

**PROJECT DOCUMENT****Country: INDIA****Project Title:** Plastic Waste Management:**Project Number (Award ID):** 00096923**Project Number (Atlas Output ID):** 00100826**Implementing Partner:** United Nations Development Programme (UNDP)**Start Date:** January 2018\*\***End Date:** December 2024**LPAC Meeting date:** 15/05/2019**Brief Description**

The project aims to bring into sustainable plastic\* waste management practices, through a socio-technical model (segregation/collection/recycling) that is in line with Swachh Bharat Mission in India and the Plastic Waste Management (Amendment) Rules, 2021 and subsequent amendment, while ensuring compliance with regulations and improve resource utilization.

In this project the waste pickers (safai sathis) will be institutionalized within the respective governance mechanism and attain improved social conditions. Project's target is to better manage plastic waste that will amount to around 1,40,000 MT in a period of 6 years with donors, hence will be referred as donor and improve socio economic condition of around 44,000 Safai sathis. UNDP may enter partnerships with, but not limited to, government agencies, private sector entities, multilateral and bilateral entities for future scaling of the project.

**The project is structured into 4 components:**

**Component 1:** Aims to delineate a base line assessment on the diverse use & users of plastics, present regulatory mechanisms and practices followed, and present scenario in Plastic Waste Management in terms of generation, and recycling. Develop an Economically Sustainable Model (ESM) of Plastic Waste Management.

**Component 2:** Focuses on design and implementation of decentralized small collection points leading to establishment of the material recycling centre as Swacchta Kendra, {SK} for improved plastic waste management, under a community led integrated approach. This will also create a digital governance along the Plastic value chain

**Component 3:** Will enable Institutionalization of Safai Mitra and create an inclusive growth model to obtain improved socio-economic conditions by empowering them through various social security schemes and is directed mainly to design, sustain and provide elements to institutionalize SK in governance bodies. Systems will ensure mainstreaming the Safai sathis' as recognition - service to society, and by forming SHGs of Safai sathis' contributing to their better way of life.

**Component 4:** Is Knowledge Management to establish a more hands on knowledge management, monitoring, and communication mechanisms, which will be based on an in-built adaptive feedback system from project results at various stages along the entire duration. Adequate governance mechanisms will be established to assure the right development of project and targets fulfilment.

*\*The project is extended to dry waste as the Material Recovery Facilities (MRFs) cater to requirements of ULBs which means the MRFs or Swacchta Kendras also collect & processes dry waste. However, the focus of the project is plastic.*

**Contributing Outcome (UNSDF):**

By 2022, environmental and natural resource management is strengthened, and communities have increased access to clean energy and are more resilient to climate change and disaster risks.

**Indicative CPD Output(s)**

**Output 3.2:** Effective solutions developed at national and subnational levels for sustainable management of natural resources and ecosystems, ozone depleting substances, chemicals and wastes

Gender marker<sup>2</sup>: GEN2

<b>Total resources required:</b>	<b>USD (\$) 29,65,973</b>	
	<b>UNDP TRAC:</b>	<b>\$430,000</b>
	<b>Donor (HCCBPL):</b>	<b>\$16,609,808</b>
	<b>Donor (HUL):</b>	<b>\$ 1,799,127</b>
	<b>Donor (CAF - HDFC):</b>	<b>\$ 2,930,620</b>
	<b>Donor (CCIF):</b>	<b>\$ 863,010</b>
	<b>Donor (CTSI -Nayara):</b>	<b>\$ 2,003,771</b>
	<b>Donor (CAF-HUL):</b>	<b>\$ 73,892</b>
	<b>Donor (Dist. Admin, Jajpur)</b>	<b>\$67,582</b>
	<b>Total (In Cash)</b>	<b>\$24,777,810</b>
<b>Total resources allocated:</b>	<b>In-Kind:</b>	
	<b>State Govt./ULBs</b>	<b>\$3,294,923</b>
	<b>NGO/Recyclers/RWAs</b>	<b>\$1,579,240</b>
	<b>Total (In Kind)</b>	<b>\$4,874,163</b>
<b>Unfunded:</b>	<b>NIL</b>	

Agreed by (signatures)<sup>1</sup>:

	UNDP
Print Name: Dennis Curry	
Designation: Deputy Resident Representative a.i.	
Date: 18-Aug-2022	

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\*Resources allocated towards the Initiation Plan (PIP) is included

\*\*Dates including of pre-project activities

<sup>1</sup> Note: Adjust signatures as needed

<sup>2</sup> The Gender Marker measures how much a project invests in gender equality and women's empowerment. Select one for each output: GEN3 (Gender equality as a principle objective); GEN2 (Gender equality as a significant objective); GEN1 (Limited contribution to gender equality); GEN0 (No contribution to gender quality)

## PLASTIC WASTE MANAGEMENT CHALLENGE IN INDIA

1. Plastic has many virtuous properties for packaging uses, which some of them become disadvantageous when it turns into waste: resistance to water, heat insulating properties, low weight and transparency. On the other hand, the impact of waste generation of plastics on the world environment is still not determined in its scope and had been understated until recent years, when its presence and effects in sea waters started to be researched. Plastic pollution can unfavourably affect lands, waterways, oceans and human beings. It is reported that in the world 14% of plastic packaging is collected for recycling, however only 2% is really recycled to produce material for the same use, while 8% is recycled for less demanding uses (lower grade materials) and 4% is burned (WEF, 2016).
2. In India, the consumption of plastic, increases by an average of 10% every year, caused mainly by rapid urbanization, population growth and industrial development, and it is expected to reach 20 million metric tonnes per annum (MMTPA), by 2020. The per capita consumption of plastic in India is 11 Kg/year below the world average, 28 Kg/year. Packaging sector accounts for 42% of plastic consumption, followed by consumer products (24%), building and construction (14%) and industrial goods (13%). India consumption of plastics is 14.7 MMTA (FICCI, 2017) and generates 9.4 MMTA of plastic waste (CPCB and Rabobank, 2015) of which about 2 MMTA are collected (CPCB, 2016). Packaging using plastic materials, has by far the most intensive use of plastics: bottles, containers and films (bags), which have mostly a single use leading to a problem for environment and municipal solid waste (MSW) management in India. Plastic waste constitutes about 4% of total MSW generated in the urban areas. Packaging using plastic materials, which account for about 42% of total, has by far the most intensive use of plastics: bottles, containers and films (bags), which have mostly a single use leading to a problem for environment and municipal solid waste (MSW) management in India. Out of these approximately 50% is used for food and drinks, which are preferably made from Polypropylene (PP), Polyethylene (PE), Polyethylene Terephthalate (PET) and Polyvinyl Chloride (PVC). Plastic waste constitutes about 7% of total MSW generated in the country per day.
3. Among the plastics waste generated in India: thermoplastics (80% of total): Polyethylene Terephthalate (PET), Low Density Poly Ethylene (LDPE), Poly Vinyl Chloride (PVC), High Density Poly Ethylene (HDPE), Polypropylene (PP), Polystyrene (PS) may be recycled; and Thermoset plastics (20% of total) like, alkyd, epoxy, ester, melamine formaldehyde, phenolic formaldehyde, silicon, urea formaldehyde, polyurethane, metallised and multilayer plastics etc., may also be recyclable but with additional treatment.
4. PVC, when burnt, could result in emissions of persistent organic pollutants, PCDD/PCDF, generically named dioxins and furans. Other toxic substances are also contained in additives in plastics, which in nearly all cases are not chemically bound to the plastic polymer and can be released during use. Also, littered plastics spoil the aesthetic beauty of cities, choke drains and make public places and gardens filthy. Grazing cattle are known to have died of ingested plastic waste.
5. Environment friendly end of life of plastic waste is a serious concern in India. The conventional technologies include recycling (strictly defined, recycling is the process of recovering scrap or waste plastic and reprocessing it into the same use or products), incineration and land filling, whereas there are new technologies also available like polymer blended bitumen road, co-processing in cement kiln, and production of liquid fuel. Incineration and land filling being not environment friendly rank lower in the hierarchy of available waste management options. Recycling is recognized as the "most environmentally sound" strategy for dealing with waste following only the preventive strategy of source reduction and reuse. Recycling provides opportunities to reduce oil usage, carbon dioxide emissions and the quantities of waste requiring disposal. Recycling of packaging materials has seen certain expansion over the last decades in various countries (especially European countries including UK, Germany, Austria, Norway, Italy and Spain). Advances in technologies and systems for the collection, sorting and reprocessing of recyclable plastics are creating new opportunities for recycling, and with the combined actions of the public, industry and governments. The project goes on to address this in an integrated manner through the Swachhta Kendras (SKs).
6. Plastic identification codes exist. Those with resin codes three through seven are NOT recyclable in most programs. It is often cheaper and easier to make plastic containers from new, non-renewable resources. Plastic resin has limited value as a commodity because its quality degrades every time it is reheated. "Down cycling" is a more accurate term than "recycling" when it comes to plastics. Unlike glass or aluminium, plastic recycling does not "close the loop" because most post-consumer bottles are not made into new plastic bottles. Instead, milk jugs, soda containers and other bottles are turned into lower-grade products such as jacket fill, fleece, carpet, toys or plastic lumber. None of these products are in turn recyclable. See **Figure 1** to follow.



