

# Policy Brief for Plastic Waste Management in Uttarakhand

COUNTERMEASURE PROJECT  
SUPPORTED BY UNITED NATIONS ENVIRONMENT PROGRAMME

**Counter  
MEASURE**  
FOR PLASTIC FREE RIVERS





# EXECUTIVE SUMMARY

UNEP has partnered with Integrated Mountain Initiative (IMI) and Sustainable Development Forum of Uttarakhand to draft a Policy Framework for Waste Management especially Plastic Waste Management for Uttarakhand.

This Draft Policy is based on guiding principles for efficient and holistic waste management that focuses on closing the plastic tap; recognizing mountain sensitivities and fragility. It further recommends eradication of single use plastics and strong enforcement mechanisms; integration of shared responsibility for waste amongst tourism stakeholders, religious and defence institutions; investment in building capacity and leadership of stakeholders; implementing Extended Producer Responsibility that factors in mountain specificity including cost and transport challenges.

UNEP's project "Promotion of Countermeasures against Marine Plastic Litter in Southeast Asia and India (CounterMEASURE1)," focuses on identification of sources and pathways of major plastic leakage in India and along the Mekong River and Ganges and fostering local partnerships for tackling the problem. This project resulted in suggested policy recommendations to governments to help stop plastic pollution where it is leaking into waterways as well as a Regional Framework for Plastic Leakage Assessment and Monitoring in Rivers in Asia.

## INTRODUCTION

The State of Uttarakhand, also referred as "Dev Bhumi" was formed on 9th November 2000 as the 27th state of India. Uttarakhand State has a combined rural and urban population over a crore, of which the urban population is around 30 percent. The socio-ecological significance of Uttarakhand is widely recognised, and plastic waste is a pressing and visible concern that has a long-term impact on biodiversity and human well-being. Insufficient policy focus on the Himalayan Waste Crisis, halfhearted implementation of existing policies has contributed to plastic pollution leakages into riverine systems. The mighty River Ganga originates in this state, and there is an urgent need to add a lens of plastic pollution affecting river systems in the larger discourse around sustainable development and climate change. This framework for plastic waste management for Uttarakhand is being developed in line with the National Action Plan for tackling Marine and Riverine Plastic Pollution in India (NAPML).

Plastic is ubiquitous, it is found on top of the highest mountains<sup>1</sup>, deepest of trenches in the ocean<sup>2</sup>, even inside human placenta<sup>3</sup>. It is now well established that this problem of plastic

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<sup>1</sup> Microplastics found near Everest's peak, highest ever detected in the world. [National Geographic Nov 2020](#)

pollution that the entire world is facing arises from the unsustainable and unnecessary production of plastics, much of which are being designed for single use. Few facts mentioned below from various studies is enough to drive home the point.

- 8300 million metric tons (Mt) of virgin plastics have been produced till 2017. As of 2015, approximately 6300 Mt of plastic waste had been generated, around 9% of which was recycled, 12% incinerated, and 79% had accumulated in landfills or the natural environment.<sup>4</sup>
- By 2050, the amount of plastic in seas and oceans across the world will weigh more than the fishes, says a headline-grabbing estimate by the Ellen MacArthur Foundation.<sup>5</sup>
- Half of the plastic ever manufactured has been produced in the past 15 years (What a Waste, World Bank 2018).<sup>6</sup>
- Half of all plastic produced is designed to be used only once – and then thrown away. (Our planet is drowning in plastic pollution—it’s time for change – UNEP 2018).<sup>7</sup>
- The carbon-intensive production of plastics is on pace to emit more greenhouse gases than coal-fired power plants within this decade, undercutting global efforts to tackle climate change, a report released by Bennington College and Beyond Plastics.<sup>8</sup>
- The harsh climate, remoteness, limited land availability for waste treatment and disposal, and relatively weak infrastructure in the mountain landscape are some of the factors that make waste collection and safe disposal more challenging than in the urban lowlands.(Tackling solid waste in the Himalayan region<sup>9</sup>).
- The inadequate treatment or disposal of waste creates risks not only for ecosystems and human health in mountain regions, but also for downstream areas. Gravity and river flows can also enlarge the footprint made by waste from mountain regions thousands of kilometers or more downstream, and even as far as the ocean. As such, the accumulation of solid waste in mountain areas has become an issue of truly regional and global concern<sup>10</sup>.

