा पुरवा के आधार पर समिति बनायी जायेगी।
- (2) प्रबन्धक संरक्षित क्षेत्र सम्बन्धित राजि अधिकारी/वन क्षेत्राधिकारी को उसके क्षेत्र में चयनित ग्रामों एवं पुरवों की सूचना देंगे और ग्राम पारिस्थितिकी विकास समिति के गठन हेतु अग्रिम कार्यवाही हेतु निर्देशित करेंगे।
- (3) राजि अधिकारी/वन क्षेत्राधिकारी ग्राम पारिस्थितिकी विकास समिति के गठन हेतु ग्राम, पुरवों के सभी परिवारों को नियत तिथि, स्थान एवं समय पर संकलित होने हेतु सूचना देंगे। इसके लिये कम से कम दस दिन पूर्व अग्रिम सूचना देनी होगी।
- (4) यदि नियत तिथि, समय एवं स्थान पर आधे से कम परिवार एकत्रित होते

हैं तब सभा किसी अगली तिथि हेतु स्थगित कर दी जायेगी।

- (5) उपरोक्तानुसार बुलायी गई बैठक में राजि अधिकारी, ग्राम पारिस्थितिक विकास समिति में सम्मिलित होने के इच्छुक, समिति में भाग लेने हेतु प्रा घर से एक से ज्यादा सदस्य नामित नहीं होंगे। राजि अधिकारी इस का विशेष प्रयास करेंगे कि सभी अनुसूचित जाति/अनुसूचित जाति/पिछड़े वर्ग एवं वन पर निर्भर गरीब परिवार का प्रतिनिधित्व पारिस्थितिकी विकास समिति में हो और वरीयता के अनुसार 30 प्रति परिवार प्रतिनिधि महिला हों।
- (6) इच्छुक परिवारों के प्रतिनिधियों की सूची इस उद्देश्य से बनाये गये रजिस्टर में संधारित किया जायेगा और रजिस्टर में नयी प्रविष्टियां भी जायेंगी, जब-जब नये परिवार सहभागिता हेतु अपनी इच्छा जाहिर करे यह सूची ग्राम पारिस्थितिकी विकास समिति का गठन करेगी।
- (7) ग्राम पारिस्थितिकी विकास समिति एक अध्यक्ष एवं कार्यकारी समिति चार सदस्यों का चुनाव करेगी, जिसमें से कम से कम एक सदस्य अनुसूचित जाति/अनुसूचित जनजाति का, एक सदस्य अन्य पिछड़ा वर्ग तथा महिला सदस्य हों। यदि अध्यक्ष या अनुसूचित जाति/जन जाति, पिछड़े की चुनी हुई प्रतिनिधि महिला हो तो ऐसी स्थिति में महिला के लिये आर सीट किसी पुरुष सदस्य से भरी जा सकती है।
- (8) प्रबन्धक संरक्षित क्षेत्र द्वारा एक वन दरोगा को ग्राम पारिस्थितिकी विकास समिति का सदस्य सचिव कम कोषाधिकारी नामित किया जायेगा।
- (9) समिति हेतु चुनाव प्रत्येक तीन वर्ष पर किया जायेगा। परन्तु यदि अध्यक्ष किसी सदस्य को हटाने हेतु दो तिहाई सदस्य संकल्प/प्रस्ताव पारित हैं तो ऐसी स्थिति में चुनाव तीन वर्ष से पूर्व भी हो सकते हैं।

5 (सी) ग्राम पारिस्थितिकी विकास समिति की कार्यकारी समिति :

ग्राम पारिस्थितिकी विकास समिति में सात सदस्यीय एक कार्यकारी समिति होगी। ग्राम पारिस्थितिकी विकास समिति का अध्यक्ष कार्यकारी समिति का अध्यक्ष होगा। ग्राम पारिस्थितिकी विकास समिति के सदस्यों द्वारा प्रत्येक तीन पर चार सदस्यों का चुनाव किया जायेगा। जिनमें से एक अनुसूचित जाति/जनजाति का होगा तथा कम से कम एक सदस्य अन्य पिछड़े वर्ग का होगा। प्रबन्धक संरक्षित क्षेत्र, क्षेत्रीय वन दरोगा को कार्यकारी समिति का एक्स आफिसियो सदस्य सचिव कम कोषाधिकारी के रूप में नामित करेगा। प्रबन्धक संरक्षित क्षेत्र की स्वयं सेवी संस्था के प्रतिनिधि को सदस्य के रूप में नामित करेगा। इस

कार्यकारी समिति की संरचना निम्न प्रकार होगी :-

- (अ) अध्यक्ष-पारिस्थितिकी विकास समिति का अध्यक्ष।
- (ब) सदस्य-ग्राम पारिस्थितिकी विकास समिति के अनुसूचित जाति / जनजाति के सदस्यों में से चुना हुआ।
- (स) सदस्य-ग्राम पारिस्थितिकी विकास समिति के अन्य पिछड़े वर्ग सदस्यों में से चुना हुआ।
- (द) सदस्य-ग्राम पारिस्थितिकी विकास समिति के महिला सदस्यों में से चुना हुआ।
- (य) सदस्य-ग्राम पारिस्थितिकी विकास समिति के महिला सदस्यों में से चुना हुआ।
- (र) सदस्य सचिव कम कोषाधिकारी-प्रबंधक संरक्षित क्षेत्र द्वारा नामित वन दरोगा।
- (ल) सदस्य-प्रबंधक संरक्षित क्षेत्र द्वारा स्वयं सेवी संगठन के प्रतिनिधियों में से नामित।

यदि अनुसूचित जाति / जनजाति / अन्य पिछड़ा वर्ग के परिवार ग्राम / पुरवा से न हों, तो ऐसी दशा में सामान्य परिवार के सदस्यों से सीट भरी जा सकती है।

चुनाव / नामित होने की प्रक्रिया पूरी होने के बाद प्रबंधक संरक्षित क्षेत्र कार्यकारी समिति के गठन की अधिसूचना प्रकाशित करेगा।

ग्राम पारिस्थितिकी विकास समिति तथा कार्यकारी समिति के गठन के बाद प्रबंधक संरक्षित क्षेत्र इन्हें समिति पंजीकरण अधिनियम 1860 के अन्तर्गत समिति के रूप में पंजीकरण हेतु कार्यवाही करेगा।

6. कार्य संचालन हेतु नियम :

6 (ए) संरक्षित क्षेत्र स्तरीय पारिस्थितिकी विकास समिति :

- (1) वित्तीय वर्ष के प्रत्येक चार माह में समिति की एक बैठक होगी।
- (2) अध्यक्ष की सहमति से सदस्य सचिव समिति की बैठक आयोजित करेगा।
- (3) बैठक का कोरम पूरा करने के लिये अध्यक्ष को शामिल करते हुये, एक तिहाई सदस्यों की संख्या आवश्यक होगी।
- (4) सदस्य सचिव बैठक का कार्यवृत्त संधारित करेगा।
- (5) अशासकीय सदस्यों को श्रेणी एक के राजकीय सेवकों की भांति यात्रा भत्ता अनुमन्य होगा, इसके अलावा अन्य कोई भत्ता देय नहीं होगा।

6 (बी) ग्राम पारिस्थितिकी विकास समिति :

- (1) सदस्य सचिव कम कोषाधिकारी, अध्यक्ष की सहमति से ग्राम पारिस्थितिकी विकास समिति की आम सभा की बैठक आयोजित करेगा।
- (2) आम सभा की बैठक वित्तीय वर्ष में कम से कम दो बार होगी।
- (3) अध्यक्ष ग्राम पारिस्थितिकी विकास समिति, बैठक की अध्यक्षता क अध्यक्ष की अनुपस्थिति में कार्यकारी समिति के मौजूद सदस्य (न सदस्यों के अलावा) अपने में से किसी एक सदस्य का चुनाव बैठक अध्यक्षता हेतु करेंगे।
- (4) आम सभा का कोरम पूरा करने के लिये एक तिहाई सदस्यों की उपलब्ध अनिवार्य होगी।
- (5) सदस्य सचिव कम कोषाधिकारी को वोट डालने का अधिकार नहीं है। इसी प्रकार स्वयं सेवी संस्था का प्रतिनिधि यदि ग्राम पारिस्थितिकी विकास समिति का सदस्य न हो तो वोट डालने का अधिकारी नहीं होगा।
- (6) सदस्य सचिव कम कोषाधिकारी बैठक का कार्यवृत्त संधारित करेगा।
- (7) सम्बन्धित राजि अधिकारी, ग्राम पारिस्थितिकी विकास समिति की आम सभा की बैठक का पर्यवेक्षक होगा।
- (8) सदस्य सचिव कम कोषाधिकारी ग्राम पारिस्थितिकी विकास समिति सदस्यों का आवश्यक विवरण एक रजिस्टर में संधारित करेगा। जैसे— पिता/पति का नाम, उम्र, परिवार के सदस्यों की संख्या आदि।
- (9) सदस्य सचिव कम कोषाधिकारी एक कार्यवृत्त पुस्तिका का रख रखाव करेगा जिसमें वार्षिक आम सभा की बैठक के कार्यवृत्त अभिलिखित किये जायेंगे जो अध्यक्ष तथा सदस्य सचिव कम कोषाधिकारी द्वारा हस्ताक्षरित होंगे।
- (10) ग्राम पारिस्थितिकी विकास समिति अन्य सभी अभिलेखों का संधारण करेगा तथा सभी विवरण/सूचनायें जैसा प्राविधानित है, प्रस्तुत करेगी।

6 (सी) ग्राम पारिस्थितिकी विकास समिति की कार्यकारी समिति :

- (1) कार्यकारी समिति का चुनाव, ग्राम पारिस्थितिकी विकास समिति की आम सभा की बैठक में करना होगा।
- (2) सदस्य सचिव कम कोषाधिकारी, अध्यक्ष की सहमति से कार्यकारी समिति की बैठक आयोजित करेगा।
- (3) कार्यकारी समिति की बैठक का कोरम पूरा करने के लिये तीन चुने कार्यकारी समिति के सदस्यों की संख्या आवश्यक होगी।
- (4) कार्यकारी समिति की बैठक प्रत्येक दो माह में कम से कम एक बार हो

- (5) बराबर होने की दशा में ही समिति के अध्यक्ष वोट डालेंगे यद्यपि उनका वोट निर्णायक वोट होगा।
- (6) सदस्य सचिव कम कोषाधिकारी को वोट डालने का अधिकार नहीं होगा अलावा यदि वह ग्राम पारिस्थितिकी विकास समिति का सदस्य न हो।
- (7) कार्यकारी समिति में मृत्यु, त्यागपत्र अथवा अन्य कारणों से होने वाली आकस्मिक रिक्तियों की भर्ती कार्यकारी समिति के सहयोजन के अनुसार की जा सकती है। एक सहयोजित सदस्य की कार्य अवधि रिक्त होने की तिथि के बाद अवशेष अवधि हेतु होगी। त्यागपत्र देने के लिये एक माह की अग्रिम सूचना देनी होगी।
- (8) सदस्य सचिव कम कोषाधिकारी बैठक के कार्यवृत्त का संधारण करेगा।

7. समितियों के कार्य एवं दायित्व :

7 (ए) संरक्षित क्षेत्र स्तरीय पारिस्थितिकी विकास समिति :

- (1) पारिस्थितिकी विकास कार्यक्रम के लिये समर्थन हेतु आधार तैयार करना।
- (2) संरक्षित क्षेत्र स्तर पर विभिन्न विभागों के बीच सामन्जस्य स्थापित करना जिससे कि सेवाओं के क्रियान्वयन में उच्च गुणवत्ता सुनिश्चित हो सके।
- (3) संरक्षित क्षेत्र प्राधिकारियों को संरक्षित क्षेत्र स्तरीय पारिस्थितिकी विकास योजना निरूपण में सलाह उपलब्ध करना। यह विभिन्न विषयों पर सलाह देगा जैसे कि संरक्षित क्षेत्र के चारों ओर भूमि उपयोग पद्धतियों, विकास एवं शहरीकरण, वन्य जन्तुओं के लिये गलियारा/मार्ग, संरक्षित क्षेत्र संसाधनों पर स्थानीय दबाव, पर्यटन, प्रदूषण का प्रभाव और वन्य जन्तुओं से मानव जीवन एवं सम्पत्ति की सुरक्षा हेतु उपाय आदि।
- (4) ग्राम स्तरीय पारिस्थितिकी विकास का अनुश्रवण एवं समीक्षा करना।
- (5) पारिस्थितिकी विकास क्रियाकलापों के विस्तार हेतु अतिरिक्त संसाधनों को उपलब्ध कराने में सहायता करना।
- (6) विभिन्न स्वामित्व धारियों की योजनाओं एवं क्रियाकलापों में संरक्षित क्षेत्र के कार्यों को शोधित करना।
- (7) संरक्षित क्षेत्र के और अधिक संरक्षण एवं सुधार हेतु उपाय का निर्धारण करना।

7. (बी) ग्राम पारिस्थितिकी विकास समिति :

- (1) अध्यक्ष ग्राम पारिस्थितिकी विकास समिति के माध्यम से पारिस्थितिकी विकास क्रियाकलापों के क्रियान्वयन हेतु सम्बन्धित वन संरक्षक के बीच

फार्म एक में निर्धारित प्रपत्र में अनुबन्ध करना।

- (2) कार्यकारी समिति के सदस्यों का चुनाव करना।
- (3) माइक्रोप्लान के निरूपण एवं वार्षिक योजना क्रियान्वयन में सहायता का
- ✓(4) आम सभा की बैठक में पारिस्थितिकी विकास क्रिया-कलापों पर विचार विमर्श करना, लाभों के बँटवारे के बारे में विस्तृत विचार विमर्श व आदि और प्रबन्धक संरक्षित क्षेत्र के अनुमोदनार्थ प्रस्तुत किये जाने पारिस्थितिकी विकास हेतु माइक्रोप्लान को अंगीकृत करना। माइक्रोप्लान वर्ष की अवधि का होगा।
- (5) अनुमोदित माइक्रोप्लान के आधार पर वार्षिक क्रियान्वयन योजना निरूपण करना और इसके क्रियान्वयन में सहायता प्रदान करना।
- (6) सदस्यों एवं अन्य स्रोतों से प्राप्त जमा धनराशि से बनी सामान्य निधि बैंक/पोस्ट आफिस में एक खाता खोला जायेगा। कार्यकारी समिति लिखित संकल्प के अनुसार सामान्य निधि खाता अध्यक्ष एवं सदस्य संयुक्त रूप से संचालित होगा। इन लेखों निकाली एवं जमा की गई धनराशि का लेखा जोखा ग्राम पारिस्थितिकी विकास समिति की प्रत्येक वार्षिक आम सभा की बैठक में अनुमोदन प्रस्तुत किया जायेगा।
- (7) ग्राम पारिस्थितिकी विकास समिति के सदस्यों का गठन संयुक्त रूप से विभाग के कर्मचारियों के माध्यम से वन के अन्दर तथा बाहर रह रहे वन वन्य जन्तुओं की सुरक्षा में सहायता प्रदान करना।
- ✓(8) वन कर्मचारियों को ऐसे व्यक्तियों की सूचना देना जो जानबूझ कर अविद्वेषपूर्ण भावना से वन एवं वन्य जन्तुओं को क्षति पहुँचा रहे हों।
- (9) वन विभाग कर्मचारियों के साथ संयुक्त रूप से अतिक्रमण, अनाधिक चराई, आग, चोरी, अवैध शिकार, क्षति या वन्य जीव अधिनियम के प्राविध के उल्लंघन को रोकने में सहायता प्रदान करना।

7. (सी) ग्राम, पारिस्थितिकी विकास समिति की कार्यकारी समिति :-

- (1) प्रकृति संरक्षण, सतत विकास, प्राकृतिक संसाधनों के उपयोग, और विविधता संरक्षण आदि के महत्व पर ग्रामीणों में जागरूकता/चेतना फैलाना करना।
- (2) ग्राम पारिस्थितिकी विकास समिति के प्रत्येक सदस्य को संरक्षित संसाधनों की सुरक्षा के साथ-साथ ग्राम पारिस्थितिकी विकास समिति अन्य दायित्वों को पूरा करने में सम्मिलित करना।

- (3) ग्राम पारिस्थितिकी विकास समिति के कार्य क्षेत्र में वानिकी सम्बन्धी सभी कार्यों को सुचारु रूप से एक समय से क्रियान्वयन में वन-विभाग कर्मियों को सहायता प्रदान करना।
- (4) वन कर्मियों एवं ग्राम पारिस्थितिकी विकास समिति को वानिकी कार्यों हेतु श्रमिकों को लगाने एवं चुनाव में सहायता प्रदान करना।
- (5) ग्राम का पारिस्थितिकी विकास माइक्रोप्लान एवं वार्षिक क्रियान्वयन योजना बनाने में सहायता प्रदान करना और निर्धारित समय अवधि के अन्दर ग्राम पारिस्थितिकी विकास समिति की आम बैठक में अंगीकृत योजना को प्रबन्धक संरक्षित क्षेत्र के अनुमोदनार्थ प्रस्तुत करना।
- (6) प्रति वर्ष निर्धारित समय सीमा में समितियाँ पंजीकरण अधिनियम 1880 के प्राविधानों के अन्तर्गत निबन्धक समिति को सदस्यों के नाम, पता, व्यवसाय की सूची प्रस्तुत करना।
- (7) पारिस्थितिकी विकास कार्यक्रम का सुचारु रूप से क्रियान्वयन सुनिश्चित करना, जिससे कि ग्राम पारिस्थितिकी विकास समिति के सदस्यों को अधिकाधिक लाभ मिल सके।
- (8) यह सुनिश्चित करना कि शासन द्वारा अनुमन्य पारिस्थितिकी विकास निधि एवं उत्पाद लाभ, लाभार्थियों को बिना किसी गतिरोध के प्राप्त होता रहे।
- (9) निर्धारित तरीके से क्रियाकलापों एवं लेखा अभिलेखों का संधारण करना एवं प्राधिकृत व्यक्ति को उसे उपलब्ध कराना।
- (10) ऐसे सदस्य के बारे में सम्बन्धित राजि अधिकारी/वन दरोगा/वन रक्षक को सूचित करना जिसकी गतिविधियाँ अवैधानिक एवं/या वन/वन्य जन्तुओं के लिये हानिकारक हों, ऐसे सदस्यों की सदस्यता भी समाप्त हो सकती है।
- (11) ऐसी गतिविधियों को नियन्त्रित करना जो अधिनियम, समय-समय पर संशोधित वन्य जन्तु अधिनियम के प्राविधानों के प्रतिकूल हो।
- (12) संरक्षित क्षेत्र अधिकारियों को अधिनियम/नियमों के अन्तर्गत अपराधियों, ग्राम पारिस्थितिकी विकास समिति के पथभ्रष्ट सदस्यों के खिलाफ कार्यवाही में मदद करना।

8. प्रेरक दल :

मुख्य वन्य जीव संरक्षक द्वारा प्रत्येक संरक्षित क्षेत्र हेतु पारिस्थितिकी विकास प्रेरक दल का गठन किया जायेगा। यह प्रेरक दल ग्रामीणों को ग्राम पारिस्थितिकी विकास समिति के गठन तथा पारिस्थितिकी विकास के कार्यक्रम के क्रियान्वयन हेतु प्रेरित करेगा।

प्रेरक दल के नेता सहायक वन संरक्षक होंगे तथा प्रेरक दल में : अधिकारी/उप वन रेंजर, दो स्थानीय स्वयं सेवी संस्था के प्रतिनिधि एवं स्थान वन रक्षक होंगे।

9. पारिस्थितिकी विकास क्रियाकलाप :

- (1) कार्यकारी समिति प्रेरक दल की सहायता से ग्राम पारिस्थितिकी विकास समिति के सदस्यों को शामिल करते हुये सहभागिता के अनुसार माइक्रोप्लान बनायेगा।
- (2) सामुदायिक एवं व्यक्तिगत लाभ हेतु निर्धारित वित्तीय सीमा के अन्तर्गत स्थान विशेष एवं आवश्यकता के अनुरूप कार्यक्रम निर्धारित किये जायेंगे।
- (3) प्रत्येक चयनित पारिस्थितिकी विकास कार्यक्रम, जैव-विविधता संरक्षण प्रत्यक्ष अथवा परोक्ष रूप से जुड़ा होगा जिसका उल्लेख तदनुसार माइक्रोप्लान में होगा।
- (4) ग्राम पारिस्थितिकी विकास समिति की आम बैठक में माइक्रोप्लान अंगीकृत किया जायेगा तत्पश्चात् अनुमोदनार्थ प्रबन्धक संरक्षित क्षेत्र को प्रस्तुत किया जायेगा।
- (5) माइक्रोप्लान का परीक्षण पारिस्थितिकी विकास सम्बन्धी निर्धारित दिशानिर्देशों एवं निवेश मानकों के अनुसार किया जायेगा व प्रबन्धक संरक्षित क्षेत्र द्वारा अनुमोदित किया जायेगा।
- (6) कार्यकारी समिति अनुमोदित माइक्रोप्लान के अनुसार प्रतिवर्ष वार्षिक क्रियान्वयन योजना बनायेगी और सितम्बर के प्रथम दिवस से पूर्व प्रबन्धक संरक्षित क्षेत्र को प्रस्तुत करेगी।

10. धनराशि :

इस संकल्प के अधीन पारिस्थितिकी विकास क्रियाकलापों हेतु : पारिस्थितिकी विकास समिति धनराशि की व्यवस्था करेगी। जहाँ तक संभव हो सके धनराशि की व्यवस्था शासकीय एवं अशासकीय स्रोतों से की जायेगी जिसे ग्राम समुदाय तथा व्यक्तिगत योगदान भी शामिल होंगे।

शासन द्वारा पारिस्थितिकी विकास हेतु धनराशि उपलब्ध होने की स्थिति में यह प्रबन्धक संरक्षित क्षेत्र द्वारा किस्तों में समय-समय पर लागू सुसंगत शासन आदेशों के अनुसार जारी की जायेगी।

11. लेखा का संधारण :

- (1) मद सं0 10 में वर्णित धनराशि तथा अन्य सभी स्रोतों से प्राप्त धन

सम्बन्धित ग्राम पारिस्थितिकी विकास समिति के नाम राष्ट्रीयकृत बैंक / पोस्ट आफिस में जमा की जायेगी। उक्त खाता अध्यक्ष एवं सदस्य सचिव कम कोषाधिकारी द्वारा संयुक्त रूप में संचालित होगा।

- (2) ग्राम पारिस्थितिकी विकास समिति के पूर्व अनुमोदन के बाद ही खाते से धनराशि आहरित की जायेगी और व्यय विवरण ग्राम पारिस्थितिकी विकास समिति को अगली बैठक में प्रस्तुत किया जायेगा।
- (3) धनराशि का लेखा-जोखा एवं व्यय प्रक्रिया समय-समय पर जारी शासकीय आदेशों के अनुसार होगा।

12. लेखा एवं लेखा परीक्षा :