**Figure – 1: Different types of Plastic Packaging used in FMCG (Fast Moving Consumer Goods)**

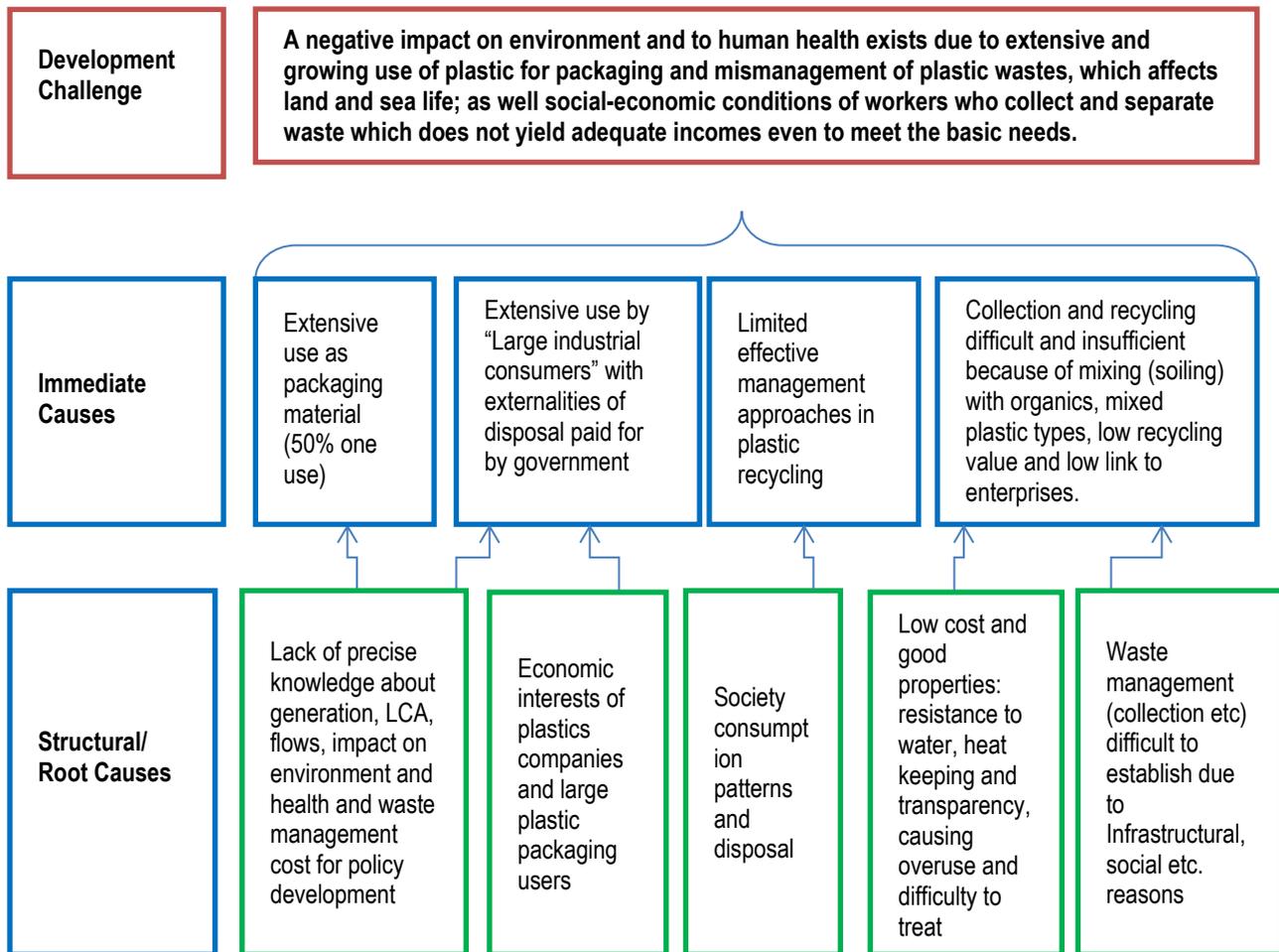
7. In India, the widespread recycling of plastic waste (generally associated with the commencement of milk packaging in plastic sachets), both from industrial and municipal origin might have been started in late 1970s and early 1980s. It also corresponds with the time when plastic carry bags were also started to be used. Recycling units were first established in Gujarat, Rajasthan and some parts of West Bengal, in course of time which spread to other parts of India.
8. One estimate is that about 20,000 micro enterprises are engaged in reprocessing and recovery of plastic waste in addition to 180,000 of various sorting and washing units, 60% of which are unregistered (Harriman Chemsult, 1996). Delhi alone has estimated 53,400 units and Delhi and Bombay together process over 50% of India's waste plastics. There is heavy concentration of recycling units reported in Gujarat and Goa, which account for 40%. As per other estimates there are about 18,000 recycling units spread all over the country, with about 2500 palletizing units with an average output of 350 MT/ year and an overall output of over 875 kTA (Nanavaty, 1997).<sup>2</sup> An example of enterprises is shown on the list of Annex A. The existing recycling companies / NGOs have concentrated more on mechanical recycling works and few of them have paid attention to mainstreaming the informal sectors (waste pickers) and enterprise development. Some of the organizations, like Chintan, have stressed more on policy development for streamlining the recycling process (Table – 1). However, very few organizations have been found to work for the improved socio-economic status of the waste pickers, the poorest, most marginalized and vulnerable in the society living in unhygienic conditions with lowest human development index (HDI). Also limited organizations have been found to concentrate on R&D and innovation to make plastic waste management more sustainable and environment friendly.
9. However, in implementing recycling of plastic waste, challenges on social, institutional and economical aspects are faced: Socially, proper motivation and mainstreaming of the Waste Pickers (*Safai sathis*) in the collection and segregation, of different types of plastic waste; Social security measures and strengthening of kinship-based self-help groups. Lack of local ownerships for the collection, segregation based small to micro enterprises and links to markets. Institutionally, there are difficulties for different stakeholder's relationships; lack of infrastructure facility; mutual agreements with back-end recyclers; involvement and support of local government bodies like municipalities, ULBs, village panchayats, awareness of stakeholders / households / communities/ RWAs, compliance with regulatory aspects, availability of adequate funds, amongst others. Economically, Mutual agreements with back-end recyclers for most appropriate remuneration and terms, conditions; market-based payments to the waste pickers on collection; ease of transportation of plastic waste to back-end recyclers.
10. At present conditions, 4 immediate causes are considered to be under the Development challenge, described in the underlined paragraphs to follow, based mainly in **five structural causes**:
  - (i) Lack of precise knowledge about generation, Life Cycle Analysis (LCA), materials flows, impact on environment and health and waste management cost for policy development.
  - (ii) Economic interests of plastics producing companies and large plastic packaging users.
  - (iii) Society consumption patterns.
  - (iv) Low cost and good properties: resistance to water, heat keeping and transparency; and,
  - (v) Waste management (mainly collection and separation) difficult to establish owed to social reasons
11. Extensive use as packaging material (50% single use). Because of its properties mentioned in paragraph 1, plastic has become almost ubiquitous in its use for packaging: liquids, solids, food raw or cooked, etc. Additional characteristics of plastics are its ease of manufacture and of packaging itself and its low relative cost. Therefore, it is used at all levels of products distribution and sales; from street sellers, farmer's vegetable/fruit markets and small convenience stores, up to food markets and large drinks and food producers.
12. Extended use by "Large industrial consumers" with externalities of use/disposal paid for by government/society. In particular, in cases of food and drinks packaging by manufacturing industries, "food chain" and large supermarkets, it enables very convenient packaging of a large number of products. This, combined with the need to show (transparency) the products and the ease with which the buyers could carry products, makes for their extensive use.
13. Lack of innovative/ effective management approaches. Waste management approaches from industrially developed countries do not apply directly to our countries. Large waste to energy facilities is but one of feasible solutions. Also, collection and management methods by the governments have been developing over the years, but mostly focussed on cost effective disposal options and less stressing on people's participation at all stages of plastic/waste management.
14. Collection and recycling of plastic litter difficult and insufficient because of mixing (soiling) with organics, mixed plastic types, low recycling value. While technology exists to recycle most kinds of plastic, a lack of infrastructure, collection systems prevent all but the most widespread kind of plastic from being recycled. Collection becomes expensive because plastic bags and bottles are soiled, scattered and spread all over, and are light and bulky, which makes it not so easy to efficiently collect and transport significant quantities for recycling to work, communities of practice (waste pickers) must be able to cost effectively collect and sort plastic waste, supported by the back-end recyclers which must be able to accept and pay appropriately for the plastic waste materials.
15. The proposed project is consistent with UNEA 2, Resolution 11 where several aspects presented in this Proposal are considered and actions recommended. Among other, those in the following paragraphs:
16. *(7) Stresses that prevention and environmentally sound management of waste, is key to long-term success in combating marine pollution, including marine plastic debris and micro plastics, and calls on Member States to establish and implement necessary policies, regulatory frameworks and measures consistent with the waste hierarchy and in this context Member States stress the importance of providing capacity-building, and should consider financial assistance to developing countries, least developed countries and in particular Small Island Developing States for the realization of these objectives;*

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<sup>2</sup> UWEP (urban waste expertise program) report on plastic recycling in Bangalore, India, December 1997.