Given the magnitude of the plastic crisis the narrative around plastic waste management has evolved considerably with increasing recognition that larger accountability for managing plastic production and plastic waste rests on the manufacturers of plastics. The entire cycle

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<sup>2</sup><https://www.theguardian.com/environment/2021/apr/12/airborne-plastic-pollution-spiralling-around-the-globe-study-finds>

<sup>3</sup> <https://www.theguardian.com/environment/2020/dec/22/microplastics-revealed-in-placentas-unborn-babies>

<sup>4</sup> Geyer R, Jambeck JR, Law KL. Production, use, and fate of all plastics ever made. *Sci Adv.* 2017 Jul 19;3(7):e1700782. doi: 10.1126/sciadv.1700782. PMID: 28776036; PMCID: PMC5517107.

<sup>5</sup> <http://www.perspectives.devalt.org/2021/07/02/plastics-polluter-can-become-protector-with-circular-economy-solutions/>

<sup>6</sup> [https://datatopics.worldbank.org/what-a-waste/tackling\\_increasing\\_plastic\\_waste.html](https://datatopics.worldbank.org/what-a-waste/tackling_increasing_plastic_waste.html)

<sup>7</sup> <https://www.unep.org/news-and-stories/story/our-planet-drowning-plastic-pollution>

<sup>8</sup> <https://www.reuters.com/business/cop/plastics-outpace-coals-greenhouse-gas-emissions-by-2030-report-2021-10-21/>

<sup>9</sup> <https://blogs.worldbank.org/endpovertyinsouthasia/tackling-solid-waste-himalayan-region>

<sup>10</sup> <https://blogs.worldbank.org/endpovertyinsouthasia/tackling-solid-waste-himalayan-region>

of plastic production till its disposal being directly linked to the climate crisis is also well acknowledged. With these larger shifts in understanding, it is imperative that waste management systems focus on reduction measures and moving towards circular systems.

Solid Waste Management Rules (SWM), Plastic Waste Management (PWM) Rules, the Extended Producer Responsibility (EPR) constitute the regulatory framework which mandates how plastic waste is to be managed for the country as a whole. Uttarakhand and the Indian Himalayan Region, however, have their own unique set of challenges that need to be factored in and policies must be sensitive and contextualised to the mountains .

To prevent plastic waste generated in Asia from turning into marine litter, the United Nations Environment Programme (UNEP) has found it necessary to promote regional coordination and collaboration for plastic waste management and preventing it from flowing to the ocean through major polluting rivers such as Ganges and Mekong rivers through its CounterMEASURE project.

Phase I of the CounterMeasures I project in India has identified sources and pathways of plastic leakage through land-based pollution sources in Haridwar, Agra, and Prayagraj (also known as Allahabad) from post-consumer plastics and suggested policy recommendations for the same.

Phase II of the project on Promotion of action against marine plastic litter in Asia and the Pacific focuses on the generation and dissemination of knowledge on plastic pollution and developing a framework for a National Action Plan for tackling Marine and Riverine Plastic Pollution in India along with the recommendations for CMS listed species. Uttarakhand was included in the process of making the framework as the beginning of the mighty Ganga.

## METHODOLOGY FOR POLICY DEVELOPMENT

To develop this policy document, the Integrated Mountain Initiative team worked extensively with Sustainable Development Forum of Uttarakhand (SDFU), the IMI state chapter of Uttarakhand, Zerto Waste Himalaya, a pan Himalayan platform and the partners of CounterMEASURES2. Integrated Mountain Initiative (IMI) and Zero Waste Himalaya (ZWH) team have over 10 years of history of working on the issue of the Himalayan Waste Crisis. In order to develop the recommendations, Stakeholder Mappings, Focus Groups Discussions; Literature Review and a policy analysis, Mountain Legislatures Meet, Communication GAP Analysis discussions were undertaken



## WASTE MANAGEMENT SCENARIO IN UTTARAKHAND

- The state (urban and rural) generates approximately 3000 metric tons of solid waste every day. Urban areas generate around 918 MTPD of MSW (Annual report CPCB, 2014-15). The total urban contribution increases two-fold, considering the large floating population that visits the state every year.
- Uttarakhand Pollution Control Board annual report 2021 states that the current annual plastic waste of Uttarakhand is One lac fifty thousand tons (150,000).
- Of the waste generated only 40-50% is collected and disposed, largely unscientifically.
- Uttarakhand has specific issues of waste generated by tourism, religious sites and the defence establishments that are not always integrated into the waste management systems.

### **Present Policy Scenario in Uttarakhand**



# RECOMMENDATIONS FOR POLICY ACTIONS

## PART A

### 1. Restrictions on single-use plastic (SUP) products to be robust

District wise restrictions on SUPs at the levels of production, distribution and use need to be implemented proactively with persistent efforts. In order to implement the

restrictions alternatives will have to be given like cloth or paper bags, etc that can be based on a local livelihood model.