ग्राम पारिस्थितिकी विकास समिति उचित लेखा एवं अन्य सुसंगत अभिलेख रखेगी और सरकार के निर्देशों के अनुसार लेखा का एक वार्षिक विवरण तैयार करेगी।

13. लाभ की हिस्सेदारी :

- (1) माइक्रोप्लान के अन्तर्गत संचालित सभी क्रियाकलापों की लागत का एक चौथाई हिस्सा ग्राम समुदाय द्वारा वहन किया जायेगा। समुदाय द्वारा सहयोग- सामग्री (भूमि आदि), श्रम या कुछ अवधि विशेष के लिये अपने अधिकारों का स्थगन आदि रूप में हो सकता है।
- (2) व्यक्तिगत लाभार्थियों को ग्राम पारिस्थितिकी विकास समिति द्वारा अग्रिम या ऋण दिया जा सकता है। भुगतान की शर्तें प्रत्येक ग्राम पारिस्थितिकी विकास समिति द्वारा निर्धारित की जायेंगी।
- (3) व्यक्तिगत लाभार्थी द्वारा लागत का कम से कम 25 प्रतिशत व्यय स्वयं-वहन किया जायेगा। व्यक्तिगत लाभार्थी को किसी भी दशा में ग्राम पारिस्थितिकी विकास समिति के कुल पूंजीनिवेश का 5 प्रतिशत से अधिक की धनराशि नहीं दी जायेगी।
- (4) किसी भी व्यक्ति को दूसरा अग्रिम/ऋण तब तक नहीं दिया जायेगा जब तक कि उसके द्वारा पूर्व अग्रिम/ऋण को पूरा जमा न कर दिया गया हो तथा सभी शर्तों का पूर्ण पालन किया गया हो।
- (5) ग्राम पारिस्थितिकी विकास समिति लेखों में पुनर्जमा की गई धनराशि के आर्वती धन व्यवस्था स्थापित होगी जिससे कि समुदाय के लोगों को पुनः वित्तीय सहायता दी जा सके और दीर्घकालीन वित्तीय निरन्तरता के कार्यक्रम सुनिश्चित किये जा सकें।

- (6) संरक्षित क्षेत्र से प्राप्त केवल उन्हीं उत्पादों का वितरण किया जायेगा जिस समय-समय पर अनुमन्य किया गया हो तथा वितरण ग्राम पारिस्थितिक विकास समिति की आम सहमति के आधार पर किया जायेगा और इस समावेश अनुमोदित माइक्रोप्लान में किया जायेगा।
- 14. सदस्यता की समाप्ति एवं/या ग्राम पारिस्थितिकी विकास समिति को भंग करना :**
- (1) ग्राम पारिस्थितिकी विकास समिति में टकराव की स्थिति में पारिस्थितिक विकास अधिकारी, प्रबन्धक संरक्षित क्षेत्र टकराव को समाप्त करने आवश्यक कदम उठायेगे।
- (2) अधिनियम, वन्य जीव अधिनियम या उसके अन्तर्गत बने किसी भी शर्तों एवं प्राविधानों के उल्लंघन की स्थिति में प्रबन्धक संरक्षित क्षेत्र संस्तुति पर समितियाँ पंजीकरण अधिनियम 1860 की धारा 15 के अन्तर्गत सदस्यता समाप्त की जा सकती है और/या धारा 13, 13 अ, 13 ब अधीन क्रमशः कार्यकारी समिति, ग्राम पारिस्थितिकी विकास समिति भंग जा सकती है।
- 15. विविध विषय :**
- (1) सम्बन्धित ग्राम पंचायत ग्राम पारिस्थितिकी विकास समिति को सुचारु संचालन हेतु आवश्यक सहयोग एवं सहायता प्रदान करेगी।
- (2) फार्म-2 एवं फार्म-3 में क्रमशः मेमोरेन्डम ऑफ एशोसियेशन एवं पारिस्थितिकी विकास समिति के नियम संलग्न हैं।

आज्ञा से
प्रमुख सचिव (वन)
उ०प्र० शासन

- (5) उत्तर प्रदेश शासकीय पारिस्थितिकी विकास संकल्प सहमति पत्र का भाग बनेगा। इसकी प्रतियों को हम लोगों द्वारा प्रत्येक पृष्ठ पर साक्षात्कार के लिए कि हमारे द्वारा शब्दों को पढ़ कर पूर्णतया समझ लिया गया है और इस पर लिखित समस्त शर्तों एवं उपबन्धों को स्वीकार करते हैं, संलग्न जाती है।
- (6) यह कि सभी प्रकार के उत्पन्न विवादों एवं मतभेदों जो किसी प्रकार समझौते को सम्मिलित करेंगे या इससे सम्बद्ध होंगे, को सम्बंधित मुख्य संरक्षक के निर्णय के लिए भेजा जायेगा। निर्णायक की अनुशांसा 3 होगी और दोनों पक्ष मानने के लिए बाध्य होंगे।
- (7) इस समझौते से सम्बंधित पक्षों को दिये गये निर्धारित प्रपत्रों में साक्ष्य व में दिनांकित, मुहर सहित हस्ताक्षर अंकित होगा।

अनुसूची - 1

1. ग्राम पारिस्थितिकी विकास समिति का नाम :
2. संरक्षित क्षेत्र का नाम :
3. जिला :
4. तहसील :
5. डाकघर/पुलिस थाना :
6. वन क्षेत्र :
7. ग्राम की वैधानिक स्थिति :
8. क्षेत्रफल :

ग्राम पारिस्थितिकी विकास समिति के अध्यक्ष का हस्ताक्षर	गवाहों के हस्ताक्षर
क्र.सं. नाम और पता हस्ताक्षर	क्र.सं. नाम और पता

वन संरक्षक के हस्ताक्षर

नाम :

हस्ताक्षर :

प्रपत्र – 2

ग्राम पारिस्थितिकी विकास समिति
संघ का झापन

1. नाम : समिति का नाम – "ग्राम पारिस्थितिकी विकास समिति"
2. कार्यालय: समिति का पंजीकृत कार्यालय ग्राम
थाना पोस्ट
तहसील जिला उ० प्र० में स्थित होगा।
3. कार्य क्षेत्र: ग्राम (जहाँ समिति स्थापित है)।
4. प्रकृति : समिति ग्राम के पारिस्थितिकी विकास कार्यों को सम्पन्न करने के लिए एक स्वायत्तशासी संस्था है।
5. लक्ष्य : समिति जिन लक्ष्यों को प्राप्त करने के लिये स्थापित की गई है एवं उद्देश्य यह निम्न प्रकार है :-
 - (1) जैव विविधता संरक्षण में जन सहयोग सुनिश्चित करना।
 - (2) संरक्षित क्षेत्र पर स्थानीय जन के प्रतिकूल प्रभाव को कम करना।
 - (3) संरक्षित क्षेत्र के अन्तर्गत तथा समीपवर्ती क्षेत्रों के स्थानीय जन के जीवकोपार्जन के साधनों में आवश्यक हस्तक्षेप करना तथा वैकल्पिक संसाधन उपलब्ध कराकर संरक्षित क्षेत्रों के संसाधन सुरक्षित करना।
 - (4) संरक्षित क्षेत्र के जैव विविधता के संरक्षण के उद्देश्यों के अनुकूल भूमि उपयोग को प्रोत्साहन देना।
 - (5) संरक्षित क्षेत्र तथा उसके अन्तर्गत स्थानीय जन के मध्य पारस्परिक संघर्ष को कम करना।
 - (6) पारिस्थितिकी विकास कार्यक्रमों के माध्यम से दीर्घकाल तक जारी रखने योग्य विकास प्रक्रिया की योजना बनाने तथा उन्हें क्रियान्वित करने की क्षमता स्थानीय जनों में विकसित करना।
 - (7) ऐसा कोई अन्य कार्यक्रम जो उपरोक्त कार्यक्रमों का सहायक हो, को संचालित करना।
6. कार्यकारी समिति— निम्न सदस्यों से युक्त कार्यकारी समिति का पंजीकरण, समिति पंजीकरण अधिनियम 1860 के अन्तर्गत इस समिति के प्रबन्धन के लिए होगा।

क्र.सं.	नाम	पद नाम और पता	स्तर	पेशा
1.			अध्यक्ष	
2.			सदस्य	
3.			सदस्य	
4.			सदस्य	
5.			सदस्य	
6.			सदस्य-सचिव	राजकीय
			कम-कोषाध्यक्ष	
7.			स्वैच्छिक संस्था प्रतिनिधि	

७. समिति की स्थापना :

हम अधोहस्ताक्षरी जिनका पेशा और पता निम्नलिखित हैं, एक समिति पंजीकरण, अधिनियम 1860 के अन्तर्गत एक समिति के रूप में पंजीकरण निर्माण करना चाहते हैं जिससे संघ के ज्ञापन के उद्देश्यों की पूर्ति हो
दिनांकित

क्र.सं.	नाम	पद नाम और पता	हस्ताक्षर
1.			
2.			
3.			
4.			
5.			
6.			
7.			

प्रपत्र - 3

ग्राम पारिस्थितिकी विकास समिति

नियम :

1. नाम : समिति का नाम ग्राम पारिस्थितिकी विकास समिति होगा।
2. कार्यालय: समिति का पंजीकृत कार्यालय ग्राम
थाना पोस्ट
तहसील जिला उ० प्र० में स्थित होगा।
3. कार्य क्षेत्र: ग्राम (जहाँ समिति स्थापित है)
4. प्रकृति : समिति ग्राम के पारिस्थितिकी विकास कार्यों को सम्पन्न करने के लिए एक स्वायत्तशासी संस्था/एजेन्सी है।
5. उद्देश्य : समिति जिन लक्ष्यों को प्राप्त करने के लिये स्थापित की गई है यह निम्न प्रकार हैं :-
 - (1) जैव विविधता संरक्षण में जन सहयोग सुनिश्चित करना।
 - (2) संरक्षित क्षेत्र पर स्थानीय जन के प्रतिकूल प्रभाव को कम करना।
 - (3) संरक्षित क्षेत्र के अन्तर्गत तथा समीपवर्ती क्षेत्रों के स्थानीय जन के जीवकोपार्जन के साधनों में आवश्यक हस्तक्षेप करना तथा वैकल्पिक संसाधन उपलब्ध कराकर संरक्षित क्षेत्रों के संसाधन सुरक्षित करना।
 - (4) संरक्षित क्षेत्र का जैव विविधता के संरक्षण के उद्देश्यों के अनुकूल भूमि उपयोग को प्रोत्साहन देना।
 - (5) संरक्षित क्षेत्र तथा उसके अन्तर्गत स्थानीय जन के मध्य पारस्परिक संघर्ष को कम करना।
 - (6) पारिस्थितिकी विकास कार्यक्रमों के माध्यम से दीर्घकाल तक जारी रखने योग्य विकास प्रक्रिया की योजना बनाने तथा उन्हें क्रियान्वित करने की क्षमता स्थानीय जनों में विकसित करना।
 - (7) ऐसा कोई अन्य कार्यक्रम जो उपरोक्त कार्यक्रमों का सहायक हो, को संचालित करना।
6. परिभाषाएँ :
 - (1) अधिनियम का तात्पर्य उत्तर प्रदेश में अपनी प्रकृति के सम्बन्ध में यथा संशोधित भारतीय वन अधिनियम 1927 से है।
 - (2) अध्यक्ष का तात्पर्य ग्राम पारिस्थितिकी विकास समिति और ग्राम पारिस्थितिकी विकास समिति की कार्यकारी समिति से है।
 - (3) कार्यकारी समिति से तात्पर्य सात सदस्यीय समिति और जिसमें अध्यक्ष

- शामिल है, से है जो इस संकल्प के अधीन गठित ग्राम पारिस्थितिक विकास समिति के प्रशासनिक और प्रबन्ध सम्बन्धी दायित्वों का निःकरण करेगी।
- (4) वन अधिकारी का तात्पर्य उस व्यक्ति से है जिसे राज्य सरकार भारतीय वन अधिनियम 1927 के सभी अथवा किसी भी उद्देश्य क्रियान्वयन हेतु नियुक्त किया हो।
 - (5) "वन दरोगा" से तात्पर्य ऐसी श्रेणी के व्यक्ति से है जो सम्बद्ध अधिकार के रूप में या जो वन रेंज के अन्तर्गत सेक्शन के पर्यवेक्षण कार्य करता है।
 - (6) "शासन" का तात्पर्य उत्तर प्रदेश शासन से है।
 - (7) "ग्राम सभा" ग्राम पंचायत "प्रधान" "उप-प्रधान" और ग्राम के अर्थ होंगे जो उनके लिए संयुक्त प्रान्त पंचायत राज्य अधिनियम 194 क्रमशः दिए गए हैं।
 - (8) दिशा-निर्देश से तात्पर्य पारिस्थितिकी विकास हेतु शासन के दिशा-निर्देश से है।
 - (9) परिवार का अर्थ एक इकाई के रूप में घर में रह रहे अधिवासियों से है।
 - (10) "सदस्य" का तात्पर्य ग्राम पारिस्थितिकी विकास समिति के सदस्य है।
 - (11) माइक्रोप्लान से तात्पर्य ग्राम स्तर पर प्रबंधन हेतु पारिस्थितिकी विकास क्रिया-कलापों की योजना से है।
 - (12) "संरक्षित क्षेत्र" से तात्पर्य राष्ट्रीय उपवन, वन्य जीव विहार एवं बायोस्फियर रिजर्व से है।
 - (13) "संरक्षित क्षेत्र प्रबन्धक" का अर्थ मुख्य वन्य जीव संरक्षक द्वारा नामित संरक्षित क्षेत्र के प्रभारी वन अधिकारी से है।
 - (14) "परियोजना" से तात्पर्य उत्तर प्रदेश वानिकी परियोजना से है।
 - (15) परियोजना इकाई का तात्पर्य उत्तर प्रदेश वानिकी परियोजना की परियोजना इकाई से है।
 - (16) "रेंज अधिकारी" का तात्पर्य कार्यकारी इकाई के प्रभारी अधिकारी से है।
 - (17) "संकल्प" से तात्पर्य पारिस्थितिकी विकास के राजकीय संकल्प से है।
 - (18) "समिति" का तात्पर्य ग्राम पारिस्थितिकी विकास समिति से है।
 - (19) "ग्राम पारिस्थितिकी विकास समिति" का तात्पर्य पारिस्थितिकी विकास

निर्वाचित।

- (य) सदस्य-ग्राम पारिस्थितिकी विकास समिति के महिला सदस्य निर्वाचित।
- (र) सदस्य-सचिव कम कोषाध्यक्ष-वन दरोगा जो संरक्षित क्षेत्र द्वारा नामित होगा।
- (ल) एक स्वैच्छिक संस्था के प्रतिनिधि जिसको संरक्षित क्षेत्र द्वारा नामित किया जायेगा।
- (8) जहां अनु० जाति/अनु०जन जाति/अन्य पिछड़े वर्ग का कोई नहीं होगा वहां पर पदों को सामान्य श्रेणी के परिवारों में से भरा जायेगा।

9. व्यवसाय की कार्यविधि :

(अ) ग्राम पारिस्थितिकी विकास समिति :

1. अध्यक्ष की सहमति से सदस्य-सचिव कम कोषाध्यक्ष आमसभा की बैठक आहूत करेगा।
2. आम सभा की बैठक वर्ष में कम से कम दो बार आहूत की जायेगी।
3. ग्राम पारिस्थितिकी विकास समिति का अध्यक्ष बैठक की अध्यक्षता करेगा। अध्यक्ष की अनुपस्थिति में कार्यकारी समिति के सदस्य सदस्यगण (नामित सदस्यों को छोड़कर) बैठक की अध्यक्षता करेंगे। उन सदस्यों में से एक व्यक्ति का चुनाव करेंगे।
4. आम सभा की प्रत्येक बैठक के लिए न्यूनतम आवश्यक सदस्य संख्या कुल सदस्यों की संख्या (पदेन सदस्यों को छोड़कर) तिहाई होगी।
5. सदस्य-सचिव कम कोषाध्यक्ष को मत देने का अधिकार होगा। इसी प्रकार स्वैच्छिक संस्था के प्रतिनिधि (सदस्य) मत देने का अधिकार नहीं होगा। इस स्थिति को छोड़कर ग्राम पारिस्थितिकी विकास समिति का सदस्य है।
6. सदस्य सचिव कम कोषाध्यक्ष बैठक की कार्यवाही का रख-रखाव करेगा।
7. सम्बन्धित रेंज अधिकारी ग्राम पारिस्थितिकी विकास समिति की आमसभा की बैठक का पर्यवेक्षक होगा।

(ब) ग्राम पारिस्थितिकी विकास समिति की कार्यकारी समिति

1. आम सभा की बैठक में प्रति तीन वर्ष पर ग्राम पारिस्थितिकी विकास समिति की कार्यकारिणी का चुनाव किया जायेगा।

2. अध्यक्ष की सहमति से सदस्य-सचिव कम कोषाध्यक्ष ग्राम पारिस्थितिकी विकास समिति की कार्यकारिणी की बैठक आहूत करेगा।
3. कार्यकारिणी की प्रत्येक बैठक हेतु न्यूनतम आवश्यक सदस्यों की संख्या कार्यकारिणी की दो चुने हुए सदस्यों से पूर्ण की जायेगी।
4. कार्यकारिणी की बैठक प्रत्येक दो माह में कम से कम एक बार आहूत की जायेगी।
5. समिति का अध्यक्ष तभी अपना मत देगा जब दोनों पक्षों के मत बराबर होंगे। अर्थात् अध्यक्ष का मत निर्णायक मत होगा।
6. सदस्य-सचिव कम कोषाध्यक्ष को मत देने का अधिकार नहीं होगा।
7. स्वैच्छिक संस्था के सदस्य को उस स्थिति को छोड़कर जिसमें वह सदस्य ग्राम पारिस्थितिकी विकास समिति का सदस्य हो, मत देने का अधिकार नहीं होगा।
8. आकस्मिक मृत्यु, त्यागपत्र देने या अन्य किसी कारण से कार्यकारिणी में उत्पन्न आकस्मिक रिक्तियों को कार्यकारिणी की आम सहमति से भरा जा सकेगा। उनके सहमति से निर्वाचित सदस्य शेष अवधि तक कार्यालय को संचालित करेगा। त्यागपत्र की इच्छा में एक माह पूर्व सूचित करना आवश्यक होगा।
9. सदस्य सचिव कम कोषाध्यक्ष बैठक की कार्यवाही का रख-रखाव करेगा।

10. कार्य एवं दायित्व :

(अ) ग्राम पारिस्थितिकी विकास समिति

1. पारिस्थितिकी विकास क्रिया-कलापों में इसके अध्यक्ष के माध्यम से भाग लेने के लिए सम्बंधित वन संरक्षक के साथ प्रपत्र-1 में निर्धारित प्रपत्र पर औपचारिक करार करना।
2. सदस्य-सचिव कम कोषाध्यक्ष के माध्यम से एक अभिलिखित जिसमें ग्राम पारिस्थितिकी विकास समिति के सदस्यों का व्यक्तिगत विवरण जैसे- नाम, पिता/पति/पत्नी का नाम, उम्र, पारिवारिक सदस्यों की संख्या आदि अंकित हों, का रख-रखाव करना।
3. पारिस्थितिकी विकास एवं यहां निर्गत दिशा निर्देशों के लिए शासन के प्रस्ताव के साथ सक्रिय भागीदारी सुनिश्चित करना।

4. सदस्य-सचिव कम कोषाध्यक्ष के माध्यम से एक कार्यवाही जहां ग्राम पारिस्थितिकी विकास समिति की वार्षिक आम बैठकों की कार्यवाही अध्यक्ष और सदस्य सचिव कम कोष हस्ताक्षर युक्त संकलित की जायेगी, का रख-रखाव का
5. शासन द्वारा निर्धारित अन्य सभी अभिलेखों का रख-रखाव
6. कार्यकारिणी के सदस्यों का निर्वाचन करना।
7. माइक्रोप्लान एवं वार्षिक क्रियान्वयन योजना के निर्माण में सहयोग करना।
8. आम सभा की बैठक में पारिस्थितिकी विकास में किये गए (भावी) क्रिया-कलापों एवं लाभों के विवरण आदि पर विचार करना एवं संरक्षित क्षेत्र प्रबंधक की अनुमति के लिए पारिस्थितिकी विकास हेतु माइक्रोप्लान अनुमोदन हेतु विचार विमर्श माइक्रोप्लान पांच वर्ष की अवधि के लिए होगा।
9. अनुमोदित माइक्रोप्लान पर आधारित वार्षिक क्रियान्वयन ग्रहण करना और इसके क्रियान्वयन में सहयोग करना।
10. सदस्यों एवं अन्य क्षेत्रों से प्राप्त जमा धनराशि को संचालित बैंक/डाक घर के एक सामान्य कोष में रख-रखाव के लिए करना। इस कोष का संचालन कार्यकारिणी द्वारा लिखित पर अध्यक्ष एवं सदस्य सचिव कम कोषाध्यक्ष द्वारा संयुक्त किया जाएगा। इस कोष में धनराशि जमा करना एवं निकालने के विवरण को वार्षिक आम सभा की बैठक में प्रस्तुत किया जायेगा।
11. वनों एवं इसमें स्थित एवं इसके बाहर स्थित वन्यजीवों की रक्षा या संयुक्त रूप से वन विभाग के कर्मचारियों की मदद से सहयोग करना।
12. किसी व्यक्ति/व्यक्तियों द्वारा वन क्षेत्र में अवैध प्रवेश एवं वन्य जीवों को मारना या दुश्मनीवश उपरोक्त वन/वनों तथा/या वन्य जीवों को हानि पहुँचाने के प्रयासों के बारे में वन कर्मियों को सूचित करना।
13. वन विभाग के कर्मचारियों के संयुक्त प्रयास से वनों में अतिक्रमण, चराई, आग, अवैध शिकार, चोरी, या वन्य जीवों के अधिनिधिम के प्राविधानों का उल्लंघन या नुकसान पहुँचाने को रोकना और उसे रोकने में आवश्यक सहयोग करना।