UNEA (United Nations Environment Assembly)

17. (13) Encourages Governments at all levels to further develop partnerships with industry and civil society and the establishment of public-private partnerships, including with regard to environmentally friendly alternatives to plastic packaging and deposit refund systems, to raise awareness of the sources and negative effects of and possible measures for reducing marine plastic debris and micro plastics (defined as those with size smaller than 5 mm, GESAMPT, 2015), to promote individual and corporate behaviour change and to cooperate on the prevention and clean-up of marine plastic debris and invites in that regard initiatives for the development of sustainable tourism, including through the 10YFP Sustainable Tourism Programme;
18. (15) Underlines the need for the sharing of knowledge and experience on the best available techniques and environmental practices for reducing littering from the fishing industry and aquaculture and to implement pilot projects where appropriate, including in respect of deposit schemes, voluntary agreements and recovery, in particular through prevention, (3Rs) reduction, reuse and recycle;
19. The project will have main impact on sustainable development goals (SDGs) no. 1 (No poverty), 3 (Ensure healthy lives and promote well-being for all at all ages), 5 (Gender equality), 8 (Decent work and economic growth), 11 (Sustainable cities and communities), 12 (Ensure sustainable consumption and production patterns) and 17 (Partnerships for the goals), but with also considerable effects in all of them.
20. Project may also contribute to India’s Smart Cities Mission, in its feature 8, “Applying Smart Solutions to infrastructure and services in area-based development to make them better. For example, making areas less vulnerable to disasters, using fewer resources, and providing cheaper services”, by an improved plastic waste management, but mainly
21. The development challenge, as referred to the problem tree is presented in **Figure 2**



**Figure 2: Theory of Change, Problem Tree, for Plastics waste management in India**

## I. STRATEGY

22. Based on the above described development challenge, India recognizes the status, advances and needs for Plastic waste management. The proposed project will allow feasibility to demonstrate improvement in plastic waste management in the country. Involvement of and the financial assistance from donors will be very important in achieving this more rapidly over the coming years. It is also seen as an opportunity to ensure that the country has the technical, institutional and regulatory elements available to manage plastic waste management in a manner consistent with economic development, country practices and fully aligned with national programs and plans, in particular with India’s Swachh Bara Mission (SBM).
23. The objective of the proposed project is: **To minimize negative impacts and risks to environment and to human health in India, by enhancing sustainable Plastic Waste Management practices, through a socio-technical model (segregation collection/ recycling), its institutionalization with respective governance mechanisms, and ensuring compliance with regulations to improve use of resources and socio-economic conditions of waste pickers in line with the Plastic Waste Management (amendment) Rules, 2021 and subsequent amendments and the Swachh Bharat Mission in India.** The

strategy is directed to address immediate causes with donors as co-financing funding to the state and central government funds, by establishing an Economically Sustainable Business Models (ESBMs) for improved plastic waste management, piloted and implemented in 25 cities in stage I and 25 cities in stage II by establishing.

24. Plastic Recycling - Material Recycling Facility Centres as (*Swachhta Kendra*), their Institutionalization in governance bodies in each of the cities and achieving improved socio-economic conditions of waste pickers, complemented by development of a knowledge management, monitoring and communication system, and through this, address structural issues for a lasting solution. A note on how the Swachhta Kendras (SKs) will complement work is **attached in Annex A**.
25. To achieve these objectives, project activities include **4 main components**, which are described in the paragraphs below, as an integrated approach that builds upon few previous projects and initiatives. Preferred strategic organization of activities is in pilot projects, which serve as “operational units”, for a better control and administration.
26. **Component 1:** will address most of the immediate causes of the development challenge above by **establishing the foundation of a Socio-technical model for plastic waste management, through the following elements**. First, by development of a baseline system of plastic waste management covering plastic waste generation, collection, and segregation; and recycling/other end use options, health and environmental impacts at government and project levels. This will also allow to determine a Mass Flow Balance of plastic waste materials, at its end-of-life stage; particular focus will be on PET (used mainly for bottles), High Density Polyethylene (HDPE) used for carrying groceries and to Low Density Polyethylene (LDPE) used mainly for multiple applications, the first due to its relatively easier collection (because of its clear identification in its extensive use as drinks containers), and second and third plastic types due to their ubiquity in use and their relative difficulty in collection. Secondly, by creating an enabling environment for plastics recycling through strengthening of responsible parties\* and service providers\*\* to effectively manage, enhance and maintain facilities for plastic waste recycling at selected pilot cities and government institutions at the different levels, mainly through awareness and training; Thirdly by selecting key stakeholders and project’s operation units and signing covenants or agreements with them, in order to test the implementation of model, whose essential part is the participation of the *Safai sathis* as an essential component; and finally by developing a regulatory needs gap analysis and proposal’s for overall sound plastic waste management These will address the integral management of plastic waste, including from classification of plastics types, collection, segregation up to end-of-life options such as road making, fuel in kilns and particularly recycling.

*Responsible Parties (RP) NGOs & Civil Society Organizations (CSOs), SHGs will be onboarded as implementation partner through Responsible Party Agreement. \*\*All other partners for implementation will be onboarded through Professional contracts as “service providers” (SP) which shall include private entities., Government entities sign a letter of agreement.*

27. The **figure 3** clearly defines the cyclic approach for implementation of the project on plastic waste management and recycling in Cities and the total number of waste pickers involved and the waste collected. The project will continue its intervention for 4 years in each city; withdrawing in a sustainable manner in every city through a more institutionalized process with the Municipal Corporation/Municipality and the support responsible parties/service provider facilitating the process, however the total time period for the project is for 6 Years.

S. No	Activities	1 <sup>st</sup> Year 2018-2019	2 <sup>nd</sup> Year 2020	3 <sup>rd</sup> Year 2021	4 <sup>th</sup> Year 2022	5 <sup>th</sup> Year 2023	6 <sup>th</sup> Year 2024
1	Start-up of Cities	10	15	25		-	-
3	Adding more Cities		15	25			
4	Placing the regional team members in States (Offices)#.	03	05	10	10		
5	Total waste pickers integrated	7000	14,000	21,000	35,000	-	-
6	Waste Collection and processing at the Swachhta Kendras	1.2 kgs per day per city	2.0 MT per day per city	3.0 MT per day per city	2.5 MT per day per city	1.5 MT per day per city	100kgs per day per city

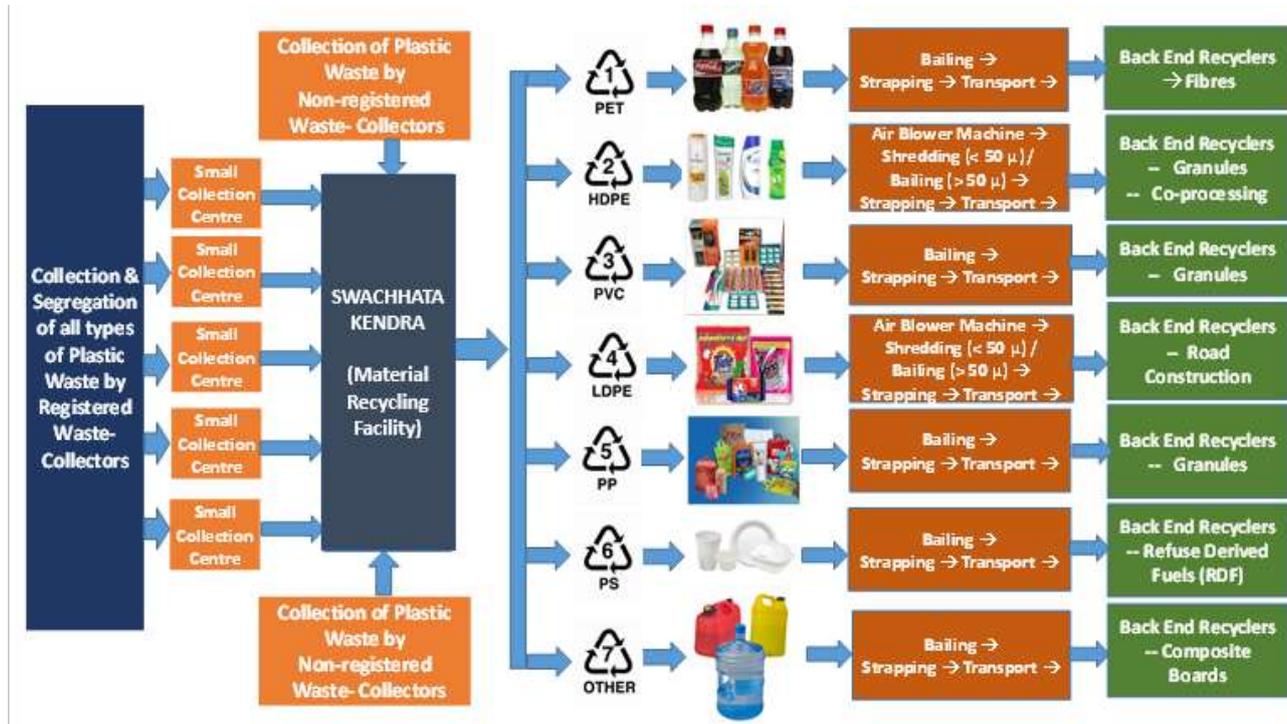
\* Increase in plastic waste collection quantity has been considered based on increase in awareness and population growth.