### 2. Developing separate SOPs for the towns in foot-hills and interior areas

The towns in the foothills such as Dehradun, Haridwar, Rishikesh, Kotdwar, Ramnagar, Haldwani, Tanakporet etc serve as gateways of all plastics to the interiors of Uttarakhand. Smaller towns in the interior areas and some of the District Head Quarters such as Uttarkashi, Pauri, Almora and Pithoragarh have unique issues that need specific management strategies.

### 3. Economic incentives for entrepreneurs dealing with recycle and reuse of plastic

Special schemes and economic incentives are required to encourage the entrepreneurs based on plastic waste. Manufacturers can be encouraged to adopt alternatives to plastic or to create revenue that can fund plastic waste clean-up efforts. Taxes can be imposed to deter the production or use of plastics. Tax breaks, subsidies and other fiscal incentives could encourage alternatives to single-use plastic products.

### 4. Green industries to produce substitutes of plastic cutlery

The Forest Development Corporations and Community Forestry Wings of Forest Department could initiate plantations of Malu (*Bauhinia vahlii*), Timla (*Ficusauriculata*) and other species which can be used to make plates and bowls (Dona, Patal). Value

Year of Action	Laws, Byelaws, Notifications, Governor Orders, SPCB Directions, CAG Reports, etc.
2013 - 2021	<ol style="list-style-type: none"> <li>1. Uttarakhand Plastic and Other Non-Biodegradable Garbage (Regulation of Use and Disposal) Act, 2013.</li> <li>2. Urban Development Directorate Draft Urban Municipal Waste Management Action Plan for State of Uttarakhand, 2015.</li> <li>3. Total ban on sale, use and storage of plastic carry bags throughout the State, 2017.</li> <li>4. SPCB Directions to Urban Local Bodies and Village Panchayats to take action on SWM, 2017.</li> <li>5. CAG Report – Report on Compliance Audit of Social, General and Economic Sectors (Non-Public Sector Undertakings), 2018.</li> <li>6. SPCB directions to district collectors for compliance and action on Responsibility of Producers, Importers and Brand Owners (PIBOs), 2019.</li> <li>7. SPCB directions to Urban Development Directorate to submit Action Taken Report, 2019.</li> <li>8. SPCB directions to District Magistrate to report unregistered units and ban on plastic less than 50 microns, 2019.</li> <li>9. Ban on single use plastics, 2021.</li> <li>10. Uttarakhand State Pollution Control Board Plastic Waste Management Annual Report 2020-2021.</li> </ol>

additions, market linkages and enhanced production of products like biodegradable plates, bowls, etc should be promoted to be used in all events across the state.

**5. More human resource and administrative powers to the Forest Department to address plastic pollution in Reserved Forests**

There are no legal and administrative provisions with the Forest Department to take action against dumping plastic and other non-biodegradable waste in the reserved forests. Hence, appropriate legal provisions need to be made along with deployment of staff to check such activities in and around reserved forests.

**6. Capacity building and awareness programmes at various levels**

The state needs to upgrade its curricula on environmental education and awareness on harmful effects of plastic pollution at school, college and University levels along with practical activities through NCC and NSS. Likewise through citizen science programmes and other Self Help Groups intensive awareness programmes need to be initiated to keep all watersheds and sacred places, reserved forests and public places free of plastic pollution.

**7. Involvement of Universities and other institutions in Research & Monitoring**

The Central and State level institutions especially Universities need to be made knowledge partners in collecting data of the entire plastic pollution stream that informs policy and action.

**8. Promoting and Implementing Segregation across the entire solid and plastic waste chain**

Segregation is the basis for any waste management programme and remains abysmally low in Uttarakhand. There is a need to empower State Level Advisory Body as well as ward level committees to promote, educate and monitor segregation at source. Information Education Communication material and campaigns needs to be contextually designed, targeted and sustained for behavioural change.

**9. Creating infrastructure for plastic waste management**

Uttarakhand needs to have citizen and tourist friendly infrastructure that incorporates both the hardware as well as the software of plastic waste management. The nation-wide Swachh Bharat Abhiyan has done wonders with both building toilets and facilitating behavior change. Similar efforts at creating suitable infrastructure and then creating a jan-andolan, a people's movement is the need of the hour in Uttarakhand.