(ब) ग्राम पारिस्थितिकी विकास समिति की कार्यकारणी

1. अन्य ग्रामीणों को प्राकृतिक संरक्षण के महत्व, कार्मिक विकास और प्राकृतिक संसाधनों का उपयोग तथा जैव विविधता संरक्षण की आवश्यकता के प्रति जागरूक करना।
2. ग्राम पारिस्थितिकी विकास समिति के प्रत्येक सदस्य को संरक्षित क्षेत्र संसाधनों की सुरक्षा के साथ ही साथ ग्राम पारिस्थितिकी विकास समिति द्वारा निर्धारित अन्य दायित्वों के निर्वहन में संलग्न करना।
3. ग्राम पारिस्थितिकी विकास समिति के क्रिया-कलाप क्षेत्र में किये जा रहे समस्त वानिकी कार्यों के समयबद्ध सुचारू रूप से क्रियान्वयन में वन विभाग के कर्मचारियों को सहयोग प्रदान करना।
4. वानिकी कार्य के लिये आवश्यक श्रम नियोजन के बारे में संबंधित वनाधिकारियों एवं ग्राम पारिस्थितिकी विकास समिति को सहयोग करना।
5. पारिस्थितिकी विकास माइक्रोप्लान एवं ग्राम के वार्षिक क्रियान्वयन योजना को तैयार करने में सहयोग करना एवं निर्धारित समय सीमा के अन्दर माइक्रोप्लान एवं वार्षिक क्रियान्वयन योजना जो ग्राम पारिस्थितिकी विकास समिति की आम सभा द्वारा स्वीकार किया गया हो, को संरक्षित क्षेत्र प्रबन्धक के समक्ष प्रस्तुत करना।
6. आम सभा की बैठक से एक पक्ष के अन्तर्गत, प्रति वर्ष एक सूची सदस्यों के नाम, पता, पेशा से युक्त निबन्धक समितियों के समक्ष, समितियां निबन्धक अधिनियम 1860 के प्राविधानों के अन्तर्गत प्रस्तुत करना।
7. पारिस्थितिकी विकास कार्यक्रम के सुचारू क्रियान्वयन को निश्चित करना ताकि ग्राम पारिस्थितिकी विकास समिति के सदस्य जिससे अधिकतम लाभ पा सकें।
8. शासन द्वारा स्वीकृत पारिस्थितिकी विकास कोष एवं उत्पादन लाभों को अबाध रूप से लाभार्थियों को उपलब्धता सुनिश्चित करना।
9. निर्धारित प्रक्रिया के अनुसार कार्यकलापों के अभिलेखों एवं लेखा का रख रखाव करना और इन अभिलेखों को निर्धारित अधिकृत व्यक्तियों को उपलब्ध कराना।
10. किसी सदस्य विशेष जो पूर्वागृह से ग्रसित है और/या वन/वन्य

जीव के हित में संबंधित वन रेंज अधिकारी/वन दरोगा/वन रक्षक के विरोध में हो जिसका परिणाम गलती करने पर सदस्यों की सदस्यता को निरस्त किया जा सकता है, के कार्य कलापों के बारे में सूचित करना।

11. इस अधिनियम एवं वन्य जीव संरक्षण अधिनियम के प्राविधानों का उल्लंघन करने वाले किसी भी कार्य को रोकना।
12. ग्राम पारिस्थितिकी विकास समिति के गलती करने वाले सदस्य सहित किसी भी अपराधी के विरुद्ध बनाये गये नियमों और अधिनियम तथा वन्य जीव संरक्षण अधिनियम के अन्तर्गत कार्यवाही करने हेतु वन अधिकारियों को सहयोग देना।

11. कोष :

पारिस्थितिक विकास क्रियाकलापों के लिये ग्राम पारिस्थितिकी विकास समिति कोष की व्यवस्था करेगी। जहां तक सम्भव होगा शासन एवं अशासकीय संसाधनों जिसमें व्यक्ति एवं ग्राम सभा द्वारा प्राप्त दान सम्मिलित हैं, से कोष की व्यवस्था की जायेगी। जब कभी शासन पारिस्थितिकी विकास के लिये कोष उपलब्ध करायेगा तो यह कोष किस्तों में संरक्षित क्षेत्र प्रबंधक द्वारा शासन के आदेशानुसार जो इसके बारे में समय-समय पर निर्गत किये जायेंगे द्वारा किस्तों में अवमुक्त किया जायेगा।

12. लेखा का संचालन :

1. कोष उपरोक्त आइटम नं० 11 से सम्बन्धित अन्य सभी प्रकार की प्राप्त धनराशि को सम्बन्धित ग्राम पारिस्थितिकी विकास समिति के नाम से राष्ट्रीयकृत बैंक या डाक घर में जमा किया जायेगा और ग्राम पारिस्थितिकी विकास समिति के अध्यक्ष तथा सदस्य, सचिव कम कोषाध्यक्ष के द्वारा संयुक्त रूप से संचालित किया जायेगा।
2. बैंक से समस्त आहरण ग्राम पारिस्थितिकी विकास समिति की पूर्व अनुमति पर किया जायेगा और आहरित धनराशि तथा व्यय का विवरण ग्राम पारिस्थितिकी विकास समिति की आगामी बैठक में प्रस्तुत किया जायेगा।
3. किये गये व्यय एवं इसके लेखाबद्ध करने की प्रक्रिया समय-समय पर राज्य सरकार द्वारा निर्गत आदेशों के अनुसार होगी।

13. लेखा एवं लेखा परीक्षा :

1. ग्राम पारिस्थितिकी विकास समिति उचित लेखा और आय-व्यय का

सुसंगत अभिलेख रखेगी और शासन के निर्देशानुसार एक वार्षिक लेखा विवरण तैयार करेगी।

2. ग्राम पारिस्थितिकी विकास समिति के लेखे की लेखा परीक्षा निदेशक, लेखा परीक्षा स्थानीय निकाय, उत्तर प्रदेश द्वारा की जायेगी।

14. लाभ का विभाजन :

1. माइक्रोप्लान की लागत का 25 प्रतिशत ग्राम समुदाय के सदस्यों द्वारा वहन किया जायेगा। ग्राम समुदाय अपना योगदान निर्माण सामग्री (भूमि आदि), श्रमिक अथवा निश्चित अवधि के लिये अपने अधिकारों के स्थगन के रूप में करेंगे।
2. व्यक्तिगत लाभार्थी ग्राम पारिस्थितिकी विकास समिति से ऋण अथवा अग्रिम प्राप्त कर सकेंगे। ऋणों अथवा अग्रिम का पूर्ण भुगतान प्रत्येक ग्राम पारिस्थितिकी विकास समिति द्वारा निर्धारित शर्तों के अनुसार होगा।
3. व्यक्तिगत लाभार्थी न्यूनतम 25 प्रतिशत परियोजना क्रियाकलापों की लागत वहन करेंगे। व्यक्तिगत लाभार्थियों को ग्राम पारिस्थितिकी विकास समिति द्वारा प्रस्तावित सम्पूर्ण लागत का 5 प्रतिशत से अधिक नहीं वितरित किया जायेगा।
4. किसी व्यक्तिगत लाभार्थी को अग्रिम या ऋण की दूसरी किश्त का भुगतान तब तक नहीं किया जायेगा जब तक वह पूर्व स्वीकृत धनराशि का पूर्ण भुगतान एवं अन्य शर्तों को पूर्णतः पालन नहीं कर लेता।
5. ग्राम पारिस्थितिकी विकास समिति का धनराशि कोष संतत कोष प्रक्रिया स्थापित करने में मदद करेगा। जिससे पुनः लम्बी अवधि तक वित्तीय व्यवस्था सुदृढ़ करने में सुगमता होगी।
6. संरक्षित क्षेत्र से मिलने वाले लाभों को लाभार्थियों के बीच समय-समय पर ग्राम पारिस्थितिकी विकास समिति द्वारा आम सहमति से स्वीकृत प्रक्रिया के आधार पर वितरित किया जायेगा और उसको अनुमोदित माइक्रोप्लान में सम्मिलित किया जायेगा।

15. सदस्यता विवरण :

1. समिति के सदस्यों का लिखित अभिलेख जिसमें उनके पते वर्गीकरण तथा नामित सदस्यों के अधिकृत पदाधिकारियों का विवरण सम्मिलित होगा रखा जायेगा।
16. सदस्यों की बर्खास्तगी और या ग्राम पारिस्थितिकी विकास समिति को भंग करना :

1. ग्राम पारिस्थितिकी विकास समिति में विवाद होने पर संरक्षित क्षेत्र पारिस्थितिकी विकास अधिकारी/प्रबन्धक विवाद को समाप्त करने हेतु आवश्यक उपाय करेंगे।
 2. अधिनियम, वन्य जीव अधिनियम अथवा अधिनियम के अन्तर्गत बनाये जो कोई नियम का उल्लंघन करने की स्थिति में व्यक्तिगत सदस्यता समिति पंजीकरण अधिनियम 1860 की धारा 15 के अन्तर्गत बर्खास्त की जायेगी अथवा कार्य कारणी अथवा ग्राम पारिस्थितिकी विकास समिति पंजीकरण अधिनियम 1860 की धारा 13, 13 अ और 13 ब के अनुसार संरक्षित क्षेत्र प्रबंधक की संस्तुति के आधार पर भंग की जायेगी।
- 17. विधिक कार्यवाही :**
1. समिति के द्वारा अथवा समिति के विरुद्ध समस्त वाद और वैधानिक कार्यवाही अध्यक्ष के माध्यम से की जायेगी।
 2. समिति की सम्पत्ति सम्बन्धी समस्त अनुबन्ध और प्रत्याभूति अध्यक्ष और पदेन सदस्य सचिव कम कोषाध्यक्ष के द्वारा किये जायेंगे।
 3. कार्यकारिणी के द्वारा समिति के संचालन के लिये एक सामान्य मोहर/मुद्रा प्रदान की जायेगी जो समय-समय पर नष्ट कर उसके स्थान पर नई मोहर/मुद्रा प्रदान की जायेगी। मोहर का प्रयोग समिति के दो सदस्यों के साथ ही किया जायेगा।
 4. अधिनियम के नियमों, पारिस्थितिकी विकास के शासकीय संकल्प और पारिस्थितिकी विकास के लिये शासकीय दिशा निर्देश में उल्लेखित नियम, विधि सम्मिलित नहीं किये गये हों उसके लिये भी नियम बनाये जा सकते हैं।
- 18. संशोधन :**
1. यह अनुच्छेद परिवर्तित नहीं किये जा सकेंगे जब तक आम सभा में उपस्थित तीन चौथाई सदस्यों द्वारा अनुमोदन न कर दिया जाये और शासन द्वारा प्रस्ताव स्वीकृत न कर दिया जाये।
- 19. उद्देश्य में परिवर्तन :**
1. समिति के द्वारा उद्देश्य या नियम में पूर्ण या आंशिक संशोधन द्वारा समिति के स्वरूप में परिवर्तन अथवा दूसरी समिति में विलीनीकरण बिना सरकार की पूर्व अनुमति और समिति पंजीकरण अधिनियम 1860 के नियमों के पालन के बिना नहीं किये जा सकते हैं।

20. समिति भंग करना :

समिति पंजीकरण अधिनियम की धारा-13 और 14 के अनुसार समिति भंग की जा सकती है। शेष सम्पत्ति के प्रयोग के बारे में लाभ और देन-दारी के मदेनजर रखते हुए शासन द्वारा निर्णय लिया जायेगा।

21. समिति द्वारा निम्नलिखित अभिलेखों का रख-रखाव किया जायेगा :

1. सदस्यता पंजिका
2. कार्यवाही पंजिका
3. भण्डार पंजिका
4. रोकड़ बही
5. शासन द्वारा निर्धारित अभिलेख समिति पंजीकरण अधिनियम के प्राविधानों के अनुसार समिति द्वारा अन्य आवश्यक अभिलेख का रख-रखाव किया जायेगा।



अभियंता + 4 सिकर



1+1+2

ग्राम पारोपेकी विकास
समिति ————— कार्रकारी समिति

(A) Altitude wise distribution of Flora of Bhagirathi ESZ [GNP part] (Source-Flora of GNP-P.K. Pusalkar & D. K. Singh, Botanical survey of India)

S. No.	Name of the Species	Altitude	Place in ESZ from where it is reported	Remarks
1.	<i>Cedrus deodara</i>	2600-3250m	Gangotri, Patangana, Gartang	Strongest wood of all Indian conifers
2	<i>Pinus wallichiana</i>	2600-3500m	Chirwasa, Patangana, Bhaironghati Nelang areas	Superior joinery wood
3	<i>Abies spectabilis</i>	3200-3400m	Gangotri Bhaironghati area	Leaf extract is used to cure asthma
4	<i>Picea smithiana</i>	2600-3500m	Kedar Parwat, Rudragaira, Gangotri, Patangana	Timbre, Piano sound boards
5	<i>Taxus wallichiana</i>	3100-3400m	Kedar Parwat, Bhriгу slopes in Gangotri Kedar fall area	Anticancer drug is prepared from the leaves of this plant.
6	<i>Juniperus communis</i>	2700-3750m	Chirwasa, Bhojwasa Gaumukkh	Dried stem & twigs are used as incense and as fumigator
7	<i>Acer acuminatum</i>	2500-3300m	Sukhi- Jangla region, Gangotri- Chirwasa etc.	Wood is used as fuel and for making instrument handles
8	<i>Cotoneaster microphyllus</i>	2700- 3650m	Bhaironghati- Gangotri, on way to Bhojwasa	Common on rocky places
9	<i>Potentilla arbuscula</i>	3550-4400m	Bhojwasa Chirwasa zone, Rudra Ganga, Kedar Ganga	One of the very few shrubby flowering plants found at the height of 6000 m
10	<i>Prinsepia utilis</i>	2600-3000m	Jangla Lanka slope, Lanka bridge	Oil from seeds is used for cooking & as an illuminant
11	<i>Juglans regia</i>	2600-2750	Bhagirathi valley Gangotri- Bhaironghati	Upper altitude distribution limit
12	<i>Betula utilis</i>	2600-3650 m	Bhojwasa, Gangotri, Kedarganga valley, Chirwasa	Holy tree, bark useful in blood diseases
13	<i>Rhododendron campanulatum</i>	3200-3800m	Gangotri, Upper Bhagirathi valley, Bhojgadhi, Kedar Ganga valley, Bhojwasa, Chirwasa	Warm leaf extract is used in curing rheumatism
14	<i>Angelica glauca</i>	2800-4050m	Nila valley	Roots are used as a spice & to cure dyspepsia & constipation
15	<i>Carum carvi</i>	3200-3800m	Nelang valley	Spice, Powdered seeds are used to cure gastric ailments
16	<i>Ferula jaeschkeana</i>	2600-2850 m	Jangla Lanka zone, Bhaironghati, Near Jangla	Spice, crushed rhizome is used to cure wounds & bruises
17	<i>Nardostachys jatamansi</i>	3000-4800m	Nila valley	Endangered, CITES app.II
18	<i>Valeriana hardwickii</i>	2800-4200m	Nila valley, Kedar Ganga valley, Bhojwasa, Chirwasa	Powdered roots are used in the treatment of mental disorders
19	<i>Saussurea gossypiphora</i>	4500-5300 m	Chaturangi, Raktovarn valley, Nandanvan	Constituent of Mrit Sanjiwani

S. No.	Name of the Species	Altitude	Place in ESZ from where it is reported	Remarks
20	<i>Saussurea obvallata</i>	3700-5200 m	Kedarkhark, Rudragaira route	Religious importance, state flower of Uttarakhand
21	<i>Primula denticulate</i>	2600- 4500m	Nila valley, hill opposite Gangotri, Bhaironghati, Gangotri, Bhoj Khark	Flowering starter of high altitude herbaceous flora, One of the most common 63 species of the Himalayan primula
22	<i>Swertia ciliate</i>	2800-4350	Lanka, Gangotri Chirwasa route, Gangotri, Kedar Khark, Rudragaira Khark	Green tea from dried leaves, leaf decoction is used in treatment of fever & skin diseases
23	<i>Arnebia benthamii</i>	3100-4600m	Phulaldaru, Bhaironghati, Gangotri	Medicinal use, Roots yield purple dye
24	<i>Solanum nigrum</i>	2600-3000m	Gangotri Bhaironghati	Plant extract is used as antiseptic & antidysentric
25	<i>Picrorhiza kurrooa</i>	3300-4350m	Bhojwasa, Chirwasa	
26	<i>Orobanche alba</i>	2800-3700m	Nelang, Nala, Gangotri, Chirwasa, on way to Kedar Khark	Parasite plant
27	<i>Elsholtzia fruticosa</i>	2000-2600 m	Bhagirathi valley, Jhala, Sukki, Gangnani	Crushed leaves are applied on wounds & bruises of cattle, sheep & goat
28	<i>Origanum vulgare</i>	2600-3450	Chirwasa, Gangotri, On way to Nelang, on way to Rudragaira Khark	Tulsi offered to Lord Badrinath
29	<i>Salvia hians</i>	2800-3200	Rudra Ganga valley	Found in meadows bordering Bhoj tree line
30	<i>Plantago depressa</i>	2600-3150	Gangotri-Lanka, Bhaironghati- Nelang, Gangotri Devwasa zone	Leaves are cooked as vegetable, Isabgol husk
31	<i>Mirabilis himalaica</i>	2600-3350	Lanka- Gangotri –Devwasa, Lanka Hindoli Gad area	Common on partly open places in Deodar/mixed conifer forests
32	<i>Chenopodium album</i>	2600-3350	Bhaironghati	Tender leaves used as vegetable
33	<i>Phytolacca acinosa</i>	1800-2600 m	Upper Bhaironghati valley between Jangla & Bhukki area	Having densely clustered fruitcence
34	<i>Persicaria capitata</i>	2600-2850	Bhagirathi valley, between Gangnani & Dabrani	Abundant
34	<i>Rheum webbianum</i>	3000-4225m	Chirwasa, Bhojwasa & Nelang Karchha	Roots are used as a purgative & astringent
35	<i>Daphnae retusa</i>	3400-3800m	Nila valley	Rare
36	<i>Hippophae salicifolia</i>	3500-4300m	Raktovan valley	Juice of the ripe fruit is used in lung ailments
37	<i>Dactylorhiza hatagiera</i>	3000-4300m	Nila, Kedar & Rudra valley, Devwasa, Bhojwasa	Nerve tonic & aphrodisiac, Red data list plant
38	<i>Selaginella jacquemontii</i>	3000-3200m	Patangana	On wet rocks
39	<i>Artemisia filiformilobulata</i>	2600-3600m	Lanka- Gangotri- Chirwasa area	Occasional
40	<i>Aconitum heterophyllum</i>	2800-4000m	Gangotri Bhojwasa, Tapowan, Kedar Khark, Nila valley	Tubers are used as a tonic to cure fever
41	<i>Clematis barbellata</i>	2800-3500m	Rudra Ganga valley, on way to Rudra Gaira Khark	Barbellata indicates short stiff hairs (on stylar tails & achenes)

S. No.	Name of the Species	Altitude	Place in ESZ from where it is reported	Remarks
42	<i>Delphinium brunonianum</i>	3500-6100m	Kedar Ganga valley, near Kedar tal, Nila valley	Decoction of young leaves applied to cure wounds of live stock
43	<i>Berberis aristata</i>	2700-3300m	Gangotri Kopang, Patangana	Occasional
44	<i>Podophyllum hexandrum</i>	2600-3800m	Patangana,	Rootstock is used to cure wounds, diarrhoea, fever etc.
45	<i>Thylacospermum caespitosum</i>	4200-5500m	Near Kedar Tal, Nelang Shankar glacier	Typical floristic element of cold desert flora
47	<i>Myricaria germanica</i>	3000-4500 m	Upper Jad Ganga valley, Nelang Naga	Found on open dry, bouldered –strewn slopes & along river banks
48	<i>Geranium collinum</i>	2800-4000 m	Kedar Ganga valley, Kedar Khark, Nelang Karchha etc.	Occasional
49	<i>Hyoscyamus niger</i>	3300-4200m	Jad Ganga valley	Medicinal value
50	<i>Ephedra gerardiana</i>	2700-5200m	Gangotri, Bhojwasa- Goumukh, Nila valley	Medicinal value

B. Threatened taxa-species listed in Red Data Book of Indian Plants

(Source- Flora of Gangotri National Park, Western Himalayas, India)

S. No.	Name of Species	Family	Conservation status	Extracted from
1	<i>Acer caesium</i>	Aceraceae	Vulnerable	wild
2	<i>Aconitum heterophyllum</i>	Ranunculaceae	Vulnerable	Exploited from wild
3	<i>Berberis petiolaris</i> var. <i>garhwalana</i>	Berberidaceae	Indeterminate	Data deficient
4	<i>Picrorhiza kurroa</i>	Scrophulariaceae	Endangered	Wild
5	<i>Podophyllum hexandrum</i>	Podophyllaceae	Endangered	Wild
6	<i>Dioscorea deltoidea</i>	Dioscoreaceae	Endangered	Wild
7	<i>Taxus wallichiana</i>	Taxaceae	Endangered	Wild

C. Species listed in CITES Appendix II

S. No.	Name of species	Family
1	<i>Podophyllum hexandrum</i>	Podophyllaceae
2	<i>Dioscorea deltoidea</i>	Dioscoreaceae
3	<i>Nardostachys jatamansi</i>	Valerianaceae
4	<i>Picrorhiza kurroa</i>	Scrophulariaceae
5	<i>Taxus wallichiana</i>	Taxaceae

Annexure No. 40(A)

परिशिष्ट-9.10

Office of Chief Wildlife Warden Uttaranchal, Dehradun

Letter No. 1704/22-1(CWLW) dated 12th December 2004

To

Pr. Secretary and FRDC
Govt. of Uttaranchal
Dehradun.

Subject- Classification of species for commercial harvesting from forests.

Respected Madam,

This is to submit to you that the basic principle for exploitation of any natural resource (specially MAPs) and its sustainable management is that only the increment of the existing growing stock should be removed periodically without causing damage to the natural population or initial capital. The existing natural populations of MAPs are under threat of excessive exploitation due to several reasons such as the emergence of UAFDC as the central agency of trade, the increased demands placed on the natural resource due to the establishment of modern industry and declaration of Uttaranchal as a Herbal State, and it becomes expedient to preserve them and use them in a sustainable manner. Accordingly, a classification of MAPs to be collected from the wild is proposed as under.