# as required will be placed, may be as consultants.

**Figure 3: Adoption of the Cities in stages.**

28. The reasons for choosing the 50 number of cities are based on the following. There are 300 Class I Cities in India, with populations over 100,000 inhabitants. A sample of 10 cities (3%) in year 1 will allow exploring behaviour of project impact and providing basis for year 2; in this year 2 expansion into 16% of total Class I cities, mainstreaming will be tested; the population fraction represented by the 50 cities is less than 10% of India.
29. **Component 2:** aimed to address mainly second, third and fourth immediate causes of development challenge, will **demonstrate model implementation via Swachhta Kendras (SKs) which are the integrated decentralized dry waste handling facility (DRWHF) / (Material Recycling Facility Centres (MRFCs) set up for improved plastic waste management. This will be achieved through the establishment and demonstration of an economically sustainable (business) model of the SKs**, and its pilot establishment in a number of up to 50 cities in India, for collection, segregation, transport, processing and disposal of plastic waste and its preparation for recycling or other feasible options; in two time stages and in two group’s sizes of units; consideration will also be given to development of innovative methods for mechanical recycling/upcycling; including improved

segregation into different categories of plastic wastes so as to improve the quality of the recycled materials. This would enhance rates paid by recyclers to waste pickers per/kg of plastic waste as the recyclers would improve their earnings through higher prices fetched by improved quality of recycled material. Strategies for replication will be developed to stage 2, based on the results from stage 1, and in turn, scaling up to cover the whole country would be suggested based on stage 2 implementation results. It is proposed that in each city 10 municipal wards (with around 7000 household, 400 shops, religious centres, colleges, hospitals, markets, road side shops, and vegetable markets **etc per ward**) will be considered for collection of plastic waste by linking up with around 600/700 waste pickers. It is expected that around 2 tonnes of plastic waste will be collected per city per day. The gestation period to reach this level could be to up to 6-12 months. A more systemic approach for collection, segregation and recycling of plastic will be used as expressed in **Figure 4 below**.

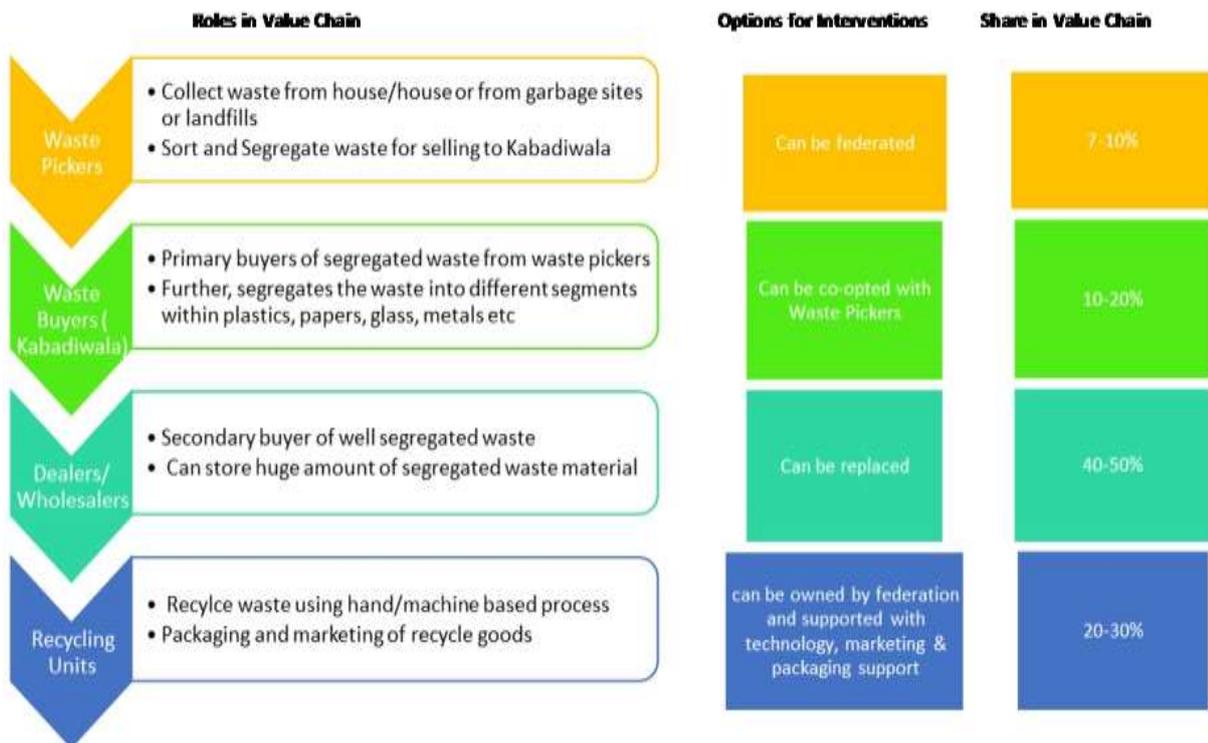


**Figure – 4: Systemic Approach for Plastic Waste Collection, Segregation and Recycling**

30. Waste plastics collected would be classified into 3 groups: (i) waste to be mechanically recycled into pellets plastic category-wise such as PET, PE, and PP; (ii) waste to be down-cycled to produce pellets for less demanding use's materials, such as HDPE, PVC, PS and Other; and (iii) waste to be used for making fuel, or shredding them and mixing with bitumen for road making, or for making lumber blocks for use in construction Through the business models, feasibility of each of the options will be assessed through cost benefit analysis and also taking into account environmental aspects. .
31. Selection of cities will take into account the need to cover cities falling under different socio-economic classifications, taking into account the urban growth rate, economic development, cosmopolitan status, metropolitan status, various population based classes like A class, B Class, C Class, etc. including the small towns. Keeping the above in view, criteria for selection of cities will, in addition to the population size, also include the waste generating potential, feasibility of implementation and responsible service providers and responsible parties. Also, donors will use to set up centers under their Extended Producer Responsibility areas.
32. This component would also have a technology backbone that would assist in establishing traceability, accountability and transparency in the project throughout across stakeholders such as citizens, Safai sathis, aggregators, back end recyclers, corporates, central and state governments as well as project management office.
33. **Component 3:** directed mainly to the third and fourth immediate causes; and will give sustainable solutions to institutionalize **Safai sathis (waste pickers) in governance bodies (Municipal Corporations/Municipality) and to obtain improved socio-economic conditions for waste pickers.** This will be achieved by incorporation of the plastic waste management model, into urban local bodies at city, state and national levels; by mainstreaming waste pickers' (*Safai sathis*) activities and strengthening self-help groups (SHGs) for *Safai sathis* to improve living conditions of waste pickers and their families. All the Safai sathis will be given identity cards to maintain their respect and dignity in the society. These cards will be issued by the Urban Local Bodies along with the facilitating service provider and responsible parties. Each member in the SHGs formed will be linked with bank accounts individually and group based. Regular savings and credit systems will be created for the members to meet their immediate credit (access) needs through the people's managed systems. This will lead to the locals (waste pickers) to agree, take decisions, and sharing costs etc.
34. **Component 4:** aimed to address the fifth development challenge; involves **thorough design and establishment of a knowledge management, monitoring and communication system.** The plastic waste management and recycling project considers technology as an important cornerstone of the project **covering traceability, accountability and digital governance.** Apps would be used to integrate all stakeholders into one digital cloud. This would enable access of real-time data from field for tracking the integrated plastic waste supply chain right from **point of collection to the end recycler** and a digital marketplace. The system will also document best practices from 25 cities (1<sup>st</sup> stage) and in 25 cities (2<sup>nd</sup> stage) in order to enable for the future replication, scaling up and implementation nationwide; it will also develop and establish guidelines for process based innovative practices';

most importantly, it will provide for an on-line Project results monitoring, reporting and information exchange protocol; and finally it will provide assessment of appropriate plastics recycling technologies including segregation.