**10. Polluter Pays Principle**

The state and the Ganga basin need adequate resources to implement solutions. Often, resources are scarce and unavailable. This can be partly offset through "polluter pays principle" at an individual level and "eco cess" for tourists and pilgrims. The entire process needs to be simple, easy to implement and free of loopholes to plug leakages. An eco-cess of this nature will empower state authorities much needed resources that can then be deployed to make the regions plastic free.

**11. Vocal for Local**

"Vocal for Local " is the mantra that resonates loudly across India. This philosophy can be adopted and adapted for the issue of plastic waste management in Uttarakhand. Given the size, scale and costs associated with transportation of plastic waste from the upper Himalayan Region to towns like Rishikesh, Haridwar and Haldwani, and then onwards to other regions; it would be prudent to look at local collection, local value addition and local use.

## **12. Single Window Ownership**

Currently; many agencies and organizations like the Pollution Control Board, Urban Development Directorate and Urban Local Bodies are involved in the business of working towards minimizing plastic waste and ensuring compliance with various regulations. However, in the absence of clear , overall responsibilities; it is necessary to ensure that a particular department headed by a senior officer is taking ownership of the complete chain of plastic waste management across all components and issues.

## **13. Knowledge and capacity enhancement of elected representatives**

Capacity enhancement of elected representatives in the domain of solid and plastic waste management is essential for evidence based effective waste management. While discussions are often generic in nature and may refer to environmental challenges, no mention is ever made about the rapidly increasing solid and plastic waste in the mountains, mountain towns, rivers and water bodies in Uttarakhand. Apart from capacity building for legislators, the Mayor/Chairperson of all Urban Local bodies and the Zila Panchayat Chairperson need such regular capacity enhancement programmes.

## **14. Operationalising Extended Producer Responsibility for leveraging financial support to Local Bodies**

Uttarakhand unlike other Indian Himalayan States have been extended producer responsibility, in the Stakeholder Mapping discussions, PIBOs expressed the lack of mountain sensitivity and variability in implementations. This calls on EPR to be made more mountain sensitive as well as ULBs and PRIs made aware of the process and possibilities of EPR.





## **PART B: Tourism, Uttarakhand and Plastic Pollution**

Tourism is the economic backbone of Uttarakhand. With increasing disposable incomes, provision of greater facilities in tourist destinations and massive upliftment in mobility; hordes of tourists and pilgrims come in large numbers to Uttarakhand. Religious tourism and events not only bring in large devotees but also open up religious sites and routes with plastic pollution fall outs.

Some of the most prominent congregations are the annual 15 days Kanwar Yatra that culminates in Haridwar and the six month Char Dham Yatra that lasts from April/May till October/November. Apart from this, hill-stations like Nainital and Mussoorie attract thousands of tourists on a daily basis. The Jim Corbett Park is a magnet for wildlife enthusiasts while trekking, rafting and other forms of adventure tourism attracts the relatively younger lot. Tourism activities are set for exponential growth along the Ganga basin with the completion of the 900 kilometer all-weather Char Dham road, the 125 kilometre rail link between Rishikesh and Karanprayag and several other Bharatmala connectivity projects. It is also safe to assume that heli- services will increase during the coming years which will lead to greater tourist inflows.

While tourism has clear economic benefits both for the state in the form of taxes and for others in the form of revenue incomes; the environmental consequences from tourism activities with specific reference to waste and/or plastic generation has not been a consideration. It is abundantly clear that increased tourism activities generate great quantities of waste. In the presence of wafer-thin waste collection and disposal facilities along with the absence of suitable policy landscape, the plastic waste that is generated is either burnt or simply thrown (littered) across trails, roads, hillsides, valleys, forests, dumping stations and water bodies. Given the nature of the downstream terrain, this waste invariably finds its way in one of the many tributaries of the Ganga river. What is left behind either clogs the drains or natural flow of water or degrades the soil.

### **Given this background, these interventions are recommended for Uttarakhand**

1. Waste policy framework needs to make responsible Tourism Development Boards to draft SOPs for solid and plastic waste management.
2. Implement waste segregation practices across the entire value chain to minimize the waste going to the landfill and ensure recycling of non-biodegradable waste.
3. Appoint adequate human resources to handle the increasing amounts of waste quantities.
4. Coordinate, engage and involve the informal waste sector in providing waste management services. Provision of health care facilities and issuing ID cards are some of the basics that need to be taken care of for the informal waste sector.
5. Increasing public awareness on waste management and segregation. Mountain specificity and mountain sensitivity are critical aspects of community awareness
6. Open dumping and waste burning are banned with strict penalties for violators. This is particularly sensitive with regards to the disposal of plastic waste in water bodies and open burning by both citizens and often the staff of Urban Local Bodies.