- A. Those species that are critically endangered and/or do not have any Agro-technique and their collection from the wild should cause irreparable damage to the survival of these plants, and their collection should, therefore, not be permissible under any circumstances.

i.	Salam Panja	Dactylorhiza hatagirea
ii.	Riddhi	Habenaria intermedia
iii.	Vriddhi	Habenaria edgeworthii
iv.	Kakoli	Fritillaria roylei
v.	Kshir Kakoli	Lilium polyphyllum
vi.	Jivak	Malaxis museifera
vii.	Rhishbhak	Malaxis cyhndrostachya
viii.	Salam Mishri	Eulophia dabra

- B. Those species that are highly endangered but have an established agro-technique and their cultivation may be allowed, but collection from the wild shall remain closed for the present time.

i	Jatamansi	<i>Nardostachys jatamansi</i>
ii	Karvi	<i>Gentiana kurroo</i>
iii.	Satua	<i>Paris polyphylla</i>
iv.	Chirayta	<i>Swertia chirata</i>
v.	Kingora	<i>Berberis spp</i>
vi.	Atis	<i>Aconitum heterophyllum</i>

- | | | |
|--------|----------------|------------------------------|
| vii. | Meetha | <i>Aconitum balfourii</i> |
| viii. | Kutki | <i>Picrorrhiza kurroa</i> |
| ix. | Genthi | <i>Dioscorea deltoidea</i> |
| x. | Salparni | <i>Desmodium gangeticum</i> |
| xi. | Prsnaparni | <i>Uraria picta</i> |
| xii. | Bach | <i>Acorus calamus</i> |
| xiii. | Giloe | <i>Tinospora cordifolia</i> |
| xiv. | Meda/Maha Meda | <i>Polygonatum spp.</i> |
| xv. | DoluArcha | <i>Rheum spp.</i> |
| xvi. | Sarpagandha | <i>Rauvolfia serpentina</i> |
| xvii. | Kalihari | <i>Gloriosa spuerba</i> |
| xviii. | Timru | <i>Zanthoxylum Armatum</i> |
| xix. | Van Pyaj | <i>Urgenia indica</i> |
| xx. | Shankh Pushpi | <i>ConvolvulusAlsinoides</i> |
| xxi. | Manjith | <i>Rubica cordifolia</i> |
| xxii. | Balchari | <i>Arnebia benthamii</i> |
| xxiii. | Thuner | <i>Taxux baccata</i> |
| xxiv. | Dhup | <i>Jurinca dolomiaea</i> |
| xxx. | Tagar | <i>Yalarians Jatamasi</i> |
| xxxi. | Cheura | <i>Angeliea glanea</i> |
- C. Those species that are yet available in the wild but should be collected sustainably in a species wise quantity that is to be fixed by the District Level Committee.
- | | | |
|-------|----------------------|-------------------------------|
| i. | Pashanbhed | <i>Berginia ciliata</i> |
| ii. | Malkanghani | <i>Celastrus paniculatus</i> |
| iii. | Kari Patta | <i>Murraya koenighii</i> |
| iv. | Priyangu | <i>Callicarpa macrophylla</i> |
| v. | Nirguni | <i>Vitex negundo</i> |
| vi. | Gandha Prasarm | <i>Paederia joetida</i> |
| vii. | Harar, Bahera, Aonla | <i>Triphala</i> |
| viii. | Satavar | <i>Asparagus</i> |
| ix. | Maror Phali | |
| x. | Patha | <i>Cissampelox pareira</i> |
| xiv. | Ratti | <i>Abrus precaforius</i> |
| xv. | Amaltas | <i>Cassia fistula</i> |
| xvi. | Kapur kachri | <i>Hedychium spucarum</i> |

xvii.	Tajpat	<i>Cinnamomum tamala</i>
xviii.	Bhutkeshill	<i>Tanacetum dolichophyllum</i>
xix.	Bhutkeshil	<i>Selenium tenuiflorum</i>
xx.	Ginjaru	<i>Stephania glabra</i>
xxi.	Sarpunkha	<i>Tephlosia plurpurea</i>
xxii.	Lajvanti	<i>Mumosa pudica</i>
xxiii.	Nirpati/kedarpati	<i>Skimmia laureola</i>
xxiv.	Chitrak	<i>Phumbago zevalieum</i>
xxv.	Indrayan	<i>Trichosanthes spp.</i>
xxvi.	Patthar laung	<i>DidycocarplusAromatieuc</i>

D. Species that are found in forests but are abundant in other wastelands outside forests and can be removed in any quantity for the time being.

i.	Bhuinanola	<i>Phyllanthus niruri</i>
ii.	Neem	<i>Azadirachta indica</i>
iii.	Bala	<i>Sida spp.</i>
iv.	Atibala	<i>Abutilon indicum</i>
v.	Aungparni	<i>Phaseolus tralobus</i>
vi.	Shahatara	<i>Pumaria vallanta</i>
vii.	Punarnava	<i>Boerhaavid diffusa</i>
viii.	Arand	<i>Rieinus commuans</i>
ix.	Gokhru	<i>Tribulus terrestris</i>
x.	Bhringraj	<i>EcliptaAlba</i>
xi.	Apamarg	<i>Achvranthes Aspera</i>
xii.	Aakh	<i>Calatropis spp.</i>
xiii.	Dhatura	<i>Datura spp.</i>
xiv.	Makoy	<i>Solamum nigrum</i>
xv.	Manspaim	
xvi.	Agyaghas	<i>Cymbopogon spp.</i>
xvii.	Pudina	<i>Mantha spp.</i>
xviii.	Kamal phul	
xix.	Gulab phul	
xx.	Gurhal phul	
xxi.	Tulsi	

- E. Species that are removed in large amounts but take a long time to regenerate and should, therefore, be harvested on a rotational basis. These species are essential for maintaining the microclimate of forest areas.
- i. Moss
 - ii. Lichens

The actual cycle of rotation will be proposed by the State Extraction Committee after an in depth study of the availability of these plants in the Forest Divisions of Uttaranchal and the provisions made in the respective Working Plans.

- F. In the case of Herbal material/oils etc. that are brought into the state for purpose of trade from outside, it may suffice for the importers to obtain a Foreign Pass from the Conservator of Forests at the point of entry and inform the HRDI for purposes of record. The transit within the state shall be given by the concerned DFOs on the basis of the foreign pass.
- G. Kuth can be cultivated within the state only under a license from the Chief Wildlife Warden as per the provisions of Section 17 of the Wildlife Protection Act, 1972. Its trade is controlled by the CHES authority that gives permission only after the certificate of cultivation is produced. It maybe mentioned here that Kuth is listed in appendix I of CHES but gets transferred to appendix II if it is cultivated.

Registration of Farmers for cultivation of MAPs – In view of the constant fear of removal of herbal material from forests in the garb of cultivated material, it becomes compulsory that registration of farmers for cultivation if MAPs be entrusted to local DFOs of the Forest Department, even to the extent that if the DRDI also has any cultivation of MAPs done by farmers, it should be registered by the DFO Copies of the registration by DFOs should be given to HRDI and Nodal Officer of the Forest Department.

Transit- It should be the duty of DFOs to have a register maintained at Range level in which entries of cultivation shall be made beatwise showing the name of village, farmer, area of cultivation, species, likely time of harvesting approximate production etc and this information shall be updated at least quarterly. This register shall be kept on the lines of Plantation Journals, already maintained by the forest Department. Transit permit shall be issued by concerned Range Officer after due verification within 15 days of application submitted in prescribe form by the farmer. Consolidated return of all transit passes would be submitted by the Range Officer to his DFO and a consolidated account of transit shall be made available to HRDI by the CFs.

Sd/- S.Chandola
CWLW

Annexure No. 40(B)

परिशिष्ट-9.5

उत्तरांचल शासन, वन एवं ग्राम्य विकास आयुक्त शाखा

पत्र संख्या 761/वग्रावि/2004 देहरादून दिनांक 15 दिसम्बर 2004

कार्यालय ज्ञाप

विषय: राज्य के वनों से जड़ी बूटियों एवं सगन्ध पादपों की Sustainable विदोहन की प्रक्रिया।

सम्यक विचारोपरान्त शासन द्वारा राज्य के वनों से विभिन्न प्रकार की जड़ी-बूटियों एवं सगन्ध पादपों Sustainable विदोहन के लिए निम्न प्रकार से नीति निर्धारित की जाती है।

1. संलग्न सूची के क्रम संख्या- 1 पर प्रदर्शित समस्त जड़ी-बूटी प्रजातियों को अग्रिम आदेशों तक वनों से व्यवसायिक आधार पर विदोहन करने पर पूर्णतया प्रतिबन्ध लगाया जाता है।

1.1 इन प्रजातियों का कृषिकरण करने के लिए नर्सरियों में रोपण योग्य पौध उत्पादन करने हेतु निर्दिष्ट मात्रा में जड़ी बूटी बीज पौध वनों से संग्रह किया जा सकता है, परन्तु यह कार्य सम्बन्धित प्रभागीय वनाधिकारी से अनुमति प्राप्त कर तथा जिस नर्सरी में इन प्रजाति का गुणन किया जाना प्रस्तावित है, उस नर्सरी का सम्बन्धित वन प्रभाग में पंजीकरण करा कर किया जा सकता है।

2. संलग्न सूची के क्रम संख्या- 2 पर प्रदर्शित समस्त जड़ी-बूटी प्रजातियों को एतद् द्वारा छूट प्रजाति घोषित किया जाता है। इन प्रजातियों का विदोहन तथा परिवहन करने के लिए किसी सभी प्रकार की अनुमति लिया जाना अनिवार्य नहीं होगा।

3. संलग्न सूची के क्रम संख्या- 3 पर प्रदर्शित समस्त जड़ी-बूटी प्रजातियों का विदोहन राज्य के वनों से निम्न शर्तों के आधार पर किया जा सकता है।

3.1 प्रत्येक वर्ष के वनों से जड़ी बूटी विदोहन के लिए प्रत्येक वन प्रभाग से प्रभागीय वनाधिकारी की अध्यक्षता में गठित समिति द्वारा उक्त वृत्त प्रभाग के विभिन्न रेन्ज के विदोहन कक्षों से उस वर्ष के लिए विदोहन योग्य जड़ी बूटी को मात्राकृत किया जायेगा।

3.2 प्रभागस्तर पर प्रजातिवार विदोहन योग्य जड़ी-बूटी प्रजातियों का निर्धारण होने के उपरान्त उसका अन्तिम निर्णय सम्बन्धित वृत्त के वन संरक्षक की अध्यक्षता में गठित समिति द्वारा कर विलम्बतः 15 सितम्बर तक समस्त वन प्रभागों को अवगत करा दिया जायेगा।

3.3 वन प्रभागों द्वारा 30 सितम्बर तक अपने अपने प्रभागों में कौन-कौन सी सस्था द्वारा इन जड़ी बूटी प्रजातियों का विदोहन किया जायेगा अन्तिम कर लिया जायेगा।

3.4 वन क्षेत्रों से जड़ी बूटी का संग्रहण 01 अक्टूबर से 30 अप्रैल तक की अवधि में ही अनुमन्य होगा। उक्त काल से संग्रहित जड़ी बूटी की निकासी 15 मई तक ही अनुमन्य होगी। 01 मई को जड़ी बूटी संग्रहण के लिए अनुशासित संथा द्वारा सम्बन्धित प्रभागीय वनाधिकारी को 30 अप्रैल तक उनके द्वारा किये गये संग्रहण के फलस्वरूप कितनी मात्रा में जड़ी बूटी निकासी के लिए शेष है यह अवगत कराना होगा एवं इसके आधार पर उतनी मात्रा की निकासी सकी अनुमति सम्बन्धित प्रभागीय वनाधिकारी द्वारा देय होगी।

3.5 वन क्षेत्रों से जड़ी बूटी संरक्षण करने के उपरान्त प्रमुख वन संरक्षक द्वारा जारी कार्यालय ज्ञाप संख्या 696/शिविर/16 45 (P.2) दिनांक 14 सितम्बर, 2004 के अनुसार निर्दिष्ट वन क्षेत्रों की जड़ी-बूटी, निर्दिष्ट जड़ी बूटी मण्डी के लिए रवानगी दी जायेगी। विभिन्न वन प्रभाग द्वारा अलग अलग मण्डियों हेतु अलग अलग रंग का अनुज्ञा पत्र (रवन्ना) जारी किया जायेगा, यथा ऋषिकेश के लिए पीला, रामनगर के लिए हरा तथा टनकपुर के लिए गुलाबी रंग का अनुज्ञा पत्र प्रयुक्त किया जायेगा।

यह प्रक्रिया अग्रिम आदेशों तक प्रभावी रहेगी। संलग्न सूची में दर्शित प्रजातियों को एक वर्ग से दूसरे वर्ग में स्थानान्तरित किया जा सकेगा जिसके लिए समय समय पर प्रमुख वन संरक्षक के स्तर से समीक्षा की जाती रहेगी। इस सूची में प्रमुख वन संरक्षक के अभिमत के आधार पर अन्य प्रजातियों को भी सूचीबद्ध किया जा सकता है।

ह० विभा पुरी दास
प्रमुख सचिव एवं आयुक्त
वन एवं ग्राम्य विकास

संख्या एवं दिनांक तदैव

प्रतिलिपि-

1. प्रमुख वन संरक्षक, उत्तरांचल
2. निदेशक, जड़ी बूटी शोध एवं विकास संस्थान
3. प्रबन्ध निदेशक, वन विकास निगम, उत्तरांचल
4. निबन्धक, सहकारिता, उत्तरांचल
5. प्रबन्ध निदेशक, कुमायूँ मण्डल विकास निगम, उत्तरांचल
6. सचिव, वन उत्तरांचल शासन
7. अपर सचिव, उद्यान, उत्तरांचल शासन।

ह० विभा पुरी दास
प्रमुख सचिव एवं आयुक्त
वन एवं ग्राम्य विकास

Annexure No. 41

BIODIVERSITY MANAGEMENT COMMITTEES IN BHAGIRATHI ECO SENSITIVE ZONE

S. No.	Name of Village as per notification no. 2429	Gram Panchayat	Villages under Gram Panchayat
1	Agoda	1 Agoda	1. Agoda 2. Dadsa (16) 3. Dandalka (15)
2	Aleth	2 Aleth	Aleth
3	Bagori	3 Bagori*	Bagori
4	Bagyal Gaon	4 Bagyal Gaon	Bagyal Gaon
5	Bhandrani	5 Bhandrani*	Bhandrani
6	Barsu	6 Barsu*	Barsu
7	Bayana	7 Bayana	Bayana
8	Bhangeli	8 Bhangeli*	1. Bhangeli 2. Sungar (82)
9	Bhancoli	9 Bhancoli*	Bhancoli
10	Bhatwari	10 Bhatwari	Bhatwari
11	Bhela Tipri	11 Bhela Tipri	Bhela Tipri
12	Bhukki	12 Bhukki*	Bhukki
13	Bonga	13 Bonga	Bonga
14	Bongari	14 Bongari	Bongari
15	Dandalka	Gram Panchayat S.No. 1	
16	Dansra	Gram Panchayat S.No. 1	
17	Dhanpur	15 Dhanpur	Dhanpur
18	Dharali	16 Dharali*	Dharali
19	Dhwari	17 Dhwari	Dhwari
20	Didsari	18 Didsari	Didsari
21	Dovah	19 Thalan	1. Thalan (84) 2. Dovah
22	Gajoli	20 Gajoli*	Gajoli
23	Gangotri	21 Nagar Panchayat	
24	Gawana	22 Gawana	Gawana
25	Gorshali	23 Gorshali*	1. Gorsali 2. Jokani
26	Gyanja	24 Gyanja	Gyanja
27	Harsil	25 Harsil	Harsil
28	Hinna	26 Hinna	Hinna
29	Hurri	27 Hurri*	Hurri



ANNEXURE

S. No.	Name of Village as per notification no. 2429	Gram Panchayat	Villages under Gram Panchayat
30	Jadung	Military Area	
31	Jakhol	28 Jakhol	Jakhol
32	Jamak	29 Jamak	Jamak
33	Jaspur	30 Jaspur (Tak)*	Jaspur (Tak)
34	Jhala	31 Jhala*	Jhala
35	Jodaw	32 Pilang*	1. Pilang (65) 2. Jodaw
36	Jokani	Gram Panchayat S.No. 25	
37	Joshiyara	33 Joshiyara	Joshiyara
38	Kamar	34 Kamar	Kamar
39	Kanath	Gram Panchayat S.No. 50	
40	Kankrari	35 Kankrari	Kankrari
41	Kishanpur	36 Kishanpur	Kishanpur
42	Kotiyalgaon	37 Kotiyalgaon	Kotiyalgaon
43	Kumalti	38 Lata	1. Lata (47) 2. Kumalti
44	Kunjan	39 Kunjan*	Kunjan
45	Kuroli	40 Kuroli	1. Kuroli 2. Sadag (74)
46	Kyark	41 Kyark	Kyark
47	Ladari	42 Ladari	Ladari
48	Lata	Gram Panchayat S.No.42	
49	Malla	43 Malla	Malla
50	Mando	44 Mando	Mando
51	Maneri	45 Maneri*	1. Maneri 2. Kanath (38) 3. Ongee (61)
52	Manpur	46 Manpur	Manpur
53	Mastari	Gram Panchayat S.No. 14	
54	Mukhawa	47 Mukhawa	Mukhawa
55	Nalda Urph Bodhhar	48 Nalda	Nalda
56	Natin	49 Natin	Natin
57	Naugaon	50 Naugaon	Naugaon
58	Nalang	Military Area	
59	Netala	51 Netala*	Naitala

S. No.	Name of Village as per notification no. 2429	Gram Panchayat	Villages under Gram Panchayat
60	Nirakot	52 Jaspur (Ba.)	1. Jaspur (Ba) 2. Nirakot 3. Silyan (79)
61	Nesmor	53 Nesmor*	Nesmor
62	Ongee	Garam Panchayat S.No. 50	
63	Pahi	54 Pahi	Pahi
64	Pala Maradi	55 Pala	Pala
65	Pata	56 Pata	Pata
66	Pilang	Gram Panchayat S.No. 34	
67	Purali	57 Purali*	Purali
68	Raithal	58 Raithal*	Raithal
69	Sald Urph Maja Gaon	59 Sald	Sald
70	Sanj	60 Sanj	Sanj
71	Salang	61 Salang*	Salang
72	Salu	62 Salu	Salu
73	Sangrali	63 Sangrali	Sangali
74	Sara	64 Sara	Sara
75	Sarag	Gram Panchayat S.No. 44	
76	Sari	65 Sari	Sari
77	Saura	66 Saura	Saura
78	Seku	67 Seku*	Seku
79	Silla	68 Silla*	Silla
80	Silyan	Gram Panchayat S.No. 59	
81	Siror	69 Siror	Siror
82	Sukki	70 Sukki*	Sukki
83	Sungar	Gram Panchayat S.No. 8	
84	Syawa	71 Syawa	Syawa
85	Thalan	Gram Panchayat S.No. 21	
86	Tehar	72 Tehar*	Tehar
87	Tiloth	73 Tiloth	Tiloth
88	Uttarkashi	74 Nagar Palika Parishad	
89	Uttron	75 Uttron	Uttron

* BMCs to be operationalized.

PROCESS OF DECLARATION OF BIODIVERSITY HERITAGE SITE

As per the guidelines for identification, notification and management of BHS the process of declaring BHS is as under:-

1. The State Biodiversity Board may invite suggestions from the BMCs and the community institutions including Gram Sabha, Panchayats, Urban Wards, Forest Protections committees or prepare a proposal based on its own knowledge.
2. Wide spread dissemination of information relating to provisions of proposed BHS among rural communities, NGOs, farmers, tribal associations, urban groups, research institutions, Government agencies and other organizations in concerned local body and public discussions on proposal for declaring BHS and implications of such declaration on resource use. By doing this an effort will be made to bring on board various sections of the society with gender and social representation.
3. After approval by the concerned local body SBB will issue a preliminary notification specifying the boundaries of the BHS after surveying and mapping the area. This notification will also contain any restrictions that may be required for management of the BHS. This notification will be published in the local media inviting suggestions and objections from the interested parties/stakeholders particularly in case of lands owned by communities and individuals.
4. Based on the suggestions and objections raised, a twelve member team chaired by the person of local community will be formed for conducting studies to gain a clear understanding of the BHS. The compositions of the team will be as under:-
 - I. Knowledgeable or experienced women and men representing all socio-economic groups of the concerned communities, nominated by the relevant rural/urban local bodies
 - II. One or more NGOs/institutions focusing on ecology / conservation (including conservation biologists familiar with the flora and fauna of the particular BHS)
 - III. One or more NGOs/institutes working on social (gender, livelihood, etc.) issues
 - IV. One or more NGOs/institutes focusing on agriculture
 - V. Research wing of agriculture, forest or other relevant departments (wherever appropriate and possible)
 - VI. Representatives of Botany and Zoology departments of resident College/ University
5. The above team will conduct a study (over a period of 3 to 6 months) in consultation with the concerned community irrespective of occupation, gender or social strata. Such consultations should inevitably include groups such as forest dwellers, farmers and pastoral community (ies) and / or other relevant occupations. The study on the following aspects needs to be carried out with the use of community-based PBRs/PRA, participatory mapping and other possible tools that are considered appropriate by the concerned communities.
6. Report of the study may be submitted by the team to the BMCs or other relevant local institutions linked to the local bodies in case BMC does not exist, which before submitting it to the SBB may disseminate the findings of the team (in local languages), along with the proposal for declaring the BHS, to the concerned communities and to all stakeholders.
7. SBBs may review the document submitted by BHS survey group or BMCs or other relevant local institutions linked to the local bodies in case BMC does not exist within a period of 3 months, including feedback if any to the relevant community. Final decision on the proposal may be made by the SBBs in a joint sitting of all stakeholders at the proposed site.
8. Draft notification and announcement for declaring the BHS may be made at the state level in an appropriate manner giving wide media coverage particularly in the local language.
9. After 30 days of the draft notification of the BHS, the BMCs or other relevant local institutions linked to the local body (ies) in case BMC does not exist along with the local body (ies) may conduct a public hearing where all the details about the BHS should be placed and the comments received from the public recorded and attempts made to remove impacts, if any, that they may have on the consequences of declaring the area as BHS. The local community should be taken into confidence assuring that by declaring the BHS their traditional rights and privileges will not be affected.

Declaration of the BHS and its communication by the SBB to all the concerned Government departments regarding the establishment/ notification of the BHS.

Annexure No. 43(A)**परिशिष्ट 7.3****RULES AND CONDITIONS GOVERNING THE EXERCISE OF
RIGHTS, CONCESSION AND GRAZING ETC.**

The forest concessions are governed mainly by the erstwhile Tehri State Darbar Circle No. 21 of 1930 with certain amendments made by the Government from time to time. The rules are incorporated in the Tehri Garhwal Rajya Forest Manual published under Chief Secretary, Tehri Garhwal State's order No. M.O.B.No. 5/8-C-6/XIX-F-23, dated 27th July 1940. The rules as they stand at present are given below-

1. DEFINITIONS (As given in Tehri Garwal Rajya Manual)

- (i) **Villager-** means a person who has dwelling house in side the Rajya (district) and also pay rent of land which he cultivates or possesses agricultural land.
- (ii) **Agricultural land** – means the land assessed to land revenue excluding the land under shops and other buildings constructed for purposes other than agriculture.
- (iii) **Reserve forest-** means the forest demarcated on the ground and shown as such in the map.
- (iv) **Valuable species-** means (a) Deodar, Dauri, kail, Chir, rai, morinda, bamboo, tun, shisham, sal, papri, sain, haldu, khair, moru, baj and akhrot. (b) Besides the following species of commercial importance are also included in the list of valuable species:-
 - Kimu, dhauri, jhingan, siris, sandan, thuner, nairola, genthi, darli, semal, angu and kaphal.
- (v) **Exploitable species-** means Deodar, kail, chir, rai, morinda, sal, papri and akhrot.
- (vi) **Unexploitable species-** All species other than exploitable species are 'unexploitable species'.

2. ANNUAL FREE GRANT OF BUILDING TIMBER-

- (i) The annual free grant for building timber is 0.283 cubic meters (round) per mawasa for wooden houses and 0.198 cubic meter (round) for stone houses, vide G.O.No. 184/XIV-B-1331 dated 30.3.62 the number of mawasas as per census of 1951 will form the basis of annual free grant. This volume is fixed for chir, sal, deodasr, tun, sain and their exploitable species. For fir and other unexplitable species excluding kokat it is as much vis. 0.849 cubic meter (round) for wooden houses land 0.594 cubic meter (round) for stone houses.
- (ii) In Jaunpur area where chir is not available one banj tree for every two mawasas will be given in addition to free grant of 0.594 cubic meter (round) of un-exploitable species.