35. **Component 5:** comprises of the project management aspects and costs. Detailed budget lines and the levels are clearly defined. More focus is to have systemic approaches during the project implementation.
36. **A key strategic link in the waste value chain are the waste pickers, which will take a relatively secure economic share of the value chain through the Swachhta Kendra in direct link and agreement with back-end recyclers.** The project will create a community led approach in formalizing and mainstreaming the informal sectors (waste pickers) in small SHGs leading to an integrated livelihood opportunity for them. Also, by strengthening of local institutions service providers and responsible parties to effectively manage, enhance and maintain facilities for plastic waste recycling at the selected cities. This model will involve municipalities, municipal corporations, state pollution control boards (SPCB) and other government organizations. Finally, the project must be able to offer better pricing for collected waste to ensure that the collection mechanism works effectively. Efficient plastic waste segregation category-wise would improve quality of recycled plastic, fetch a better price for recyclers and in turn enable them to pay higher price per kg of waste plastic. Recycling back-end companies face a wide range of risks and hazards from ergonomic risks, picking the recyclables to the risk management of storing, processing and manufacturing the end products. **They need to take measures to maintain reasonable worker's compensation and health insurance rates, lost work time and worker replacement cost expenses.** A schematic view of these aspects is present in **Figure 5.**



**Figure 5: Recyclable waste value chain**

37. Activities, results and lessons-learned from pilot projects will be documented and shared, in order to assure access to this information by the wider stakeholder community to the experiences and results of pilot projects. Annual workshops will be organized to created awareness, solicit feedback, and allow for networking among stakeholders during the project. Various activities will be developed for creating awareness on the various issues for clean, hygienic sanitation practices, education, and health for kin and kith of the waste pickers etc. Counselling and awareness will be provided to waste pickers on children education, schooling, violence to women/ girl child, drinking habit, gossiping habit, etc.
38. A regulation recently approved, which will give important support to development of this project, is the Plastic Waste Management (Amendment) Rules 2021 and subsequent amendments by Ministry of Environment Forest and Climate Change, Govt. of India which under section 9(1) of the Rules requires compulsory fulfilment of Extended Producer Responsibility regarding plastic waste. As per these rules plastics wastes which are recycled (recycling refers to transforming segregated plastic waste into a new product or raw materials for producing new products) has to be recycled and what cannot be recycled can be used for road making/ energy recovery. Care would also be taken to ensure that the guidelines brought out/to be brought out by CPCB in respect of multi layered plastics packaging materials, thermos-setting plastics etc are followed. Under Section 9(2), the primary responsibility for collection of used multi layered sachets or pouches or packaging is of producers, importers and brand owners who introduce the products to the market. They will be linked into the partnerships and the plans that will be submitted to the pollution control boards.
39. This strategy for this project draws on previous experiences gathered in this regard under the Small Grant Program of MoEF & CC, Government of India, and GEF UNDP. Additionally, UNDP LAC has recently submitted a proposal to GEF for plastic waste management in Latin America and Caribe, and which is in the process of evaluation.
40. Activities, results and lessons-learned from pilot projects will be documented and shared, in order to assure access to this information by the wider stakeholder community to the experiences and results of pilot projects. Annual workshops will be organized to created awareness, solicit feedback, and allow for networking among stakeholders during the project. Various activities will be developed for creating awareness on the various issues for clean, hygienic sanitation practices, education, and health for kin and kith of the waste pickers etc. Counselling and awareness will be provided to waste pickers on children education, schooling, violence to women/ girl child, drinking habit, gossiping habit, etc.

41. A regulation recently approved, which will give important support to development of this project, is the Plastic Waste Management Rules 2016 by Ministry of Environment Forest and Climate Change, Govt. of India which under section 9(1) of the Rules requires compulsory fulfilment of Extended Producer Responsibility regarding plastic waste. As per these rules plastics wastes which are recycled (recycling refers to transforming segregated plastic waste into a new product or raw materials for producing new products) has to be recycled and what cannot be recycled can be used for road making/ energy recovery. Care would also be taken to ensure that the guidelines brought out/to be brought out by CPCB in respect of multi layered plastics packaging materials, thermosetting plastics etc are followed. Under Section 9(2), the primary responsibility for collection of used multi layered sachets or pouches or packaging is of producers, importers and brand owners who introduce the products to the market. They will be linked into the partnerships and the plans will be submitted to the pollution control boards.
42. This strategy for this project draws on previous experiences gathered in this regard under the Small Grant Program of MoEF & CC, Government of India, and GEF UNDP. Additionally, UNDP LAC has recently submitted a proposal to GEF for plastic waste management in Latin America and Caribe, and which is in the process of evaluation.

## UNITED NATIONS DEVELOPMENT PROGRAMME

**PROJECT DOCUMENT****Country: INDIA**Empowered lives.  
Resilient nations.

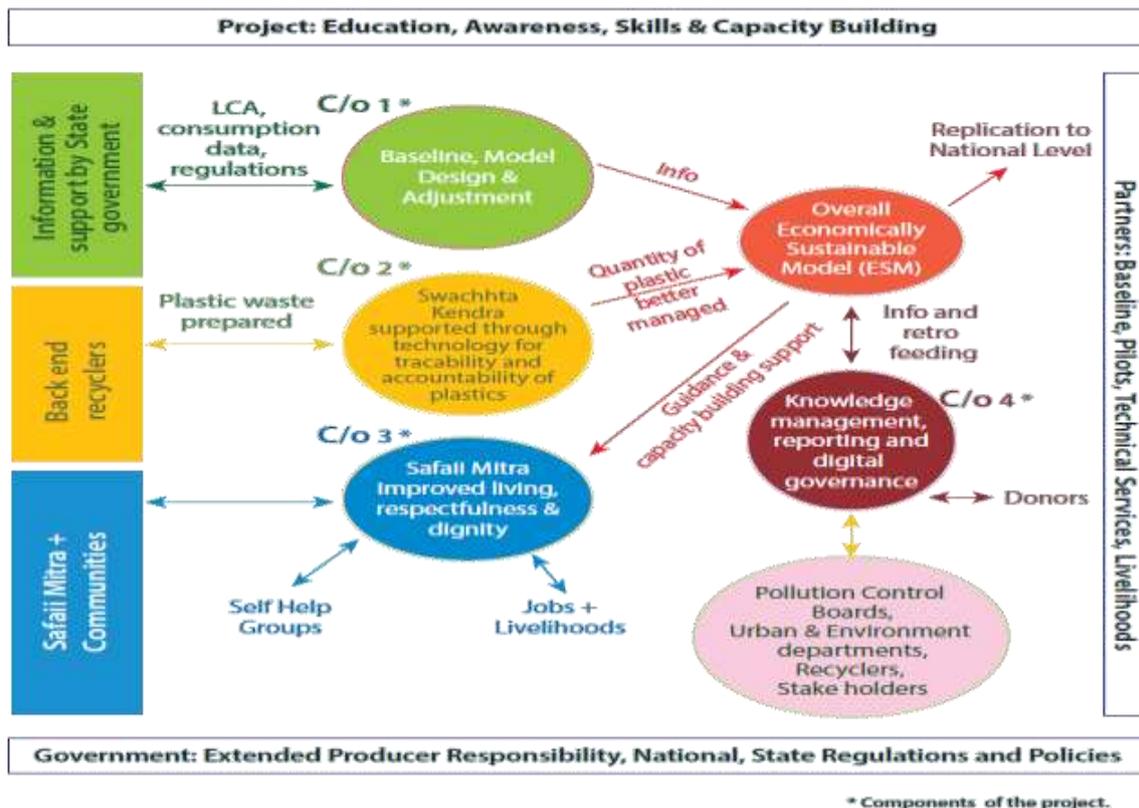
<b>Project Objective</b>	<b>To minimize negative impacts and risks to environment and to human health in India, by enhancing sustainable Plastic Waste Management practices, through a socio-technical model (separation/ collection/ recycling), its institutionalization with respective governance mechanisms, and ensuring compliance with regulations to improve use of resources and social conditions of waste pickers in line with Swacch Bharat Mission in India</b>			
<b>Project Components/ Outcomes</b>	1. Socio-technical model for packaging plastic waste management developed, supported and implemented.	2. Material Recovery Centres (Swacchta Kendra) for improved plastic waste management developed implemented	3. Institutionalization of Swacchta Kendra in governance bodies and improved socio-economic conditions of waste pickers obtained	4. Knowledge management, monitoring and communication system developed
<b>Project Outputs</b>	<p>1.1 Baseline of plastic waste management –generation to end use and health and environmental impacts developed</p> <p>1.2 Enabling environment for plastics recycling created</p> <p>1.3 Stakeholders selected and covenants/agreements obtained:</p> <p>1.4 Regulatory needs gap analysis and proposal's development for plastic waste sound management, including cleaner consumption, developed</p>	<p>2.1 Economically sustainable model for collection, segregation and transport demonstrated and established</p> <p>2.2 System for plastic waste preparation for recycling or other end-of-life designed and established</p> <p>2.3 Strategies for replication (to 2<sup>nd</sup> stage and to national scale) developed and documented</p>	<p>3.1 Institutionalization of plastic waste management into urban local bodies (at city, state and national levels) achieved</p> <p>3.2 Safai sathis' work as a service to society recognized and their mainstreaming started</p> <p>3.3 Self-help groups for Safai Mitra living improvements fostered and strengthened</p>	<p>4.1 Best practices in 9 cities (1st stage) and in 50 cities (2nd stage) documented</p> <p>4.2 Innovative practices' Guidelines developed and established</p> <p>4.3 Permanent and on-line Project results monitoring, reporting and information exchange protocol established</p>

**Figure 6: Theory of Change, Plastics waste management, Components and Output**

**PROJECT DOCUMENT****Country: INDIA****II. RESULTS AND PARTNERSHIPS*****Expected Results***

**Project Objective:** To minimize negative impacts and risks to environment and to human health in India, by enhancing sustainable Plastic Waste Management practices, through a socio-technical model (segregation/ collection/ recycling), its institutionalization with respective governance mechanisms, and ensuring compliance with regulations to improve use of resources and social conditions of waste pickers in line with Swachh Bharat Mission in India.