- (iii) As per orders issued by the Government vide G.O. No. 5015/XIV-B-1331 (20)/50 dated 15.9.1961, the annual free grant can accumulate for 6 years. Thereafter, the quantity of timber exceeding the neighbouring villages to meet their bonafide requirements.
- (iv) Normally the timber of annual free grant will be given from areas situated within a radius of 8 kilometers from the concerning village, but it can be given from areas within 16 kilometers of the village.
- (v) The timber will be given only from the areas indicated in the working plan for this purpose land marking will be done on silvicultural grounds as laid down in the working plan.
- (vi) For chhans and agricultural implements the free grant is six kokat trees per five mawasas. Banj tree can be marked for agricultural implements if available silviculturally.
- (vii) The conversion factors of volume for purpose of marking trees for annual free grant will be the same as given in the working plan, i.e., under Para.
- (viii) If the free grant has been given from Soyam forests the quantity so marked will be deducted from the free grant to be given from Reserve forests.
- (ix) Dry trees of kokat can be cut for firewood.
- (x) The trees marked in thinning lots, if not sold, can be given to the villagers in annual free grant under instructions issued vide G.O.No. 5016/XIV/B-1331 (24) 1959 dated 24.7.1961.
- (xi) The villagers can remove the lops and tops of felled trees left in the felling lots by the contractor.
- (xii) Dry and fallen firewood can be utilised by villagers to meet their bonafide requirements.
- (xiii) **The procedure for the annual free grant is as under-**
 - Every year the gram Sabhapati will apply to the Range Officer concerned in the prescribed form for the free grant for his village, latest by 31st March. The application received after the said date will not be considered.
 - (b) The range Officers should submit the indents to the Divisional Forest Officer and obtain his approval by 15th May.
 - (c) The trees will be marked from June to September every year.
 - (d) The Range Officer should submit the list of marking to the Divisional Forest Officer for sanction as soon as marking in a particular area is complete but latest by 31st August.
 - (e) The Divisional Forest Officer or his assistant should inspect the marking, as far as possible, between 1st December and 31st October and accord his sanction.

- (f) the Range Officer, should send the list of trees marked to the Gram Pradhan concerned by 1st November.
- (g) The villagers should remove the marked trees by 31st of march next year as per orders issued under G.O.No.365/XIV-515/1949 dated 8.2.1949 dated 8.2.1952.
- (h) Accordingly to the decision taken in 51st meeting of the Forest Fact Finding Committee on 29.1.64 the Gram Pradhan shall maintain a register showing therein the details of the timber received in the free grant and its distribution to the individual villagers. S.D.O. (Panchayat) shall submit the account of the timber of annual free grant to the Range Officer concerned. If proper account is not maintained by the Gram Pradhan the free grant for the next year shall not be given

3. TIMBER GIVEN AT CONCESSIONAL RATE-

- (i) The villagers can also purchase timber of any species at concessional rate to meet their bonafide requirements. As per orders issued by Government vide G.O.No. 3071/XIV-13 dated 4.5.1961 the rate for such sales in Tehri and Uttarkashi districts will be 1/6th of the current schedule of rates.
- (ii) Vide G.O. No.A-2/1807/Ter-14 (26)/1973 dated 12.9.93 Divisional Forest Officer is empowered to sanction trees up to a value of Rs. 750/- at concessional rate provided he reports all such cases to the territorial Conservator. The Conservator is empowered to sanction trees up to value of Rs. 5000/- in such cases.
- (iii) Application for trees at concessional rates can be given to the Divisional Forest Officer at any time. The sanctioned trees will be marked within one month of sanction and the material will be exported with in 3 months. However, no work will be allowed inside the forest during fire season.
- (iv) No fee is being charged for application of rawannaha and P.Ds.

4. TIMBER AT SCHEDULE RATE-

The persons residing the district but not entitled to annual free grant can purchase timber at a schedule rate.

5. FUEL, FODDER GRASSES, LEAVES AND LITTER-

- (i) Fodder grass and litter can be removed from areas not closed for regenerations of plantation. The Divisional Forest Officer can allow cutting of grass in the areas closed for regeneration or plantation under the supervision of Forest Officials provided that no damage is caused to such areas by the villagers.
- (ii) The villagers can remove the fallen leaves if no damage is caused to the forests.

- (iii) Removal of dry fallen wood for fuel is permitted.
- (iv) Lopping of kokat and banj trees for green leaves in the areas open for this purpose can be done according to the prescriptions of the working plan

6. GRAZING-

- (i) Cattle including goats and sheep maintained by the villagers for their bonafide requirements are allowed free grazing within a radius of 8 kilometer of the village concerned.
- (ii) The cattle maintained by the villagers for trade will be considered extra and the following fees will be realised from them:-

Buffalo	Rs. 4.50
Cow	Rs. 2.25
Bullocks	Rs. 1.50
Goats and sheep	Rs. 0.25
- (iii) When the local cattle, goats and sheep go for grazing beyond 8 kilometers of their village they have to pay the fees mentioned under sub Para (ii) Above.
- (iv) The villagers are allowed kharaks in the places indicated by the Divisional Forest Officer. They are not allowed to keep a kharak at a particular place for long time.

7. CHHANS-

- (i) Erection of chhans inside deodar, chir, and kail forests is not permitted. However, the villagers can erect and use the temporary chhans on the old sites.

8. MINOR FOREST PRODUCE-

- (i) The villagers are allowed to extract and use the following minor forest produce for their bonafide requirement but not for trade-
 - (a) Medicinal herbs, edible fruits and roots.
 - (b) Ringal and bhabar grass.
 - (c) Torchwood from the stumps of felled trees.
 - (d) Stones, slates and lime stone. The villagers are permitted to quarry stones and slates from the old sites provided no damage is caused to the forests. Lime can be burnt by the villagers up to 20 quintals for their bonafide use.



9. GULS, PATHS AND BURNING GHATS- The villagers are permitted to use the existing gules, paths and burning ghats but for new ones' permission has to be obtained from the Divisional Forest Officer. The villagers will have to pay at concessional rate the cost of trees felled or damaged in construction of gul paths etc.

10. DUTY OF THE VILLAGERS FOR CONCESSIONS- The villagers are bound to supply free labour for extinguishing forest fires on receipt of first information, failing which concessions granted above can be suspended or cancelled.

परिशिष्ट 7.4

संख्या-ख-976,17-2

प्रेषक,

एम0एस0हरबोला
मुख्य वन संरक्षक (ग0)
उ0प्र0, देहरादून।

सेवा में,

प्रमुख वन संरक्षक,
उत्तराखण्ड, उ0प्र0,
नैनीताल।

दिनांक, देहरादून, अप्रैल, 6, 1998.

विषय- हक-हकूक का वितरण।

संदर्भ- श0प्र0 संख्या-523/14-2-90-405(209)/96, दिनांक-2-2-90,

महोदय,

मा0 सर्वोच्च न्यायालय के आदेश दिनांक 20/1/98 के अनुपालन में उत्तराखण्ड के 8 जिलों में 1000 मीटर से ऊपर की ऊँचाई से क्षेत्रों के लिए प्रतिवर्ष 32,000घनमीटर प्रकाष्ठ हक-हकूक में दिया जाना है। इस 32000घनमीटर प्रकाष्ठ की कुमाऊँ एवं गढ़वाल मण्डल के लिए प्रकाष्ठ काट-छांट की जानी है ताकि तदनुसार प्रत्येक प्रभाग द्वारा हक-हकूक के अन्तर्गत प्रकाष्ठ मात्रा उपलब्ध करायी जा सके। प्रमुख वन संरक्षक, उत्तराखण्ड के पत्रांक-2191/1-37, दिनांक 21/2/97 के अनुसार विशेष समिति के समक्ष से रिपोर्ट प्रस्तुत की गयी थी। उसमें कुमाऊँ व गढ़वाल मण्डल में हक-हकूक में औसतन प्रतिवर्ष निम्न प्रकाष्ठ की मात्रा वितरित की गयी है।

1- कुमाऊँ मण्डल- 16746.46घ0मी0

2- गढ़वाल मण्डल-15292.18घ0मी0

32338.64घ0मी0

इसमें गढ़वाल मण्डल का औसतन वांछित दिया गया हक-हकूक कुल 15292.18 के स्थान पर 15797घन0मी0 आता है। इसमें यह भी उल्लेख किया जाता है कि कुमाऊँ मण्डल में उक्त औसत प्रकाष्ठ मात्रा में हल्द्वानी, तराई, केन्द्रीय हल्द्वानी पश्चिमी व तराई पूर्वी में हक-हकूक के अन्तर्गत दिया गया प्रकाष्ठ भी औसतन प्रतिवर्ष 770घन0मी0 ज्यादा देना सम्मिलित है। गढ़वाल मण्डल में देहरादून वन प्रभाग में यह मात्रा नगण्य रही है। उक्त मात्रा में वास्तविक दिया गया औसत वार्षिक हक-हकूक को ध्यान में रखते हुए स्थिति निम्न प्रकार आती है।

1- कुमाऊँ मण्डल- 16746.46

2- गढ़वाल मण्डल-15797.00

32543.46

मा0 उच्चतम न्यायालय के निर्णय के अनुसार वार्षिक देय कुल 32000घन0मी0 की उपरोक्तानुसार औसत के आधार पर गढ़वाल व कुमाऊँ मण्डल में प्रतिवर्ष दी जाने वाली मात्रा की गणना निम्न प्रकार आती है।

1- कुमाऊँ मण्डल- 16460घ0मी0

2- गढ़वाल मण्डल- 15540घ0मी0

32000घ0मी0

गढ़वाल मण्डल के अन्तर्गत विभिन्न वन प्रभागों में उक्त आगणित देय वार्षिक हक-हकूक की प्रभागवार स्थिति निम्न प्रकार आती है।

<u>प्रभाग का नाम</u>	<u>मा0उच्चतम न्यायालय के निर्देशों के अनुसार आगणित वार्षिक देय हक-हकूक घन0मी0</u>
1-टौन्स	593
2-अपर यमुना	647
3-चकराता	2622
	262
4-मसूरी	946
5- उत्तरकाशी	2488
6- टिहरी	2013
7- केदारनाथ	2507
8-बद्रीनाथ	1571
9-गढ़वाल	1459
10-लैन्सडोन	428
11-देहरादून	<u>4</u>
	15540

अतः अनुरोध है कि उक्तानुसार गढ़वाल मण्डल के अन्तर्गत देय हक-हकूक का अनुमोदन करने की कृपा करें।

भवदीय,

(एम0एम0हरबोला)
मुख्य वन संरक्षक (ग0), उ0प्र0
देहरादून।

संख्या- 111/ दिनांकित।

प्रतिलिपि वन संरक्षक, शिवालिक, यमुना, भागीरथी व गढ़वाल को सूचनार्थ प्रेषित।

एम0एम0हरबोला
मुख्य वन संरक्षक (ग0), उ0प्र0
देहरादून।

Chapter-2

**WATERSHED
MANAGEMENT**

(अनुसूची द्वितीय का अनुसूची (प्रति विवरण प्रकल्प))

वर्ष का विवरण	19	20	21	22	वर्ष	19	2021	
2	3	4	5	6	7	8	9	
वित्तिय सहायता								
वर्ष की शुरुआत में स्थापित/संचालित (रु.)					10	₹	100.00	100.00
वर्ष के दौरान (रु.)	13	2.00	1.00	0.00	16	₹	29.00	130.00
वर्ष के अंत में बिक्री (रु.)								
वर्ष के अंत में बिक्री (रु.) के अभाव					1.00			
वर्ष के अंत में	13	2.00	$\frac{13+2+1}{1}$	1.00	17.00			
					Total *	₹	175.00	407.57.20
वर्ष के अंत में					15.00	₹	15.00	421.57.20
							Total -	4407.00
वर्ष के अंत में/वर्ष के अंत में ₹ 200.00						₹	20.00	200.00
वर्ष के अंत में/वर्ष के अंत में						₹	20.00	200.00
वर्ष के अंत में						₹	20.00	200.00
						₹	Total -	7407.40
						₹	15	7400.00

Chapter-3

AGRICULTURE & ALLIED SECTORS

Agricultural Status

Annexure No. 46

S. No.	Name of Nyaypanchayat	Name of Village	Total Geographical area in Ha.	Total forest area in Ha.	Water logged area	Land uses other than agriculture	Area where agriculture not possible	Irrigated	Un-irrigated	Total	Population Acc. To Census 2011
1	Harsil	Gangotri	14.415	0	3.94	10.475	0	0	0	0	110
2	Harsil	Jadung	282.543	30	14.413	238.13	0	0	0	0	0
3	Harsil	Nelang	400.86	0	15.66	382.2	0	0	0	0	0
4	Harsil	Mukhwa	293.947	10	42.315	132.467	0	0	109.165	109.165	680
5	Harsil	Harsil	26.945	0	2.576	14.324	0	0	10.045	10.045	135
6	Harsil	Dharali	327.033	11	21.103	151.831	0	0	143.099	143.099	583
7	Harsil	Bagori	16.008	0	2.576	20.25	0	0	20.082	20.082	703
8	Harsil	Purali	178.732	3.54	3.862	118.817	0	0	52.513	52.513	253
9	Harsil	Jhala	259.227	4.372	16.781	124.83	0	0	113.244	113.244	644
10	Harsil	Jaspur	192.793	2.714	0.025	130.749	0	0	59.305	59.305	286
11	Harsil	Sukhi	419.909	4.058	4.28	304.657	0	0	106.914	106.914	525
12	Bandrani	Bhangeli	284.311	6.781	6.408	223.563	0	0	47.559	47.559	274
13	Bandrani	Sungar	24.88	4.789	0.06	8.279	0	0	11.752	11.752	96
14	Bandrani	Tihar	403.783	8.087	13.082	294.574	0	0	88.04	88.04	459
15	Bandrani	Kujjan	197.677	3.71	1.458	148.682	0	0	43.827	43.827	442
16	Bandrani	Barsu	145.884	3.256	0.551	75.309	0	0	66.728	66.728	699
17	Bandrani	Pala	399.537	5.221	9.7	267.764	0	5.721	112.131	117.852	340
18	Bandrani	Kyark	69.649	0	0.461	33.75	0	2.823	32.615	35.438	354
19	Bandrani	Raithal	375.069	5.617	5.063	153.099	0	5.824	205.466	211.29	982
20	Bandrani	Bandrani	106.459	11.283	0.301	50.74	0	3.107	41.028	44.135	312
21	Bandrani	Bhatwari	115.598	3.264	7.022	78.817	0	0	26.495	26.495	1157
22	Bandrani	Nateen	85.731	4.285	0.212	44.358	0	0	36.876	36.876	198
23	Bandrani	Dwari	226.058	16.419	1.668	129.356	0	0	78.615	78.615	468
24	Bandrani	Pahi	84.624	14.448	0.223	30.393	0	0.13	39.43	39.56	338
25	Bandrani	Malla	190.92	15.112	7.695	91.557	0	1.4	75.156	76.556	849
26	Bandrani	Lata	85.113	19.565	3.038	32.689	0	0.029	29.792	29.821	401
27	Bandrani	Kumalti	34.138	0	0.719	20.497	0	0.807	12.115	12.922	295

S. No.	Name of Nyaypanchayat	Name of Village	Total Geographical area in Ha.	Total forest area in Ha.	Water logged area	Land uses other than agriculture	Area where agriculture not possible	Irrigated	Un-irrigated	Total	Population Acc. To Census 2011
28	Saura	Gauralli	657.69	25.94	1.063	465.52	0	0	165.167	165.167	831
29	Saura	Jonkani	82.891	8.034	0.174	65.513	0	0.109	9.061	9.17	109
30	Saura	Sainj	151.454	3.005	4.198	118.081	0	5.692	20.478	26.17	352
31	Saura	Jakhol	277.057	9.73	0.655	221.934	0	0	44.738	44.738	271
32	Saura	Aungi	104.394	3.257	5.879	57.628	0	0	37.63	37.63	301
33	Saura	Kaneth	54.181	6.56	2.341	39.311	0	0.063	5.906	5.969	6
34	Saura	Maneri	218.528	22.86	12.603	139.316	0	13.23	30.519	43.749	1196
35	Saura	Didsari	85.26	3.958	1.97	48.138	0	7.075	24.119	31.194	1023
36	Saura	Bayaha Lonthru	203.7	6.09	2.255	95.742	0	0	99.613	99.613	576
37	Saura	Jamak	117.44	6.944	19.67	59.063	0	12.352	19.411	31.763	355
38	Saura	Kamar	148.24	3.202	2.82	69.616	0	11.534	61.068	72.602	463
39	Saura	Syaba	190.115	5.901	0.391	102.183	0	0	81.64	81.64	475
40	Saura	Saloo	179.72	8.569	0.839	116.622	0	0	53.69	53.69	263
41	Saura	Sari	486.413	8.008	0.039	340.746	0	0	137.62	137.62	443
42	Saura	Sura	134.379	3.541	6.662	68.536	0	11.104	44.536	55.64	512
43	Saura	Bhelatipri	200.17	40	9.564	121.551	0	0	29.055	29.055	153
44	Saura	Salang	392.298	50	7.178	282.918	0	3.812	48.39	52.202	430
45	Saura	Bhukki	87.588	18.892	2.665	44.611	0	0	21.42	21.42	154
46	Saura	Hurri	259.867	28	5.177	179.983	0	0	46.707	46.707	313
47	Saura	Silla	336.384	10	2.867	246.452	0	0	77.065	77.065	492
48	Saura	Pilang	286.68	30	2.151	169.115	0	0	85.414	85.414	349
49	Saura	Jodaw	79.47	10	2.178	47.275	0	0	20.017	20.017	133
50	Gangori	Naugaon	367.506	18.093	4.436	298.368	0	0	46.609	46.609	517
51	Gangori	Gajoli	225.471	20.464	5.496	125.375	0	29.612	44.524	74.136	709
52	Gangori	Bhankoli	420.504	35.589	0.205	281.207	0	0	103.503	103.503	470
53	Gangori	Dasda	67.98	6.898	0.04	37.771	0	0	23.271	23.271	187
54	Gangori	Dadanlika	81.786	6.948	1.009	41.368	0	0	32.461	32.461	142
55	Gangori	Agoda	143.612	4.567	0.655	73.241	0	0	65.149	65.149	442

S. No.	Name of Nyaypanchayat	Name of Village	Total Geographical area in Ha.	Total forest area in Ha.	Water logged area	Land uses other than agriculture	Area where agriculture not possible	Irrigated	Un-irrigated	Total	Population Acc. To Census 2011
56	Gangori	Seku	146.277	9.84	0.158	93.088	0	6.448	36.743	43.191	343
57	Gangori	Uttroon	182.216	4.36	7.438	105.785	0	26.064	38.569	64.633	824
58	Gangori	Nald	174.341	15.248	1.129	55.195	0	9.63	93.139	102.769	931
59	Gangori	Gawana	195.745	25.611	13.078	96.777	0	20.503	39.776	60.279	1193
60	Gangori	Pata	83.343	0.986	0.845	42.958	0	0	38.554	38.554	384
61	Gangori	Siroor	174.39	11.245	27.375	61.904	0	13.418	60.448	73.866	757
62	Gangori	Netala	164.39	10.295	14.415	59.267	0	22.472	57.941	80.413	1310
63	Gangori	Heena	132.736	5.044	11.795	68.856	0	7.93	39.111	47.041	735
64	Uttarkashi	Barahat	192.488	0.685	1.053	168.724	0.141	10.143	11.742	21.885	17980
		Gangori serra	52.085	0.227	6.231	26.364	0.489	15.98	2.794	18.774	
		Gyansu	205.338	0.508	17.384	147.468	2.37	23.81	13.797	37.607	
65	Sald	Nismor	171.669	37.884	1.625	43.546	0	19.237	69.377	88.614	643
66	Sald	Sald	76.717	1.098	0.001	22.412	0	3.737	49.469	53.206	720
67	Sald	Gyanja	89.072	13.232	0.026	11.265	0	6.457	58.092	64.549	406
68	Sald	Sangralli	81.219	0.528	0.038	23.23	0	0	57.423	57.423	371
69	Sald	Bagyalgaon	38.395	0.955	0.075	7.555	0	4.76	25.05	29.81	489
70	Joshiyara	Joshiyara	13.936	0	3.415	4.605	5.83	0	0.086	0.086	1343
71	Joshiyara	Ladari	44.067	1.65	1.924	15.478	4.933	18.25	1.832	20.082	3795
72	Joshiyara	KotiyalGaon	45.383	10.134	1.772	16.239	0	9.042	8.196	17.238	1148
73	Joshiyara	Bonga	98.346	18.264	5.831	40.933	0	19.09	14.228	33.318	645
74	Joshiyara	Tiloth	65.107	15.35	4.532	10.81	22.421	3.806	8.188	11.994	2993
75	Joshiyara	Mandow	93.768	10.85	10.69	22.963	19.96	11.675	17.63	29.305	868
76	Joshiyara	Silyan	37.407	10.5	0.028	0.635	9.443	1.945	14.856	16.801	186
77	Joshiyara	Nirakot	6.824	1.85	0.126	0.365	0.735	0.799	2.949	3.748	83
78	Mustiksaud	Mastari	94.39	43.56	0.27	36.145	0	3.298	11.117	14.415	268
79	Mustiksaud	Sadang	21.015	4.145	0.957	4.734	0	7.197	3.982	11.179	131
80	Mustiksaud	Dowha Thalan	28.515	9.372	3.388	11.988	0	3.095	0.672	3.767	18

S. No.	Name of Nyaypanchayat	Name of Village	Total Geographical area in Ha.	Total forest area in Ha.	Water logged area	Land uses other than agriculture	Area where agriculture not possible	Irrigated	Un-irrigated	Total	Population Acc. To Census 2011
81	Mustiksaud	Thalan	87.141	16.607	2.571	28.607	0	12.823	26.533	39.356	570
82	Mustiksaud	Bongadi	68.033	13.21	0.067	15.4	0	0.946	38.41	39.356	570
83	Mustiksaud	Kuroli	63.687	14.714	0	13.978	0	0	34.995	34.995	687
84	Mustiksaud	Kankradi	61.76	22.529	0.085	18.483	0	5.108	15.555	20.663	468
85	Mustiksaud	Manpur	121.488	31.966	4.11	35.952	0	21.451	28.009	49.46	1123
86	Mustiksaud	Sada	38.601	12.529	1.202	14.148	0	4.657	6.065	10.722	271
87	Mustiksaud	Dhanpur	61.152	14.163	2.942	14.146	0	16.288	13.618	29.901	274
88	Mustiksaud	Aleth	99.01	31.53	5.043	18.256	0	11.616	32.565	44.181	394
89	Mustiksaud	Kishanpur	149.921	37.271	2.849	47.169	0	22.193	40.439	62.632	955
	Total		14742.593	1050.511	444.84	8670.164	66.322	478.287	4052.723	4531.01	67126

(Source : Agriculture census 2010-11)

Note: As per revenue records the Gross Agricultural Area of the entire Bhagirathi Eco Sensitive Zone is 4827.274 hectare. Out of which 4531.01 is cultivated area.