43. The project will mitigate the negative impacts and risks to the environment and also to human health in India, by promoting sound plastic waste management practices. As per conservative baseline estimates, the project will result in better management of more than 1,40,000MT for 6 years of plastic waste<sup>3</sup>, while positively impacting lives of approximately 44,000 waste pickers. Value of the plastic at baseline conditions is about 13.5 MUS\$/year<sup>4</sup>, which represents on average about 360 US\$/year for each of them. These benefits will also be extended and shared to other stakeholders involved, such as service providers and responsible parties. The project will also have a socially beneficial result by implementation of decentralized city-level management models of plastic waste management to promote recycling of plastics found in waste, while improving the use of resources and social conditions of waste-pickers in the cities. These results will be documented for replication and scaling up. It is proposed to ensure that compliance with existing regulations and gaps if any identified and brought up to the attention of authorities to strengthen the regulatory paradigm for plastic waste management improvement.
44. The objectives in the project will be achieved, as shown in **Figure 7 below**, by a combination of socio-technical interventions: Pilot Project in 10 (1<sup>st</sup> year) and 25 Cities (2<sup>nd</sup> year), replication and scaling up in 25 additional cities in 3<sup>rd</sup> year & 4<sup>th</sup> year, with a scheme of collaboration and shared responsibilities in initial stage with Urban Local Bodies (ULBs), State Pollution Boards and subsequent institutionalization. This will be supported by activities for strongly focused interaction awareness of key stakeholders at city, state and national levels, review of regulations gap analysis and suggestions for regulatory amendments



**Figure 7: Integrated approach of Project's activities, interaction and stakeholders**

<sup>3</sup> Estimation made with data from 34 cities, 1,177,545 ton/yr and projected into 50 cities, which amounts to 1,700,000 Ton; the figure represents 5% of the amount generated by the 50 cities

<sup>4</sup> Considering a unit value of 10 INR/kg and an Exchange rate of 63 INR/US\$

The following elaborates on the project structure and its four-component design by outcome, outputs and indicative activities.

**Component 1: Socio-technical model for packaging plastic waste management developed, supported and implemented.**

45. This component will focus on developing and implementing a sound socio-technical model for effective management of plastic waste at selected cities and locations. This would also entail support and active involvement of key stakeholders relevant to plastic waste management in urban areas in India for a holistic approach with convergence with the existing mechanisms and resources. This will also include an analysis of present regulatory mechanisms and practices followed, keeping in view current resources and technologies available in this space.
46. As stated above, various cities in India already have functional systems and bodies to ensure management of plastic waste. Yet, more integration is required particularly for creating an enabling environment, compliance to regulations while also covering various categories of plastic waste, including plastic bottles; and on the other hand, to mainstream the waste-pickers with these bodies and systems for their socio-economic well-being.

**Outcome 1)** Socio-technical model for effective plastic waste management developed and implemented with support and active involvement of key stakeholders; Present regulatory mechanisms analysed and sound practices in the model for plastic waste management developed.

The outputs to be produced under this outcome (and their corresponding activities) include:

**47. Activity 1.1 Baseline of plastic waste management including, waste generated and health and environment impact developed**

The project will develop the baseline covering the following aspects: the inventory of plastic waste generated per category (categories mentioned in Section I and in figure 1), Mass Flow Balance of the plastics waste, and overall insight into health and environment effects of plastic waste. The plastic waste management baseline would hence include a detailed study of complete life cycle of the plastic waste for the relevant categories, up to the end of life stage and cover collection, segregation and recycling or other options. It will also analyse current situation of existing systems for plastic waste management, including the 'human' component, the waste pickers and their status in the chain.

The baseline estimates hence would be instrumental in assessing the overall negative impacts of plastic waste, and also current systems and processes in place for its sustainable management.

**48. Activity 1.2 Enabling environment for plastics waste recycling created**

This activity will build and strengthen an enabling environment for integrated planning, collaboration, and exchange platforms at various levels.

One service provider or responsible party will be selected in each city and facilitated for implementation of the plastic recycling processes in each city, following UNDP selection process. As these service providers/responsible parties will be involved as key stakeholders in the model, learning mechanisms will be developed for them like training and exposure programs by means of training materials developed with key learnings from various modules and their 'bridge-like' roles in waste management chain. Additionally, training/exposure programs for all stakeholders, i.e. Municipalities, service providers, responsible parties, State Pollution Control Board (SPCB), etc. will be developed to foster adequate capacity to plan, implement and maintain plastic waste recycling process at the individual and collective levels. Plans will also be developed and implemented for Information and Education Communication (IEC) and Behaviour Change Communication (BCC) for the involved actors in the model in all the cities selected for implementation.

For fostering inter-institutional learning and knowledge exchange between government and private players in waste management, exposure visits to successful plastic recycling centres within and outside the city or all the stakeholders will be organized for communities, government officials and local service providers and responsible parties.

A request to the concerned city wise Municipal Corporations/ Municipality for accessing land to set up a material recycling centre the – Swachh Kendra (SKs) initiated.

A stakeholder platform will be established in each city, to support effective plastic waste recycling processes as a part of knowledge and experience-sharing mechanism that is institutionalized. Along with this platform, regular multi-stakeholder workshops would be conducted to ensure sustainability of effective plastic waste recycling practices adopted.

**49. Activity 1.3 Stakeholders selected, and covenants/agreements obtained**

The first step to achieve this output would be to conduct a survey for identification and selection of key stakeholders in each of the 50 cities like urban local bodies (Municipalities/ Municipal Corporations/ Nagar Nigam/ Nagar Parishad etc as relevant), local service providers/ responsible parties, and Back End Recyclers who are keen to participate in the exercise. For 1<sup>st</sup> stage, 25 cities will be taken in account and for Stage 2, 25 additional cities will be covered. Initially 10 wards in each city will be selected to set up and implement a systemic approach in a small part of the whole city. The successful model will be replicated at a later stage to cover the rest of the wards in the city. Agreement will be signed with local service providers/responsible parties selected in each city as per UNDP process, for operating the recycling activities (i.e. collection, segregation, recycling etc. through waste pickers) and managing the small recycling centres and main recycling centre at each city.

It is proposed that in each city 10 municipal wards (with around 7000 household, 200 shops, 2-3 colleges, 10-15 religious places of worship, vegetable yards-markets, 100 road side vendors per ward) will be considered for collection of plastic waste by linking with around 400-500 waste pickers per city.

Other important agreements to be obtained will be: certification signed with the waste pickers of each city ward for collection and segregation of plastic waste at a defined pricing that they will receive, mutual agreement signed with the local municipalities for providing the land and for setting the recycling centres (subject to availability of capital like land/ space/ machinery), and mutual agreement signed with final plastic end-of-life processors and other users/recyclers.

**50. Activity 1.4 Regulatory needs gap analysis and proposal's development for plastic waste sound management, including cleaner consumption, developed**

Regulations on plastic waste management are in place in India, and compliance is key responsibility of the 'producer' and the urban local bodies like municipalities, municipal corporations, etc. However, still gaps exist at regulatory and implementation levels, and hence a needs gap analysis will be done for proposing areas where greater clarity is required, considering the following:

- Greater Clarity on Extended Producer Responsibility for regulation for plastic bottles
- Compliance to regulations, in particular related to the various categories of plastic
- A sustainable and long-term solution of cleaner consumption

Activities will also include conducting a legal review and gap analysis, development of proposal for regulatory amendments in terms of specifications/ regulations for plastic bottles including cleaner consumption, inclusions of types and categories of plastics, conducting advocacy workshops/consultations on required regulatory amendments and formulating comprehensive proposal for consideration of authorities.

**Component 2: Pilot Material Recycling Centres\_(Swacchta Kendras) for improved plastic waste management implemented.**

51. This component will be focussed on acquiring the requisite technical knowledge to implement the city- level project units to be known as *Swacchta Kendras* for improved plastic waste management in the administrative wards of selected 25 cities in stage I and remaining 25 cities II. The outcome to be achieved under this component entails establishment of city level units with technical knowledge, technologies and economically sustainable principles and modelling.

**Outcome 2)** Technical Knowledge, technologies and economically sustainability model components for plastic waste management developed and established

The outputs to be produced under this outcome (and their corresponding activities) include:

**52. Activity 2.1 Economically sustainable model for collection, segregation and transport demonstrated and established.**

The activity will be establishment of *Swacchta Kendras*, the **plastic waste material collection cum recycling centres** in selected 50 cities of India where the plastic waste will be collected, sorted, segregated based on their qualities and thickness; and pre-processed (e.g. shredding, bailing, extruding, etc.) as per the end use requirement, in particular for the back-end recyclers. Back end recycling only to mechanical recycling including category-wise segregation, melting and extrusion, and for other plastic waste management options (down-cycling included), referring to Co-incineration, use in road construction, producing goods with less demanding properties, etc. Requisite contracts and agreements will be acquired with back end (State Pollution Control Board) registered recyclers for re-processing the different plastics in an environmentally sound manner.

Thinking about related issues to plastic waste like human hair collection, processing to extract amino acids for making plant growth promoters, giving a fillip to the integrated approach at the *Swacchta Kendra* (SKs).

Some of the plastic segregated and processed will be utilized by the women SHGs, by their enterprises that will be developed and promoted in the model. Training programs will be conducted for all households in catchment areas of municipal wards, Resident welfare associations (RWAs), local Waste pickers (Safai sathis) and government functionaries for implementation of cost effective collection and segregation of plastic waste.

This output will also entail establishment of links with the Municipal Corporations (MCs)/ Municipalities on the collection processes. Applications will be submitted to Municipal Corporations/ Municipalities to take allocation of wards; designated area based approach to be followed and necessary permissions as required will be taken with State Pollution Control Boards (SPCBs) for transportation of bailed plastic waste.

**53. Activity 2.2 System for plastic waste preparation for recycling or other end-of-life options designed and established**

The key activity here will be establishment of an adequate system for segregation of plastic waste based on the technical specifications like thickness, category, etc. The waste is processed accordingly considering the back-end recycling or other end-of-life requirement. At ward and city levels respectively, a decentralized model will be established, with small collection centers and one main collection centre for collection, segregation and transportation of plastic waste in each city. A standardized procedure will be implemented at each recycling center with respect to the collection, segregation, processing and recycling of plastic waste, with transport and logistics aspects also established.

Efficient implements / equipment (like *Fatka* machine, shredder, bailing machine, extruder, dry waste sorter etc.) will be installed for processing of the plastic waste before transporting to the backend recyclers. Proper price negotiations and agreements will be undertaken with the back end recyclers.

**54. Activity 2.3 Strategies for replication (to 2nd stage and to national scale) developed**

Learnings from 1<sup>st</sup> stage implementation in 10+15 cities will be documented to aid in strategies formulation for replication in 2<sup>nd</sup> stage additional 25 cities. The output will be designed blueprint for replication for 2<sup>nd</sup> stage from results and lessons learnt obtained in 1<sup>st</sup> stage. At the end of stage 2 (with 50 cities), the blueprint for replication at national scale from results and lessons learnt obtained in 2<sup>nd</sup> stage will be prepared.

**55. Activity 2.4 Technology for traceability and accountability for plastics**

Keeping the Swacchta Kendra as the focal point in technology will bring in transparency in the plastic waste recycling system. Traceability will be brought through data tracking of all material types at every point of transaction in the plastic supply chain. Mobile and web apps to be used by all key stakeholders of the program such as citizens, Safai sathis, municipalities / Urban Local Bodies, state and central government representatives, social enterprises / service providers/responsible parties such as NGOs, corporates etc. and the overall project management team. By connecting all stakeholders to a single digital platform can provide live updates, notifications, and better governance of the project. Further, there would be insights that could be received directly from field and could result in planning relevant interventions during the course of the development of the project.

**Component 3: Institutionalization of Swachhta kendras within governance bodies and improved socio-economic conditions of waste pickers obtained**

56. This component will focus on the institutionalization aspect for the Swachhta Kendras with Safai sathis activities which is critical to the success and long-term sustainability of the model by empowering them through various social security schemes. It is known that no such models exist at present. The responsibility of waste management overall lies with urban local bodies (ULBs) at city levels, but no uniform mechanisms across cities exist. Yet, working in isolation will not help achieve the expected outcomes, as critical factors for success of model will be sustainability, scale and autonomy. In addition, mainstreaming for waste-pickers (Safai sathis) would mean recognition of socio-economic security and dignity of labour. Hence, the model will need to be institutionalize them through the project with urban local bodies to be able to function in a sustainable manner.

**Outcome 3) Safai sathis** get institutionalized with governance bodies at respective city, state and national levels, leading to their mainstreaming and their improved socio-economic conditions

The outputs to be produced under this outcome (and their corresponding activities) include:

**57. Activity3.1 Institutionalization of plastic waste management into urban local bodies (at city, state and national levels) achieved.**

The Waste pickers (Safai sathis) will be involved in *Swacchta Kendras* as contractual employees and will be given identity cards from the respective municipalities / municipal corporations and will be covered under social security measures (like health insurance cover, pensions, free medical treatment at government hospital, routine vaccination, etc.) vesting them with dignity and respect. This will be an important step in mainstreaming the waste-pickers by also recognizing their work as a contribution to the society.

In addition, meetings with the respective state environment, social security departments and officials and related stakeholders at all levels will be held to consider their active involvement, including that with the waste pickers.

**58. Activity3.2 Safai sathis' work as a service to society recognized and their mainstreaming started.**

As of now, there is no reliable estimate of numbers of the waste-pickers in India. A national survey of Safai Mitra will be started to assess their numbers and conditions covering socio-economic aspects.

Attention to safety precautions, apart from insurance measures, social security measures, can't be overlooked for the waste pickers; that's because the biggest causes of the more exclusive workplace injuries to waste pickers/workers result are not from accidents but from typical routine activities – like sorting of plastics, lifting and pushing, which are still the number one cause of on-the-job injuries in the waste industry. These Safai sathis are hence exposed to many occupational hazards, in addition to their socio-economic vulnerabilities. Hence, these Safai sathis will be trained in best practices, safety, and health and gender issues to achieve improvement in their socio-economic well-being. Technologies will be sourced to reduce drudgery and better performance; more emphasis will be for Safai sathis to acquire better skills based trainings for better enterprise management. Market and financial based trainings, and on better plastic handling through various R&D and academic institutes will also be organised.

**Activity 3.3 Self-help groups of Safai sathis fostered and strengthened** Another important approach here will be to create a community-centric approach in institutionalizing and mainstreaming the men and women waste pickers in small self-help groups (SHGs), to facilitate their linking to banks, ensuring social security measures, identity cards issued through the Municipalities/ Municipal Corporations, etc.

According to learning from the workshop conducted by UNDP during the project's design phase, gender aspects related to the project's activities can be considered to be the following:

**Waste pickers:** An estimated 1.5 million people in India make a living out of waste picking from streets and households, and its segregation. Although no reliable data exists, it is recognized that about 80% of these informal waste pickers are women. The communities are among the most marginalized ones, and are often belonging to a particular caste.

Hence, gender will be considered as an important aspect for the project. Women self-help groups will be formed and they will be trained as entrepreneurs for creative market based items like toys, pillows, rugs, bags, handicrafts, etc. using plastic and related waste. They will also be supported with linkages to the banks, and market for ensuring sustainable enterprises.

The project will target the following four levels:

1. Bridging the information gap in terms of market and financial linkages for better remuneration;
2. Skills for performing their roles in enterprises for increased incomes;
3. Entrepreneurship support and development, and
4. Access to credit from banks

**Component 4: Knowledge management, monitoring and communication system developed**

59. This component will encompass design and development of knowledge management mechanisms for an established in-built adoptive feedback system from project results at various stages for the entire project duration. This would be achieved through the help of a technology platform for data input, management, real-time insights and overall operations management digitally.

**Outcome 4)** Knowledge management mechanisms integrating monitoring and communication developed, established and documented for in-built adoptive feedback systems from project results at various stages along the entire duration.

The outputs to be produced under this outcome (and their corresponding activities) include:

**60. Activity 4.1 Best practices in 25 cities (1st stage) and in 25 cities (2nd stage) documented**

This activity will involve developing learning and knowledge management mechanisms, including documentation and recording of all such aspects that may be instrumental in knowledge dissemination during and even beyond the project period to enable various stakeholders/ actors in the ecosystem to replicate the project template, both within and outside the project area.

Hence, best practices will be documented and published as lessons over the project period, during both 1<sup>st</sup> and 2<sup>nd</sup> stage. Manuals will be developed on process steps for development of comprehensive, community-led, plastic recycling centres in each city. 10 short films, videos, leaflets, stickers, brochures, will be developed reflecting the best practices on plastic waste management adopted through project initiatives.