Annexure No. 47

Area under apple production in Eco Sensitive Zone, Uttarkashi

Unit 50 nali = 1 Ha

S. No	Village Name	Total No of apple growers	Total No of apple plants	Area under apple (Nali)	Prominent varieties	Production (Qtls)			Total (Qtls)
						Grade A	Grade B	Grade C	
1	Sukhi	82	12726	3617	Royal & Red	2000	1120	1000	4120
2	Jaspur	61	9616	2124	Royal & Red	550	300	200	1050
3	Purali	49	7524	1554	Royal & Red	600	350	200	1150
4	Jhalla	95	26483	5322	Royal & Red	4500	2200	1600	8300
5	Bagori	150	11648	2329	Royal & Red	1600	1050	550	3200
6	Harsil	44	6482	1376	Royal & Red	1250	450	300	2000
7	Dharali	151	38691	7863	Royal & Red	5000	2500		7500
8	Mukhawa	120	20078	4121	Royal & Red	1800	1000	700	3500
9	Bhangel	20	420	70	Royal & Red	2.5	1	0.5	4
10	Sunagar	16	160	35	Royal & Red	1	0.75	0.25	2
11	Tihar	40	3500	700	Royal & Red	500	250	150	900
12	Kujjan	40	200	40	Royal & Red	6	3	1	10
13	Barsu	40	2000	400	Royal & Red	120	50	30	200
14	Pala	14	200	40	Royal & Red	6	3	1	10
15	Kyark	12	250	50	Royal & Red	3	1.5	0.5	5
16	Taithal	80	2500	500	Royal & Red	300	100	100	500
17	Natin	20	1500	300	Royal & Red	50	30	20	100
18	Dwari	40	1025	125	Royal & Red	9	7	4	20
19	Pahi	4	100	20	Royal & Red	6	3	1	10
20	Gorsali	45	1250	250	Royal & Red	30	10	10	50
21	Jakhol	12	250	50	Royal & Red	0.6	0.3	0.1	1
22	Bhukhi	10	750	150	Royal & Red	4	1.5	0.5	6
23	Huri	18	250	50	Royal & Red	1.5	1	0.5	3
24	Salang	40	1750	250	Royal & Red	1	0.5	0.5	2
25	Pilang	40	375	75	Royal & Red	3	1.5	0.5	5
26	Silla	15	1000	200	Royal & Red	11	7	2	20
27	Jadau	18	1250	250	Royal & Red	8	4	3	15
28	Sari	20	1000	200	Royal & Red	11	6	3	20
29	Sora	20	2000	400	Royal & Red	25	10	5	40
30	Syavak	15	250	50	Royal & Red	3	1.5	0.5	5
31	Dasda	15	3500	700	Royal & Red & spur	400	600	800	1800
32	Agora	10	2000	400	Royal & Red & spur	200	400	500	1100
33	Bhankoli	12	2500	250	Royal & Red & spur	0	200	700	900
34	Gajoli	8	1500	300	Royal & Red & spur	0		600	600
35	Seku	10	2000	400	Royal & Red & spur	300	200	400	900



ANNEXURE

S. No	Village Name	Total No of apple growers	Total No of apple plants	Area under apple (Nali)	Prominent varieties	Production (Qtls)			Total (Qtls)
						Grade A	Grade B	Grade C	
36	Naugaon	0	0	0	NA	0	0	0	0
37	Kishanpur	35	8000	1400	Royal & Red	500	900	1500	2900
38	Manpur	10	2000	500	Royal & Red	100	400	600	1100
39	Aleth	8	1500	400	Royal & Red	150	500	700	1350
40	Dhanpur	4	1000	100	Royal & Red	-	200	400	600
41	Sald	6	600	100	Royal & Red	-	-	300	300
42	Gyanja	5	500	100	Royal & Red	-	-	400	400
43	Nismor	4	800	50	Royal & Red	-	-	-	-
Total		1458	181128	37211		20052	12863	11784	44698

Area under the vegetable and other horticultural crops

Unit 50 nali = 1 Ha

S.No.	Village Name	Area under other horticulture crops (Nali)	Area under other vegetable crops (Nali)
1	Sukhi	50	600
2	Jaspur	25	500
3	Purali	25	500
4	Jhalla	50	500
5	Bagori	10	350
6	Harsil	10	400
7	Dharali	100	600
8	Mukhawa	50	600
9	Gangotri	0	0
10	Jadung	0	0
11	Bhangeli	50	1000
12	Sunagar	50	1000
13	Tihar	60	600
14	Gagnani	5	400
15	Sanglai	10	1000
16	Kujjan	50	800
17	Barsu	100	5000
18	Pala	60	2500
19	Kyark	40	2000
20	Raithal	150	5000
21	Natin	60	1000
22	Dwari	200	3500
23	Pahi	100	3500
24	Gorsali	500	2000
25	Jakhol	300	2000
26	Bhukhi	100	1000

S.No.	Village Name	Area under other horticulture crops (Nali)	Area under other vegetable crops (Nali)
27	Huri	60	800
28	Salang	100	800
29	Pilang	50	500
30	Silla	60	500
31	Jadau	100	500
32	Sari	250	700
33	Sora	400	1200
34	Syavak	150	2000
35	Bhatwari	40	2000
36	Bandrani	100	1200
37	Lata	40	1200
38	Kumalti	60	500
39	Sainj	150	1200
40	Bhelatipri	50	1000
41	Malla	400	6000
42	Saloo	80	600
43	Dasda	50	500
44	Agora	25	350
45	Bhankoli	30	600
46	Gajoli	100	600
47	Seku	50	550
48	Naugaon	20	600
49	Gangori	30	600
50	Utrroon	30	2000
51	Nald	50	2000
52	Sangrali	20	2000
53	Pata	20	2000
54	Bagyalgaon	50	2000
55	Khandgaon	30	1200
56	Siror	20	3000
57	Aoungi	30	1000
58	Netala	50	1500
59	Gawana	30	1500
60	Heena	30	2000
61	Maneri	50	1500
62	Ganeshpur	30	1500
63	Jamak	80	1500
64	Bayana	30	1500
65	Didsari	30	1500
66	Kamar	80	1500
67	Uttarkashi	50	100
68	Tiloth	50	1000



ANNEXURE

S.No.	Village Name	Area under other horticulture crops (Nali)	Area under other vegetable crops (Nali)
69	Thalan	40	2000
70	Mando	50	1000
71	Silyan	40	200
72	Nirakot	50	500
73	Mastadi	30	500
74	Ladari	40	500
75	Kuroli	50	500
76	KotiyalGaon	75	1500
77	Kankrari	80	500
78	Kansen	30	200
79	Joshiyara	50	500
80	Bonga	50	500
81	Doha	20	200
82	Kishanpur	20	2000
83	Manpur	30	2000
84	Aleth	100	600
85	Dhanpur	50	1000
86	Sald	50	1500
87	Gyanja	40	1000
88	Nismor	45	550
	Total	6250	108400

Annexure No. 48

Table-2 : Livestock population status

S. No.	Name of Nyaya panchayat	Name of Village	LIVESTOCK POPULATION						Total Livestock	Poultry
			Cattle	Buffalo	Sheep	Goat	Horse	Mule		
1	Harsil	Gangotri	0	0	0	0	0	34	34	0
2	Harsil	Jadung	0	0	0	0	0	0	0	0
3	Harsil	Nelang	0	0	0	0	0	0	0	0
4	Harsil	Mukhwa	277	0	310	195	0	28	810	20
5	Harsil	Harsil	45	0	0	0	0	0	45	0
6	Harsil	Dharali	481	0	480	368	0	6	1335	0
7	Harsil	Bagori	85	0	9151	2856	81	0	12173	23
8	Harsil	Purali	295	0	330	209	0	8	842	41
9	Harsil	Jhala	519	0	1400	683	0	9	2611	0
10	Harsil	Jasipur	367	0	410	210	0	9	996	0
11	Harsil	Sukhi	498	0	804	460	0	6	1768	29
12	Bandrani	Bhangeli	158	0	180	285	0	9	632	13
13	Bandrani	Sungar	58	0	0	0	0	0	58	0
14	Bandrani	Tihar	491	9	305	350	0	9	1164	07
15	Bandrani	Kujjan	346	26	469	950	4	3	1798	34
16	Bandrani	Barsu	312	70	614	599	29	33	1657	94
17	Bandrani	Pala	318	26	28	27	4	5	408	94
18	Bandrani	Kyark	196	44	83	75	1	6	405	0
19	Bandrani	Raithal	588	187	1010	525	2	16	2328	425
20	Bandrani	Bandrani	182	63	85	9	1	2	342	14
21	Bandrani	Bhatwari	170	0	0	0	0	8	178	79
22	Bandrani	Nateen	170	14	97	0	0	7	288	24
23	Bandrani	Dwari	226	58	139	351	0	2	776	14
24	Bandrani	Pahi	233	39	0	0	0	6	278	81
25	Bandrani	Malla	412	23	110	16	0	14	575	58
26	Bandrani	Lata	206	10	40	120	0	9	385	40
27	Bandrani	Kumalti	110	6	0	0	0	0	116	41
28	Saura	Gorsali	518	85	11	127	1	25	767	155
29	Saura	Jonkani	94	17	0	111	0	1	223	0
30	Saura	Sainj	262	11	0	0	0	8	281	50
31	Saura	Jakhol	190	47	260	180	0	6	683	50

ANNEXURE

S. No.	Name of Nyaya panchayat	Name of Village	LIVESTOCK POPULATION						Total Livestock	Poultry
			Cattle	Buffalo	Sheep	Goat	Horse	Mule		
32	Saura	Aungi	78	25	0	0	0	4	107	0
33	Saura	Kaneth	20	8	0	0	0	0	28	0
34	Saura	Maneri	354	50	1	1	0	14	420	0
35	Saura	Didsari	159	19	25	75	0	8	286	0
36	Saura	Bayana Lonthru	152	32	0	0	0	6	190	0
37	Saura	Jamak	134	50	0	0	0	4	188	0
38	Saura	Kamar	215	89	40	100	1	6	451	0
39	Saura	Syaba	184	45	170	161	3	8	571	76
40	Saura	Saloo	103	35	50	100	3	4	295	57
41	Saura	Sari	241	40	169	250	2	10	712	0
42	Saura	Saura	226	29	108	170	0	6	539	206
43	Saura	Bhelatipri	73	6	0	0	0	2	81	0
44	Saura	Salang	253	136	666	384	0	13	1452	134
45	Saura	Bhukki	126	16	170	390	0	4	706	0
46	Saura	Hurri	169	3	0	1	0	0	173	0
47	Saura	Silla	355	55	431	563	15	14	1433	0
48	Saura	Pilang	273	89	545	634	4	11	1556	0
49	Saura	Jodaw	89	14	84	0	3	4	194	0
50	Gangori	Naugaon	239	57	2	80	0	20	398	06
51	Gangori	Gajoli	248	58	91	288	1	27	713	07
52	Gangori	Bhankoli	207	28	17	200	0	30	482	14
53	Gangori	Dasda	78	19	285	131	0	4	517	10
54	Gangori	Dadanlka	104	19	0	32	2	4	161	0
55	Gangori	Agoda	248	52	134	299	1	14	748	21
56	Gangori	Seku	128	28	201	254	3	9	623	07
57	Gangori	Uttroun	499	116	2	2	1	22	642	123
58	Gangori	Nald	473	93	535	249	0	23	1373	92
59	Gangori	Gawana	306	28	525	185	0	11	1055	43
60	Gangori	Pata	256	3	0	40	0	2	301	0
61	Gangori	Siror	314	82	2	0	0	6	404	07
62	Gangori	Netala	317	18	0	1	0	18	354	16
63	Gangori	Heena	263	36	71	134	0	6	510	84
64	Sald	Nismor	260	175	153	359	0	14	961	0
65	Sald	Sald	302	54	69	61	0	12	498	42

S. No.	Name of Nyaya panchayat	Name of Village	LIVESTOCK POPULATION						Total Livestock	Poultry
			Cattle	Buffalo	Sheep	Goat	Horse	Mule		
66	Sald	Gyanja	204	67	0	0	1	11	283	13
67	Sald	Sangrali	193	3	0	1	0	19	216	13
68	Sald	Bagyalgaon	193	0	0	0	0	3	196	37
69	Joshiyara	Joshiyara	5	0	0	113	0	0	118	147
70	Joshiyara	Ladari	101	6	0	0	0	10	117	24
71	Joshiyara	KotiyalGaon	202	34	0	0	0	10	246	30
72	Joshiyara	Bonga	251	68	2	4	0	2	327	0
73	Joshiyara	Bheluda	152	32	0	0	0	6	190	0
74	Joshiyara	Tiloth	148	5	37	48	0	6	244	119
75	Joshiyara	Mando	254	2	2	0	0	23	281	08
76	Joshiyara	Silyan	72	14	0	0	0	0	86	0
77	Joshiyara	Nirakot	42	11	1	0	0	0	54	0
78	Mustiksaud	Mastari	113	26	1	0	0	0	140	0
79	Mustiksaud	Sarag	68	12	4	0	0	0	84	0
80	Mustiksaud	Dowha Thalan	13	0	0	0	0	0	13	0
81	Mustiksaud	Thalan	214	13	0	0	0	0	227	0
82	Mustiksaud	Bongadi	138	49	2	0	0	0	189	03
83	Mustiksaud	Kuroli	216	71	5	1	1	2	296	09
84	Mustiksaud	Kankradi	250	44	4	0	0	2	300	05
85	Mustiksaud	Manpur	255	30	0	0	0	0	285	0
86	Mustiksaud	Sada	56	15	0	0	0	0	71	0
87	Mustiksaud	Dhanpur	142	15	0	0	0	2	159	0
88	Mustiksaud	Aleth	162	35	0	0	0	0	197	0
89	Mustiksaud	Kishanpur	459	135	59	0	0	4	657	0
TOTAL			19156	3029	20979	14017	164	709	58054	2739

(19th Livestock Census 2012)

Chapter-5

**URBAN
DEVELOPMENT**

संख्या-1896/V-2/05(आ0)/2017

प्रेषक,

अमिता सिंह नेगी,
सचिव,
उत्तराखण्ड शासन ।

सेवा में,

उपाध्यक्ष/जिलाधिकारी,
जिला स्तरीय विकास प्राधिकरण,
उत्तरकाशी ।

आवास अनुभाग-2

देहरादून दिनांक 1 नवम्बर, 2017


विषय- जिला स्तरीय विकास प्राधिकरण, उत्तरकाशी के प्रशासनिक ढांचे के संबंध में।
महोदय,

उपर्युक्त विषयक अधिसूचना संख्या-1800/V-2/2017/05(आ0)/2017 दिनांक 13-11-2017 द्वारा जिला स्तरीय विकास प्राधिकरण, उत्तरकाशी का गठन किया गया है। इस सम्बन्ध में मुझे यह कहने का निदेश हुआ है जिला स्तरीय विकास प्राधिकरण, उत्तरकाशी का प्रशासनिक संगठन निम्नवत् गठित किये जाने की श्री राज्यपाल महोदय सहर्ष स्वीकृति प्रदान करते हैं:-

- (1) उक्त प्राधिकरण का मुख्यालय उत्तरकाशी होगा। जिसके अन्तर्गत तहसील उत्तरकाशी, चिन्वालीसैण, झुम्डा व उप तहसील घौन्तरी आच्छादित होंगे।
 - (2) क्षेत्रीय कार्यालय बडकोट होगा। जिसके अन्तर्गत तहसील पुरोला, मौरी, भटवाड़ी तथा उप तहसील सांकारी व जोशियाड़ा आच्छादित होंगे।
- 2- जनपद स्तरीय विकास प्राधिकरण, उत्तरकाशी के बोर्ड के गठन के संबंध में पृथक से अधिसूचना निर्गत की जायेगी।
- 3- उक्त मुख्यालय एवं क्षेत्रीय कार्यालय के यथोचित पदों का सृजन पृथक से किया जायेगा।
- 4- जनपद उत्तरकाशी के अन्तर्गत पूर्व में स्थापित स्थानीय विकास प्राधिकरणों के सार्वजनिक जमा धनराशि, आस्तियों एवं दायित्वों का हस्तान्तरण जिला स्तरीय विकास प्राधिकरण, उत्तरकाशी में स्वतः हस्तान्तरित होंगे।
- 5- अतएव इस संबंध में मुझे यह भी कहने का निदेश हुआ है कि पूर्व में स्थापित स्थानीय विकास प्राधिकरण एवं नगर निकायों के क्षेत्र से बाहर के राष्ट्रीय राजमार्ग एवं राज्य राजमार्ग के मध्य से दोनो ओर 200 मीटर के क्षेत्र के अन्तर्गत आने वाले भू-भाग में एकल आवासीय भवन/संयुक्त परिवार (200 वर्गमीटर) तथा व्यवसायिक दुकानें (30 वर्गमीटर तक जो स्वयं द्वारा संचालित हों) को मानचित्र स्वीकृत किये जाने पर स्वतः छूट होगी, बशर्त उक्त निर्माण भवन उपविधि के मानकानुसार तथा निर्माण भूकम्प रोधी हो।

अतः उपरोक्तानुसार कार्यवाही सुनिश्चित की जाय।

भवदीय,


(अमित सिंह नेगी)
सचिव

उत्तराखण्ड शासन
 आवास अनुभाग-2
 संख्या:1799/V-2/2017-05(आ0)/2017
 देहरादून 13 नवम्बर, 2017

अधिसूचना

राज्यपाल, उत्तराखण्ड नगर एवं ग्राम नियोजन तथा विकास अधिनियम, 1973 की धारा 3 सपठित उत्तर प्रदेश साधारण खण्ड अधिनियम, 1904 (उत्तराखण्ड राज्य में यथाप्रवृत्त) की धारा 21 द्वारा प्रदत्त शक्तियों का प्रयोग करके पूर्व में जारी अधिसूचना संख्या 1861/V-2/60(आ0)15/2016 दिनांक 21 दिसम्बर, 2016 का अधिक्रमण करते हुए निम्नलिखित भू-भागों को जिला स्तरीय विकास प्राधिकरण उत्तरकाशी के विकास क्षेत्र के रूप में अधिसूचित किये जाने की सहर्ष स्वीकृति प्रदान करते हैं:-

- (क) स्थानीय विकास प्राधिकरण, उत्तरकाशी का अधिसूचित समस्त क्षेत्र।
 (ख) जिला उत्तरकाशी के समस्त स्थानीय विकास निकाय यथा (छावनी परिषद को छोड़ते हुए) नगर पालिका एवं नगर पंचायतें।
 (ग) जिला उत्तरकाशी के राष्ट्रीय राजमार्ग एवं राज्य राजमार्ग के मध्य से दोनो ओर 200 मीटर तक के समस्त राजस्व ग्राम सूची संलग्न।

संलग्नक-यथोपरि।

(अमित सिंह नेगी)
 सचिव।

संख्या 1799/V-2/05(आ0)/2017 तददिनांक।

प्रतिलिपि : सयुक्त निदेशक, राजकीय मुद्राणालय, रुडकी, हरिद्वार को इस आशय के साथ प्रेषित कि उत्तराखण्ड के असाधारण गजट के विधायी परिशिष्ट की 500 प्रतियाँ मुद्रित कराते हुए प्रतियाँ शासन को उपलब्ध कराने का कष्ट करें।

आज्ञा से,

(राजेन्द्र सिंह)
 सयुक्त सचिव।

Chapter-6

IRRIGATION

उत्तराखण्ड शासन
सिंचाई अनुभाग-2
संख्या 829 / 11(2)-2018/06(66)/2016
देहरादून: दिनांक, 11 मई, 2018

अधिसूचना
विविध

राज्यपाल, उत्तराखण्ड बाढ़ मैदान परिक्षेत्र अधिनियम, 2012 (उत्तराखण्ड अधिनियम संख्या 07 वर्ष 2013) धारा 12 की उपधारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए जनपद उत्तरकाशी के भागीरथी नदी में तहसील भटवाड़ी के ग्राम गंगोरी से बड़ेथी चुंगी तक 10 कि०मी० रीच हेतु पूर्व में जारी अधिसूचना संख्या 382/11-2017-06(66)/2016, दिनांक 28.02.2017 में संलग्न अनुसूची-1 एवं 2 में वर्णित क्षेत्रों को बाढ़ मैदान क्षेत्र घोषित करते हुए, इन क्षेत्रों में निम्नवत कार्य सम्पादित करने की सहर्ष स्वीकृति प्रदान करते हैं; अर्थात:-

क्र०सं०	क्षेत्र	अनुमन्य कार्यों का विवरण
1	प्रतिषिद्ध क्षेत्र	तटबन्ध/बाढ़ प्रबन्धन, खनन, वृक्षारोपण, कृषि, स्नान घाट निर्माण, नदी तटीय विकास, सिंचाई, पेयजल योजना, जलक्रीड़ा, जल परिवहन, सेतु आदि से सम्बन्धित निर्माण कार्य।
2	निर्बन्धित क्षेत्र	पार्क, खेल का मैदान, मत्स्य पालन, कृषि आदि गतिविधियों, समय-समय पर होने वाले धार्मिक मेलों हेतु अस्थाई निर्माण इस प्रतिबन्ध के साथ अनुमन्य होगा कि उक्त गतिविधियों द्वारा उत्सर्जित होने वाला जल-मल व ठोस अपशिष्ट का पूर्णतः समुचित प्रबन्धन सुनिश्चित करते हुये उक्त का परीक्षण उत्तराखण्ड पेयजल निगम से कराया जायेगा, इस क्षेत्र में पूर्व से विद्यमान निर्माण, जो जीर्ण-शीर्ण अवस्था में हैं, की विद्यमान भू-आच्छादन 35 प्रतिशत, तल क्षेत्र अनुपात 1.5 व भवन की अधिकतम ऊंचाई 7.50 मी० अथवा दो मंजिल की सीमा तक पुनर्निर्माण इस प्रतिबन्ध के साथ अनुमन्य होगा कि क्षेत्र में सीवरेज व्यवस्था उपलब्ध हो। निर्माण अनुमन्य होने की स्थिति में High Flood Level से भवन का न्यूनतम Plinth Level 1.00 मीटर होगा एवं क्षेत्र की सीवरेज व्यवस्था का समुचित प्रबन्धन सुनिश्चित करने के साथ-साथ उत्तराखण्ड पेयजल निगम से परीक्षण/अनापत्ति प्रमाण पत्र लिया जाना आवश्यक होगा।

(आनन्द बर्द्धन)
प्रमुख सचिव।

संख्या 829 / 11(2)-2018-06(66)/2016, तद्दिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. प्रमुख सचिव/सचिव, राजस्व/आवास विभाग, उत्तराखण्ड शासन।
2. मण्डलायुक्त, गढ़वाल।
3. जिलाधिकारी/बाढ़ मैदान परिक्षेत्र प्राधिकारी, उत्तरकाशी।
4. प्रमुख अभियन्ता, सिंचाई विभाग, देहरादून।
5. मुख्य अभियन्ता, सिंचाई विभाग (गढ़वाल)।
6. अधीक्षण अभियन्ता/अधिशासी अभियन्ता, सिंचाई विभाग, उत्तरकाशी।
7. निदेशक, एन०आई०सी०, सचिवालय परिसर देहरादून को अधिसूचना की एक सॉफ्ट कापी इस आशय से प्रेषित कि वे इसे NIC उत्तरकाशी की वेबसाईट पर अपलोड कराने का कष्ट करें।
8. संयुक्त निदेशक, राजकीय मुद्रणालय, रुड़की को इस आशय से प्रेषित कि कृपया अधिसूचना को साधारण गजट में प्रकाशित करते हुये 200 प्रतियां शासन को उपलब्ध कराने का कष्ट करें।
9. गार्ड फाईल।

आज्ञा से,
(देवेन्द्र पालीवाल)
अपर सचिव।

प्रमुख अभियन्ता
D/S.
SE
11/5/18

U:\D:\Wm\2017-18.doc page 22

In pursuance of the provisions of clause (3) of Article 348 of the 'Constitution of India', The Governor is pleased to order the publication of the following English translation of notification no. 829 dated 11.05.2018 for general information.

Government of Uttarakhand
Irrigation Section-02
No. 829 /II(2)/2018-06(66)/2016
Dehradun: Dated 11 May, 2018

Notification

Miscellaneous

In exercise of the powers conferred by sub section (1) of section 12 of the Uttarakhand Flood Plain Zoning Act, 2012 (Uttarakhand Act. No 07 of 2013) the Governor is pleased to accord sanction of following work execution in these area with declaration flood plain zoning to the mentioned area annexed schedule 1 and 2 of the previous notification no- 382/II-2017-06(66)/2016, dated 28.02.2017 for reach up to 10 Km from Gangori to Badethi Chungi in river Bhagirathi of District Uttarkashi, namely-

S.No.	Area	Details of Permissible Works
1.	Prohibited Area	Construction/Activities regarding embankment/flood Management, Mining, Plantation, Agriculture, Bathing Ghats, River Front development, Irrigation, Drinking water scheme, Water sports, Water transportation and Bridge etc.
2.	Restricted Area	Construction/Activities regarding Park, Sports Field, Fisheries, Agriculture etc. and the temporary construction required for religious fairs from time to time shall be permissible after getting N.O.C. from Uttarakhand Peyjal Nigam that there are appropriate management for disposal of sewerage and soild waste created by the said activities in this area. The reconstruction of existing unsafe structure shall be admissible up to limitation of existing land covering 35% floor area ratio 1:5 and up to maximum height 7.50 meter or double storey building with the restriction that the sewerage system is available in the area. In case of admissibility of construction, minimum plinth level of the building from High Flood Level (H.F.L) shall be kept 1.0 M high and the examination/N.O.C. certifecate shall be required necessary from the Uttarakhand Peyjal Nigam for ensuring that there are appropriate provision of Sewerage treatment.

(Anand Bardhan)
Principal Secretary.

-2-

No. 829 /II(2)/2018-06(66)/2016

Copy to-

1. Principal Secretary/Secretary, Revenue/Housing Government of Uttarakhand.
2. Commissioner, Garhwal.
3. D.M. Uttarkashi/Flood Plain Zoning Authority, Uttarkashi.
4. Engineer in Chief, Irrigation Department, Uttarakhand, Dehradun.
5. Chief Engineer, Irrigation Department, Garhwal.
6. S.E./Ex.Engineer, Irrigation Department, Uttarkashi.
7. Director, NIC, Uttarakhand Sectariate, Dehradun with the request that please upload soft copy of this notification on NIC Uttarkashi site.
8. Joint Director, Government printing Press Roorkee with the request that please publish 200 copies of this notification in Genreal gazette and send it to Government.
9. Office Copy.

Devendra Palival
(Devendra Palival)
Additional Secretary.

संख्या-189 / नौ-1-सिं0(विविध)(27) / 03

२-८-०५

एन० रवि शंकर,
सचिव,
उत्तरांचल शासन।

2186.....
M-6.....
10/6/05

✓ मुख्य अभियन्ता एवं विभागाध्यक्ष,
सिंचाई विभाग, उत्तरांचल,
देहरादून।

सिंचाई विभाग दिनांक: देहरादून: जून ०६ :2005

विषय :- मैसर्स गंगोत्री मिनरल्स (प्रा०) लिमिटेड को जनपद उत्तरकाशी के अन्तर्गत मिनरल वाटर फैक्ट्री के निमित्त भागीरथी नदी से 20,000 लीटर जल उपलब्ध कराया जाना।

महोदय,

उपर्युक्त विषयक मैसर्स गंगोत्री मिनरल्स (प्रा०) लिमिटेड के साथ झाला (हर्षिल), उत्तरकाशी में स्थित मिनरल वाटर फैक्ट्री द्वारा भागीरथी नदी से ली गई/लिये जाने वाले जल की मात्रा के लिए रॉयल्टी लिये जाने के बिन्दु पर आवश्यक विचारोपरान्त श्री राज्यपाल महोदय ऐतद्विषयक पूर्व में निर्गत संगत शासनादेशों को अवकमित करते हुए मैसर्स गंगोत्री मिनरल्स (प्रा०) लिमिटेड को भागीरथी नदी से 20,000 लीटर मात्र (बीस हजार लीटर मात्र) जल, जिसे इस इकाई द्वारा शुद्ध करके बोतलों में जन सामान्य के उपयोग अथवा निर्यात के उद्देश्य से विक्रय किया जायेगा, उपलब्ध कराये जाने की स्वीकृति निम्न शर्तों के अधीन प्रदान करते हैं :-

- 1- राज्य की नवीन औद्योगिक नीति के अनुसार मिनरल वाटर प्लान्ट थ्रस्ट इंडस्ट्री (Thrust Industry) की श्रेणी में होने के फलस्वरूप इस उद्योग को बढ़ावा देने के उद्देश्य से रॉयल्टी की उदार दर निर्धारित करते हुए इकाई द्वारा रुपये 1,00,000/-मात्र (रुपये एक लाख मात्र) प्रति क्यूसेक प्रतिवर्ष रॉयल्टी का भुगतान करना होगा।
- 2- जल उपयोग का सत्यापन मीटरिंग के आधार पर करते हुए वास्तविक जल उपयोग के अनुसार रॉयल्टी के भुगतान की व्यवस्था सिंचाई विभाग द्वारा इस निमित्त निष्पादित किये जाने वाले अनुबन्ध में यथाउल्लिखित समय सारणी तथा प्रक्रिया के अनुसार सुनिश्चित करना होगा।
- 3- भागीरथी नदी से कार्यस्थल तक जल ले जाने के लिए आवश्यक साधन/माध्यम की व्यवस्था नियमानुसार करने का दायित्व स्वयं इकाई का होगा और इस पर होने वाले समस्त पूंजीगत व्यय एवं रख-रखाव व्यय का वहन इकाई द्वारा ही किया जायेगा।
- 4- इकाई के द्वारा इस संयंत्र का संचालन शत-प्रतिशत स्थानीय लोगों को सेवायोजन देकर करना होगा।

S.O. (HOD) 16
20/6/05
7/6

28/6/05
श. विभागाध्यक्ष
सिंचाई विभाग
देहरादून

(2)

- 8- औद्योगिक इकाई द्वारा जिस अवधि में जल की उपलब्धता की मांग की जायेगी उस अवधि में सिंचाई विभाग द्वारा उन्हें सुलभ कराया जायेगा। नदी में स्वाभाविक रूप से जल में कमी होने अथवा दैवीय आपदा जैसी घटनाओं के कारण निर्धारित मात्रा में जल उपलब्ध न हो पाने की परिस्थिति में यदि इकाई को कोई आर्थिक क्षति होती है तो उसका उत्तरदायित्व सिंचाई विभाग का नहीं होगा।

अतएव मुझे यह कहने का निदेश हुआ है कि कृपया शासन के पत्रांक 160/नौ-1-सिंचाई(27-विविध/03)/04 दिनांक 8-4-2004 के द्वारा प्रेषित अनुबन्ध के आलेख में उपरोक्तानुसार आवश्यक संशोधन करते हुए इकाई के साथ अनुबन्ध निष्पादित करने के उपरान्त इकाई को भागीरथी नदी से निर्धारित मात्रा में जल उपलब्ध कराना सुनिश्चित करायें।

भविष्य में मिनरल वाटर प्लान्ट की स्थापना हेतु प्राप्त होने वाले अन्य आवेदन पत्रों का निस्तारण उपर्युक्त सामान्य प्रतिबन्धों के अनुसार सुनिश्चित करायें।

भवदीय,

N. Ravi Shankar
(एन0 रवि शंकर)
सचिव।

संख्या-189/नौ-1-सिंचाई(विविध)(27)/03/तदिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

- 1- मैसर्स गंगोत्री मिनरल्स (प्रा0) लिमिटेड, ए-4, जी0टी0करनाल रोड, दिल्ली-110033
- 2- सचिव, उद्योग, उत्तरांचल शासन।
- 3- निदेशक, एन0आई0सी0, सचिवालय परिसर।

आज्ञा से,

(अरविन्द सिंह ह्यांकी)
अपर सचिव, सिंचाई।

सं.क., ए-10 रवि शंकर
सचिव,
उत्तरांचल शासन।

सेवा में,

✓ मुख्य अभियन्ता एवं निमागच्छक
सिंचाई विभाग, उत्तरांचल,
देहरादून।

सिंचाई विभाग, देहरादून
दिनांक: 27.5.9
पृष्ठ: 11-6
सं.सं.: 1417105

सिंचाई विभाग,

देहरादून: दिनांक: 07 जुलाई, 2005

विषय:- उत्तरकाशी मिनरल्स कारपोरेशन को जनपद उत्तरकाशी के अन्तर्गत मिनरल वाटर फैंक्ट्री के निमित्त भागीरथी नदी से 10,000 लीटर प्रतिदिन जल उपलब्ध कराया जाना।

महोदय,

उपर्युक्त विषयक उत्तरकाशी मिनरल्स कारपोरेशन के औंगी, उत्तरकाशी में स्थित मिनरल वाटर फैंक्ट्री को भागीरथी नदी से जल उपलब्ध कराये जाने के विन्दु पर सम्यक विचारोपरान्त श्री राज्यपाल महोदय उत्तरकाशी मिनरल्स कारपोरेशन को भागीरथी नदी से 10,000 लीटर मात्र (दस हजार लीटर मात्र) प्रतिदिन जल, जिसे इस इकाई द्वारा शुद्ध करके बोतलों में जन सामान्य के उपयोग अथवा निर्यात के उद्देश्य से विक्रय किया जायेगा, उपलब्ध कराये जाने की स्वीकृति निम्न शर्तों के अधीन प्रदान करते हैं:-

CORPN.

- 1- राज्य की नवीन औद्योगिक नीति के अनुसार मिनरल वाटर प्लान्ट थ्रस्ट इंडस्ट्री (Thrust Industry) की श्रेणी में होने के फलस्वरूप इस उद्योग को बढ़ावा देने के उद्देश्य से रायल्टी की उदार दर निर्धारित करते हुए इकाई द्वारा रुपये 1,00,000/- मात्र (रु० एक लाख मात्र) प्रति क्यूसेक प्रतिवर्ष रायल्टी का भुगतान करना होगा।
- 2- जल उपयोग का सत्यापन मीटरिंग के आधार पर करते हुए वास्तविक जल उपयोग के अनुसार रायल्टी भुगतान की व्यवस्था सिंचाई विभाग द्वारा इस निमित्त निष्पादित किये जाने वाले अनुबंध में यथा उल्लिखित समय स्वस्थी तथा प्रक्रिया के अनुसार सुनिश्चित करना होगा।
- 3- भागीरथी नदी से कार्य स्थल तक जल ले जाने के लिए आवश्यक साधन/माध्यम की व्यवस्था नियमानुसार करने का दायित्व शीर्ष इकाई का होगा और इस पर होने वाले समस्त पूंजीगत व्यय एवं रखरखाव व्यय का वहन इकाई द्वारा ही किया जायेगा।

कमरा:.....2

इकाई के द्वारा इस संयंत्र का संचालन एवं प्रतिष्ठा स्थापना का
को सेवायोजन देकर करना होगा।

औद्योगिक इकाई द्वारा जिस अवधि में जल की उपलब्धता की मांग
की जायेगी उस अवधि में सिंचाई विभाग द्वारा जल उपलब्ध कराया
जायेगा। नदी में स्वभाविक रूप से जल में कमी होने अथवा देरी
जैसी घटनाओं के कारण निर्धारित मात्रा में जल उपलब्ध न
होने की परिस्थिति में यदि इकाई को कोई आर्थिक क्षति होती
तो उसका उत्तराधिकार सिंचाई विभाग का नहीं होगा।

अतएव मुझे यह कहने का निर्देश हुआ है कि कृपया शासन
के पत्रांक 160/गौ-1-150 (7 विभाग/03)04, दिनांक 03.04.2004 के द्वारा
प्रेषित अनुबन्ध के आलेख में उपरोक्तानुसार आवश्यक सशोधन करवाये हूँ,
इकाई के साथ अनुबन्ध निर्धारित करने के उपरान्त इकाई का मांगीय
नदी से निर्धारित मात्रा में जल उपलब्ध करना सुनिश्चित करवाये।

भवदीय,

N. Ram Srinivasan
(एन0 रवी शंकर)
सचिव।

संख्या: 1509/11-2005-17(36)/05, तददिनांक।

प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु

प्रेषित:-

- 1- उत्तरकाशी मिनरल्स कारपोरेशन, ग्राम-आँगी, पो0-मनेरी,
उत्तरकाशी।
- 2- सचिव, उद्योग, उत्तरांचल शासन।
- 3- जिलाधिकारी, उत्तरकाशी।
- 4- निदेशक, एन0आई0सी0 सचिवालय परिसर।

आज्ञा से,

(अरविन्द सिंह हयांकी)
अपर सचिव, सिंचाई।

Chapter-7
ENERGY

CHAPTER – 12

CONCLUSIONS AND RECOMMENDATIONS

12.1 CONCLUSIONS

The conclusions drawn from the study have been discussed in detail in the respective chapters. The same are reproduced briefly in this chapter.

1. The total area of the Bhagirathi catchment in the ESZ – including the part falling in the state of Himachal Pradesh – is 455,260 ha, of which 290,217 ha is snow bound/dense forest/water bodies. This leaves an area of nearly 165,000 ha as ecologically productive area. Out of this 55,800 ha is at a slope of more than 40° and can be treated as a reserve, which leads to an available area of 109,200 ha.

The ecologically productive area required for the current population including 20% floating population as obtained from the Ecological Footprint model is 58,320 ha, leaving an ecological surplus of 50,880 ha.

2. Estimated area required for hydropower projects in the area are estimated to require an area of 1900 ha resulting in the ecological surplus being reduced to 49,980 ha.
3. Based on the average water footprint of India, the water footprint of the region is estimated to be 80 MCM per year. The water availability under different scenarios viz. average annual, 25% dependable, 50% dependable, 75% dependable, mean minus standard deviation and mean plus standard deviation has been obtained and the ratio of requirement to availability (R) as per the two parameters, water resources carrying capacity model has been estimated. The value of R is always much less than 1 (of the order of 0.14-0.16) indicating that the water resources carrying capacity is large enough.
4. The scenario likely to be encountered by the year 2051 has also been worked out by estimating the increase in population and increase in ecological footprint and it has been found that even then, there will be an ecological surplus of 12,420 ha. The water resources carrying capacity will also be well within limits as the value of R is estimated to be much less than 1 (of the order of 0.2).
5. The water availability in the leanest period has been worked out for the 90% dependable year and works out to 3.5m³/s. It is found that even after meeting the domestic and irrigation water requirements, about 39.4% of water will be available for other purposes. In the year 2051, this percentage of water available to other purpose is estimated to drop down to 20.5%.
6. The scenario of the economy of the Bhagirathi eco-sensitive zone is one of a traditional subsistence-based agrarian economy located in an economically backward district vulnerable to the vagaries of nature. Yet it has considerable untapped potential for sound sustainable development through emphasis on local resources and niche

products that have a good market demand. These include horticulture especially apples and stone fruits, off-season vegetables, products like high-grown kidney beans (rajmah), amaranth and buckwheat etc.

7. Development of hydropower also has considerable potential while tourism catering to different sectors – religious, adventure, leisure – has vast untapped potential. All these activities should be developed keeping two crucial principles in mind: benefits should flow as far as possible to the local people and it should be done in a sustainable manner so that it encroach upon the resource base that underlies these activities.
8. Across the ESZ landscape the commissioned hydropower projects did not show any significant impact on the terrestrial biodiversity carrying capacity in three major aspects, viz. Relative richness, Absolute richness and Gross Primary Productivity (GPP) and the project zones of influence (ZOI) are having similar carrying capacity as the adjoining areas. In spite of several developmental activities in the past one decade the Gross Primary Productivity over time followed no significant changes whereas the richness across the landscape and vis-à-vis commissioned HEPs are uniform in ZOI and adjoining landscape. Thus it is safe to assume that construction of HEPs did not contribute any significant change in the ESZ. Considering the land use change due to projects of other categories (under development, proposed and identified) are also of character which are not likely to make any significant impact in GPP of the area.
9. As far as aquatic biodiversity is concerned, assessment of carrying capacity using periphyton, benthic invertebrates and fish as bio-indicators and the P/R ratio calculated for all the stretches/ sections of Bhagirathi ESZ has revealed that the stretches of Kedar Ganga, Rudra Ganga, Jadh Ganga, Jalandhari Gad, Kakora Gad, Siyan Gad, Son Gad, Limcha Gad, Suwari Gad, Pilani Gad, Kaldi Gad, Upper Asi Ganga and Upper Bhagirathi have upper limit of carrying capacity. However, care is to be taken for the stretches of Pilan Gad and Kaldi Gad and upper Asi Ganga due to their geological and seismological sensitivity.

The stretch / section of Lower Asi Ganga and Lower Bhagirathi have Medium limit of carrying capacity. These stretches have real possibility of restoring the initial conditions of the ecosystem, if regulated anthropogenic interventions are made. The lower stretch of Asi Ganga is also very sensitive to natural anthropogenic pressures (cloud bursts, flash floods, earthquake). Therefore, utmost care should be taken for further exploitation of this metarhithronic stretch of Asi Ganga for hydropower development.

10. Ambient air quality results indicate that ambient air quality in the ecologically sensitive zone is good. The increase in the levels of different air pollutants due to various construction activities will be small and restricted within close vicinity of construction sites. It is expected that ambient air quality within the ecologically sensitive zone will remain below the prescribed standards during the construction phase also.
11. The noise quality baseline data monitored at different stations within the ecologically sensitive zone by different agencies is compared with national noise standards. The equivalent noise levels exceed the national noise standard for silence zone for Harsil,

Jhala, Loharinag and Aungee while the equivalent noise levels are within the national noise standards for silence zone for Hurri, Pala, Tihar and Bhatwari.

12. The impacts on noise levels during the construction activities due to the various construction equipment are predicted using hemispherical sound wave propagation model. An increase in noise levels is anticipated through various construction activities. The predicted noise levels are much more than the national noise standards for silence zone and will have a impact on noise environment of Bhagirathi ecologically sensitive zone. This however will be only temporary and limited to the construction period only.

12.2 RECCOMENDATIONS

The recommendations pertaining to hydropower development arising out of the present study can be broadly classified into the following four categories:

- Data Collection
- Research
- Construction and Impact Assessment
- Implementation and Monitoring



The category wise recommendations are as below:

12.2.1 Pertaining to Data Collection and Analysis

1. Strengthening the network of meteorological stations in the study area would be necessary for better assessment of water resources availability and their variability. Better data would also help in analyzing the future trend in climate especially with reference to hydropower or any development. It will also assist to address the changes due to any specific development on agriculture, horticulture and forest. This data may also be shared with relevant government departments/agencies such as the India Meteorological Department.
2. Establishment of Gauge and Discharge stations (G&D) on all major tributaries will enhance spatial and temporal data generation for assessing the trend in hydrological flow. These stations shall also measure the silt content during the snow melting and flood period. This data may also be shared with relevant government departments/agencies such as the Central Water Commission.
3. The information pertaining to the boundaries of National Parks/Wildlife Sanctuaries/Biosphere Reserves/eco sensitive zone and other protected areas is difficult to obtain. These should be collected and put at one place in the portal along with relevant maps to facilitate planning, preferably on GIS platform.

12.2.2 Pertaining to Research

1. Research to investigate the relationship between high and low water flow ratios and the implication to ecological integrity, systems productivity and terrestrial and aquatic biodiversity should be taken up to determine suitable values of the Flashiness Index (FI). Till such time that this information is available, an arbitrary limit may be specified for the variation in FI due to the HP.

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2. A comprehensive study based on building block method (BBM) or other holistic methods, specific to the river and its surroundings including social needs and requirements, detailed measurements of discharge, river cross sections and assessment of impact on biotic life as a result of reduced discharge on commissioned hydropower projects needs to be conducted. Such a study may be commissioned by the state government through Expert Groups/Organizations and values of the EFR may accordingly be reviewed based on the findings of such report. Such exercise is time consuming, data intensive and needs highly skilled manpower and considerable financial resources.

12.2.3 Pertaining to Construction

1. A record of impact of tunneling and other underground construction activities on the springs should be maintained by the concerned state government agency and monitoring should be carried out for the same. Any impact of the same on the water supply in the area be made good by providing alternate arrangements by the project developer as done in many instances.
2. Suitable dumping sites for disposal of spoil generated during construction should be identified well in advance. The dumped muck, if it is in the river cross section area, due to unavoidable circumstances, should be protected by a RCC retaining wall at the toe up to HFL. This should be made mandatory for small hydropower projects too. Regular and frequent monitoring should be carried out for the same.
3. The road construction, extraction of construction material, muck disposal and landslides contribute to sedimentation in the study area. The vulnerable approach road sites along the river should be identified by project developer for effective monitoring and management. It has been observed that state or other agencies constructing public roads often dump muck/debris in the river. Any illegal dumping of muck/solid waste along the roads should be checked to avoid sedimentation. Adequate punitive action should be taken against defaulters.
4. Wherever possible, blasting may be avoided for tunnel construction by using alternative technologies and use of appropriate equipment like tunnel boring machine (TBM)/micro tunneling. Blasting, if necessary, should be done by adequately trained personnel only.
5. As far as possible, projects in close vicinity may be taken up for construction at about the same time. This would ensure that the local population does not have to put up with the problems of dust, noise etc. over a prolonged period. Further, it would also facilitate monitoring and sharing of some resources. Construction gives rise to large quantities of dust. During construction water should be regularly sprinkled on roads so that it does not become airborne. Water should also be sprinkled on crushing and batching plants.

12.2.4 Pertaining to Implementation and Monitoring

1. Environmental flows should be released from outlets in the diversion weir/barrage/dam of every project to maintain the integrity of the aquatic environment downstream. Recommended variability in environmental flows which is to mimic natural variations in flow regime should be maintained.



2. Forest land of various categories diverted ought to be documented and maintained to assess the fragmentation and loss of biodiversity. Long term monitoring and documentation to assess the changes due to land use, soil moisture and climate changes on terrestrial flora should be carried out. Afforestation proposed under various restoration packages should use site-specific indigenous species with the aim to maintain ecological integrity. Use of traditional knowledge for regeneration of indigenous species shall be promoted in consultation with community.
3. Restoration of the damages caused by any hydropower project, if any, during construction should be undertaken expeditiously.
4. In the event of illegal/unlawful obstruction such as stopping and blocking the workers, officials and vehicles caused by vested interests resulting in delays in execution and commissioning of the projects, the district administration should provide necessary protection to the project developers and take necessary action against to those found to be engaged in unlawful obstruction so that project may be executed timely.

SUWARIGAD MINI HYDRO PROJECT (2 X 1000 KW) - UNDER CONSTRUCTION

- Eco-Sensitive Zone within the Project's status : Regulated
- Type of Project (Proposed / Operation/ Under Construction) : Under Construction
- Geographical Co-ordinates
Trench Weir - 78° 37 '18.3' 'East 30° 50' 49.03 " North
Power House - 78° 37 '42.52' 'East 30° 50' 34.13 " North
- River on which the Project is located – Suwarigad
- Trench Weir river water catchment area - 35.67 sq km
- Area & Type of the land required for Construction of Project –
 - Civil Soyam Land - 2.934 Ha
 - Naap Land - 0.198 Ha
 - Total Land - 3.132 Ha
- Water conductor system type and length - Surface channel 500 m, Power Pipe 315 m

Project description :

In accordance with the provisions contained in Gazette notification the Project of up to 02 MW capacity the are under regulated activitie. The Project Suwarigad is located on the right bank of Suwarigad between 1828 m to 1675 m. Suwarigad is a tributary of the Bhagirathi River. The provision shall be made to release environmental flow in the river as per the guidelines of MoEF&CC,Gol.

(A) Trench Weir : A trench weir having 20 m width be constructed in such a manner that neither any reservoir shall be formed nor any submergence of the vegetative resources will occur. Natural boundaries of the river shall not be affected due to construction of Trench Weir.

(B) Water Conductor System : The Total length of Water Conductor System will be 1240 m. In Water Conductor System, surface Channel (500 m X 1.5 m), Disilting Tank (35 m X 6.0 m), Power duct (30 m X 1.2 m) Pipe Channel (315 mX 1.2 m), Forebay Tank (30 mX 6.0 m) and Penstock Pipe (330m X 0 .770 m) etc. are proposed.

A steel Power Pipe of 1.20 m dia is proposed to be laid in 1.20 m wide strip of land. No tunnel is proposed in the Project.

(C) Land requirement for the construction of project : For the construction of the project Total 3.132 Ha Civil Soyam forest land & Private land is required. Mutation of 0.198 Ha land has already been done and in-principle approval of 2.934 Civil Soyam forest land has been received from MOEF on 20.03.2013. Final approval is still awaited from MOEF.

(D) Switchyard and Power House : The construction of a Surface Power House of 35m x8 m & Switchyard of 30 mx36 m is proposed. Construction of Power House is proposed on a sloping terrace on the right bank of the river of Suwarigad about 15 meters from Uttarkashi-Gangotri National highway. Since the Power House is proposed on the terrace having gradient (5°-10°), so minimal hill cutting is required for the construction of Power House.

(E) Residential colony : The staff posted on the project during construction and operation will reside in the pre-constructed residential colony against Pala Maneri Hydro Electric Project at Bhatwari and staff will be transported through shift bus during operation from Bhatwari Colony to Power House.

(F) Technology to be adopted in the construction of Project : Detailed Project Report was prepared by the Technical experts of the IIT Roorkee after the Detail investigation, survey and study of site. The design of hydraulic structures was done after finding the site suitable for construction.

(G) COST BENEFIT ANALYSIS:

(i) Total cost of the project	Rs 1550.00 lac (without IDC) Rs 1606.88 lac (with IDC)
(ii) Debt Equity Ratio	70:30
(iii) Loan Repayment Period	07 years
(iv) Financing Institution	NABARD
(v) Expenditure till date	Rs 295.00 lac
(vi) Net Saleable energy	10.90 Million Unit
(vii) Levelized cost of generation	Rs 2.50 per unit
(viii) Annual Revenue from sale of energy	Rs 382.00 lac

DETAILS OF LAND REQUIREMENT FOR SUWARIGAD SHP (2MW)

S.No.	Project name	Type & area of land requirement	Land status
1	Suwarigad small hydro project	(A) Civil Soyam land – 2.934 ha. (B) Naap land- 0.198 ha. Total land - 3.132 ha.	<ol style="list-style-type: none"> In principal approval of Civil land 2.934 ha has been obtained on June, 2013 & compliances of condition laydown by MoEF has been complied and formal approval is awaited. Naap land of 0.198 ha purchased from the owner through mutual negotiation

Chapter-8

PUBLIC HEALTH & SANITATION

Chapter-10

ROAD INFRASTRUCTURE DEVELOPMENT



Indian Standard

**PREPARATION OF LANDSLIDE HAZARD
ZONATION MAPS IN MOUNTAINOUS
TERRAINS — GUIDELINES**

PART 2 MACRO-ZONATION

ICS 07.040

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BUREAU OF INDIAN STANDARDS

IS 14496 (Part 2) : 1998

Table 2 — Concluded

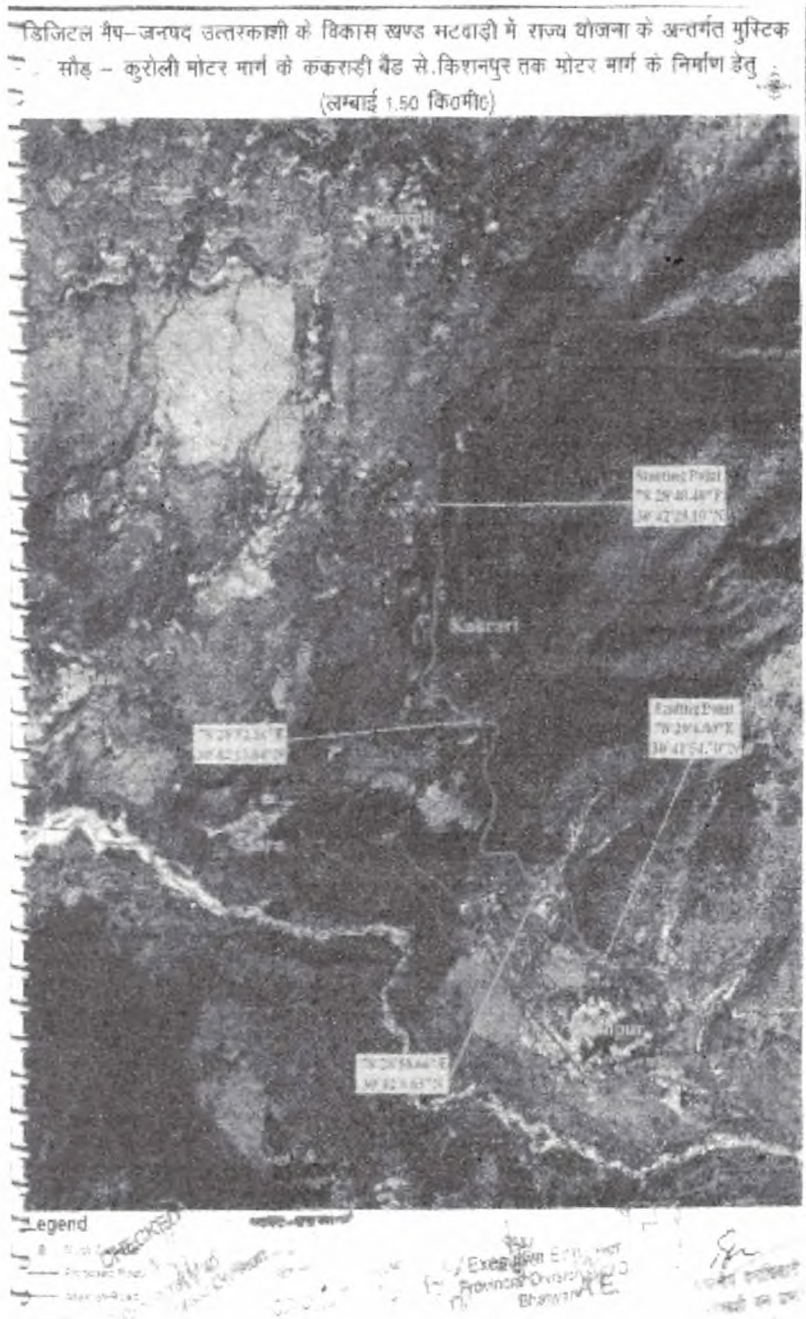
(1)	(2)	(3)	(4)	(5)
c) SLOPE MORPHOMETRY	i) Escarpment/cliff ii) Steep slope iii) Moderately steep slope iv) Gentle slope v) Very gentle slope	>45° 36° - 45° 26° - 35° 16° - 25° 515°	2.0 1.7 1.2 0.8 0.5	No. of contour lines of 20 m interval over 10 mm length (1 : 50 000) Slope angle >45° 36° - 45° 26° - 35° 16° - 25° 515°
d) RELATIVE RELIEF	i) Low ii) Medium iii) High	<100 m 101 - 300 m >300 m	0.3 0.6 1.0	NOTE — In regions of low seismic activity (1, 2 and 3 zones), the maximum rating for relative relief may be reduced to 0.5 and that of hydrogeological conditions be increased to 1.5 (Table 1). Accordingly the detailed ratings of these contributory factors (Table 2) may be multiplied by 0.5 and 1.5 respectively. For seismic zones 4 and 5, no corrections are required.
e) LAND USE AND LAND COVER	i) Agricultural land/populated flat land ii) Thickly vegetated forest area iii) Moderately vegetated area iv) Sparsely vegetated area with lesser ground cover v) Barren land		0.6 0.80 1.2 1.5 2.0	
f) HYDROGEOLOGICAL CONDITIONS	i) Flowing ii) Dripping iii) Wet iv) Damp v) Dry		1.0 0.8 0.5 0.2 0.0	



Example of Existing Dumping Zone near Sanj below NH- 34 (surrounded by wall with wire crates)



MAP SHOWING DUMPING ZONES EXAMPLE - 1





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पत्रांक: 522 / (2) / 2017

दिनांक: 27 / 15 / 2017

::: परिपत्र :::

पहाड़ी क्षेत्रों में नव निर्माण के अंतर्गत विभाग में प्रचलित नियम एवं प्राविधानों के अनुरूप जो मार्ग बनाये जाते हैं, उनमें पहाड़ कटान के कारण हिल साइड अस्थिर हो जाती है, जिसे स्थिर होने में लगभग दो- तीन वर्ष लग जाते हैं एवं कुछ स्थानों पर नियमित स्लिप जॉन्स घट जाते हैं जिससे मार्ग सुरक्षा की दृष्टि से काफी असुरक्षित हो जाते हैं। वर्तमान तक राज्य के सीमित संसाधनों में अधिकतम प्रामाणिक सुरक्षा प्रदान करने के दृष्टिकोण से नव निर्माण कार्यों की DPR में इस संबंध में पर्याप्त प्राविधान नहीं किए जा रहे हैं। अतः राज्य के विभिन्न भागों में अतिवृष्टि, बाढ़, फटने आदि आपदा की घटनाओं में अप्रत्याशित वृद्धि हुई है जिसमें सार्वजनिक व व्यापारिक परिसरों के साथ साथ जनधन की भी भारी हानि हुई है, जिससे जनता के मध्य असुरक्षा की भावना व पलायन की प्रवृत्ति बढ़ी है।

उपरोक्त के दृष्टिकोण राष्ट्रीय व अंतर्राष्ट्रीय स्तर पर यह धारणा लगातार बन रही है की मार्ग निर्माण में 'Less-Energy- Intensive Technology/ Local Material/ Waste Material/ Innovative Material' का अधिकतम प्रयोग कर 'Eco-Friendly' कार्य कराये जाये, जिससे कि मार्ग निर्माण के कारण पर्यावरण पर कम से कम प्रतिबुद्ध प्रभाव पड़े व 'Climate Change' के कारण होने वाली आवादाओं में कमी लाई जा सके तथा साथ ही मार्ग निर्माण कार्य सुरक्षित, सुरक्षित एवं सुविधाजनक बने तथा विकास की प्रक्रिया अनवरत जारी रह सके। अतः भविष्य में मार्ग निर्माण की DPR गठित करते समय निम्न बिंदुओं का समावेश किया जाय-

1. मार्ग निर्माण हेतु मार्ग का व्यापारिक डिजाइन IRC- 52, 2001 के अनुसार किया जाय। Alignment में H/P Bend की संख्या कम से कम हो। जहाँ H/P Bend आवश्यक हो तो स्थल का चयन इस प्रकार किया जाय की मानकों के अनुरूप निर्धारित चोड़ाई के H/P Bend का निर्माण किया जा सके।
2. मार्ग का स्टेखिंग निर्धारित/ ब्रह्मसिद्ध डिजाइन करते समय पहाड़ का Nomenclature देखते हुए Hill-Side Cutting की Height इस प्रकार निर्धारित की जाय कि पहाड़ कटान के कारण मार्ग का कोई भाग Land Slide Zone में परिवर्तित न हो। Hill-Side Cutting की अधिक Height आने पर मार्ग का कुछ घाग Retaining Wall पर बनाते हुये मार्ग को Filling में बनाया जाय। Retaining Wall के निर्माण में गुणवत्ता / विशिष्टियों का विशेष ध्यान रखा जाय।
3. अक्सर नव-निर्माण के कार्यों में Drainage के कार्यों को आपेक्षित प्राथमिकता नहीं दी जाती है, जबकि किसी मार्ग के स्थायित्व हेतु Proper Drainage एक अति आवश्यक भाग है। Longitudinal Drain निर्माण को मार्ग निर्माण में cutting कार्य के साथ ही कराया जाय तथा cutting के Job में ही Drain की कटिंग की मात्रा को जोड़कर प्राविधान किया जाय। मार्ग की cutting से प्राप्त Stone / Rock से ही मार्ग की पूरी लंबाई में Dry Stone pitched Lined Drain का प्राविधान किया जाय तथा Drain का कार्य पूर्ण होने पर ही cutting का भूगतान किया जाय।
4. मार्ग के Loose Portion वाले क्षेत्रों में आवश्यक रूप से Slope Protection का कार्य किया जाय। Slope protection हेतु नगण्य विधियों जैसे Breast Wall, Wire crates आदि के साथ साथ Geo-synthetic उपचार का भी प्राविधान किया जाय। Breast Wall न्यूनतम 1.80 मीटर height की तथा Banded बनाई जाय।

क्रमशः

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5. मार्ग निर्माण से निकलने वाले मलबे को valley साइड में गिरने से बचाया जाय तथा अधिकतम मलबे का निस्तारण Muck Disposal स्थल पर किया जाय। Muck Disposal स्थल पर मलबे की स्थिरता हेतु आवश्यक Toe-Wall आदि का प्रा. विधान DPR में किए जाय, तथा उक्त प्रकार से बनाए गए Muck Disposal स्थलों को Parking Places, Passing Places, या जो प्रतीक्षास्थल के रूप में विकसित किया जा सकता है। Muck Disposal स्थल के चयन के समय पर्यावरणीय पहलू को अवश्य ध्यान में रखा जाय। DPR गठित करते समय मार्ग निर्माण से प्राप्त सामग्री के अधिकतम उपयोग करते हुए DPR में प्रा. विधान किए जाय जिससे एक ओर मार्ग की निर्माण लागत कम होगी वहीं मलबा निस्तारण में होने वाला व्यय भी कम होगा।
6. IRC- 52: 2001 के Clause 15 के अनुसार मार्ग पर प्रति किमी 2-3 Passing Places का प्रा. विधान अवश्य किया जाय। आवारी वाले भागों में मार्ग को Edge to Edge Paved Shoulder/ Hard Shoulder/ Interlocking Tile आदि के साथ बनाया जाय।
7. मार्ग के वे. भाग गिनत प्रयोग Other Department/ Agency की अपनी Utility Cable, Line आदि के लिए प्रयोग किया जाना संभावित हो वहाँ पर मार्ग निर्माण के समय विविधियों के अनुसार Utility Duct/ Hume Pipe Duct का भी प्रा. विधान किया जाय ताकि मार्ग को बार. बार क्षतिग्रस्त होने से बचाया जा सके।
8. Cross Drain हेतु प्रा. विधान proper design के आधार पर किए जाय। प्रति किमी 6-8 स्कूपर अवश्य बनाये जाय। जिन क्षेत्रों में उपयुक्त स्कूपर डिजाई के फल. उपलब्ध न हो वहाँ पर RR Duct स्कूपर के स्थान पर RCC Slab Scupper/ Precast RCC Slab Scupper/ RCC Box/ Culvert/ Hume Pipe आदि का प्रा. विधान किया जा सकता है। जिन स्थानों पर पानी के साथ अन्य material जैसे मलबा आदि के आने से scupper के बार. बार चौक होने की संभावना हो वहाँ पर 1.5 मीटर Span Culvert बनाई जा सकती है, जिसकी drawing IRC - SP-20 में उपलब्ध है। Scupper के Down stream में पानी के वहाव से होने वाले कटाव को रोकने हेतु आवश्यक प्रा. विधान किए जाय तथा स्थल को आवश्यकतानुसार कुछ दूरी तक check wall भी बनाई जाय।
9. सामान्यतः भागों पर Causeway न बनाकर Culvert बनाये जाय। अपरिहार्य स्थितियों में Causeway का प्रा. विधान अमीक्षण अभियंता से अनुमोदन प्राप्त कर ही लिया जाय। Causeway Minimum PCC Grade M-30 में ही बनाए जाय।
10. जिन भागों में झिल साइड से excessive seepage होने की संभावना हो उन स्थानों पर drainage layer/ Filtration layer आदि का प्रा. विधान रखा जाय।
11. मार्ग पर सुरक्षित व सुविधाजनक यातायात हेतु Road Safety व Road Furniture से संबन्धित प्रा. विधान आवश्यक रूप से किए जाय तथा उक्त हेतु प्रा. विधानित धनराशि का प्रयोग किसी अन्य मद में न किया जाय। पर्वतीय भागों पर दुर्घटनाओं को देखते हुए आवश्यक है कि मार्ग में अंधे मोड़ों, बाहरी मोड़ों आदि स्थानों पर Parapet / Crash Barrier का प्रा. विधान अवश्य किया जाय। Parapet बनाने के पश्चात उनकी curing पर विशेष ध्यान रखा जाय।
12. मार्ग में यथासंभव Local Material का प्रयोग Sub-Grade/ Sub-Base तथा Base Course बनाने में कर लागत में मितव्ययता लायी जाय। इस हेतु IRC में दिये गए प्रा. विधानों के अनुसार stabilizer का प्रयोग किया जा सकता है।
13. कार्यस्थल के स्थिति के अनुरूप Cold Mix एवं Warm Mix Technology का प्रयोग अवश्य किया जाय। साथ ही Innovative Material का यथासंभव उपयोग किया जाय।
उक्त समस्त कार्यों को कराने के लिए स्पष्ट है कि DPR को लागत प्रति किमी सामान्य तः से अधिक आ सकती है लेकिन वर्तमान परिवेश में सुरक्षा एवं पर्यावरणीय कार्यों को देखते हुए उपरोक्त कार्य कराने अनर्निहार्य हो गए हैं, ताकि जो भी मार्ग बने वह Sustainable, सुरक्षित व पर्यावरण के अनुकूल हो तथा इसके दूरगामी परिणाम क्षेत्र तथा प्रदेश को निर. सके।

प्रमुख अभियंता
ल.प.नि.वि.0

Chapter-11

**DISASTER
MANAGEMENT**

THE DISASTER MANAGEMENT ACT, 2005
AGREEMENT OF SECTION
CHAPTER IV
DISTRICT DISASTER MANAGEMENT AUTHORITY

25. Constitution of District Disaster Management Authority.

- (1) Every State Government shall, as soon as may be after issue of notification under sub-section (7) of section 14, by notification in the Official Gazette, establish a District Disaster Management Authority for every district in the State with such name as may be specified in that notification.
- (2) The District Authority shall consist of the Chairperson and such number of other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following, namely:—
 - (a) the Collector or District Magistrate or Deputy Commissioner, as the case may be, of the district who shall be Chairperson, *ex officio*;
 - (b) the elected representative of the local authority who shall be the co-Chairperson, *ex officio*: Provided that in the Tribal Areas, as referred to in the Sixth Schedule to the Constitution, the Chief Executive Member of the district council of autonomous district, shall be the co-Chairperson, *ex officio*;
 - (c) the Chief Executive Officer of the District Authority, *ex officio*;
 - (d) the Superintendent of Police, *ex officio*;
 - (e) the Chief Medical Officer of the district, *ex officio*;
 - (f) not exceeding two other district level officers, to be appointed by the State Government.
- (3) In any district where zila parishad exists, the Chairperson thereof shall be the co-Chairperson of the District Authority.
- (4) The State Government shall appoint an officer not below the rank of Additional Collector or Additional District Magistrate or Additional Deputy Commissioner, as the case may be, of the district to be the Chief Executive Officer of the District Authority to exercise such powers and perform such functions as may be prescribed by the State Government and such other powers and functions as may be delegated to him by the District Authority.

THE DISASTER MANAGEMENT ACT, 2005**AGREEMENT OF SECTION****CHAPTER IV****DISTRICT DISASTER MANAGEMENT AUTHORITY**

34. Powers and functions of District Authority in the event of any threatening disaster situation or disaster.—For the purpose of assisting, protecting or providing relief to the community, in response to any threatening disaster situation or disaster, the District Authority may—

- (a) give directions for the release and use of resources available with any Department of the Government and the local authority in the district;
- (b) control and restrict vehicular traffic to, from and within, the vulnerable or affected area;
- (c) control and restrict the entry of any person into, his movement within and departure from, a vulnerable or affected area;
- (d) remove debris, conduct search and carry out rescue operations;
- (e) provide shelter, food, drinking water and essential provisions, healthcare and services; (f) establish emergency communication systems in the affected area;
- (f) make arrangements for the disposal of the unclaimed dead bodies;
- (g) recommend to any Department of the Government of the State or any authority or body under that Government at the district level to take such measures as are necessary in its opinion;
- (h) require experts and consultants in the relevant fields to advise and assist as it may deem necessary;
- (i) procure exclusive or preferential use of amenities from any authority or person;
- (j) construct temporary bridges or other necessary structures and demolish structures which may be hazardous to public or aggravate the effects of the disaster;
- (k) ensure that the non-governmental organisations carry out their activities in an equitable and non-discriminatory manner;
- (l) take such other steps as may be required or warranted to be taken in such a situation