Necessary training materials, in local languages will be developed for each activity related to project implementation. Necessary training programs, workshops will be organized at the community level to include awareness as well as implementation activities.

Training program for service providers/responsible parties will include one workshop at each city; go to city and identify the area of operation; allocation of ward through municipality / corporation; waste pickers identification, weekly meeting with waste pickers; counselling, etc.

**61. Activity 4.2 Innovative plastic waste management- and technologies information exchange platform developed and established**

Under this activity, systems for plastic waste management, both at technological and management levels with methodologies of recycling/upcycling will be developed and established at city levels. As already mentioned, these will be established in 25 cities in 1<sup>st</sup> stage and will be expanded to a total of 50 cities at 2<sup>nd</sup> stage. The design systems will be selected, with service providers/responsible parties' selection in each city with which requisite agreements will be signed. It is important to note here that there may be multiple locally relevant innovations that can come into picture at various levels.

As a part of the project, efforts will be made to promote R&D in developing value-added products using waste plastics. To exchange knowledge about innovative mechanisms and technologies adopted for plastic waste management, an exchange platform will be established and institutionalized. It will include the following activities:

- One workshop will be held every six months for representatives of project cities including Municipality and Women Self-Help Group representatives to facilitate cross-learning and convergence across project cities.
- One workshop each year for representatives of all 50 cities and other stakeholders to share achievements, discuss challenges and solutions to ensure collective efforts for environmentally safe plastic waste recycling processes in the project area
- Two multi-stakeholder workshops will be conducted during the project period to disseminate project learnings including identifying solutions to significant challenges in the project initiatives.

**62. Activity 4.3 Permanent and on-line Project results monitoring, reporting and information exchange protocol established**

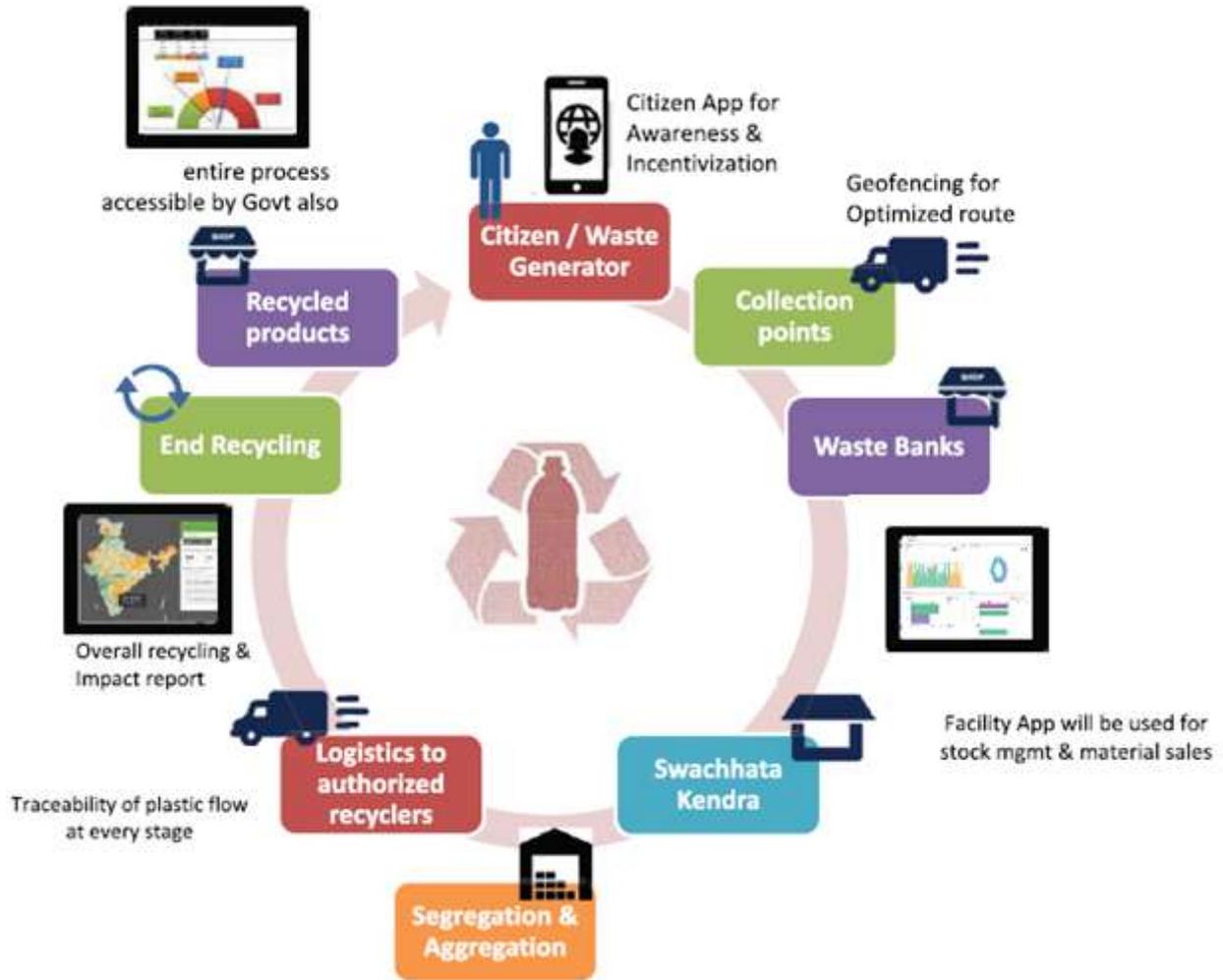
This Activity will include development and establishment of a sustainable pricing system, city based, for payment to the Safai sathis against the quantity of plastic waste collected and segregated every day.

Standard operating procedures (SOP) will be prepared and implemented for collection, segregation, processing, packaging and transportation of plastic waste thereby ensuring the sustainable utilization of the plastic recycling centres. Operational manuals will be developed to specify detailed operating procedures including financial management processes for effective implementation of project activities.

Monitoring processes and mechanisms developed for regular, ongoing monitoring of quality and progress against planned activities and results. To ensure decentralized monitoring approach, a community-led system for ongoing monitoring and reporting of the utilization of the plastic waste recycling centres will be developed and strengthened at all levels for all stakeholders. Proper dash boards will be created to share results.

**63. Activity 4.4 Technology based digital governance and reporting**

Project will incorporate a technology platform right from the planning stage resulting in systematic rollout and access of right information at right time.



**Figure 8: Technology for Traceability, Accountability & Digital Governance**

This can be achieved through mobile apps connected to a central cloud infrastructure covering the following stakeholders:

- **Citizens as the communities of practice** would access to apps - to request services, provide feedback, make digital payments, etc.
- **Waste collectors and waste pickers (Safai sathis)** get registered in the system and get their ID card suitably authenticated by the concerned Urban Local Body (ULB) and the Implementing partner
- **Waste flow** is tracked at every stage, including at the material recycling centers/transit centres as well as to identify the source of waste and the concerned waste collectors/waste picker. This is enabled through the **Unique QR codes, GPS based tracking** and Role-based access control to ensure security and easy governance.
- **Multiple reports** will be generated for various stakeholders of the programme such as municipal bodies, local implementation partners and operations team. This would help for analytics and to plan suitable interventions. All stakeholders will be provided access for online information
- **Feedback and course improvisations**, the system is flexible and responds to meet and address any improvisations, feedback and additions.
- **Project provides fair price market access to waste pickers/collectors**, through an app which shall be created to enable different waste pickers/collectors from recyclers, companies to discover products and services and transact with each other at the best price in every city.
- **Dashboards**, will be created locally at the city level and at project levels for governance. Same can be integrated into external smart city applications, or with connected ULBs through API and data interfaces.
- **Call Centre**, will be established centrally in the project for troubleshooting, feedback and any grievances or other issues and support the Implementing partner at every city. Access will be given to the related stakeholders in the city
- **Data Analytics and Security**, data regarding all issues on city basis will be analyzed on monthly basis and necessary decisions enacted,

- **IEC activities, trainings, workshops, design campaigns** etc. undertaken in the wards in a city will be captured digitally on municipal ward maps; accessibility (to see the actions) will be provided to the concerned stakeholders and impacts shall be assessed for each action over a period of time
- Social media interventions shall be used as much as possible for citizen sensitization and engagement during the program. **Facebook & Twitter** pages shall be created to get across periodic updates to everyone.

### **Resources Required to Achieve the Expected Results**

Resources required are detailed in the budget plan and consist mainly in the people that will operate the Swachhta Kendra at all levels that are: safai mitras, technical operators of the plastic preparation machines, organizing personnel, UNDP assigned staff member and consultants. Regarding physical resources, land and housing for the Swachhta Kendra as well as basic operating equipment for plastic preparation will be needed; also basic services for operation of the SK; and finally, with respect to partnerships, these will be essentially required for establishment and consolidation of project, such as State and City Municipal Corporations/ Municipalities. The project resource framework of USD (\$) 29,65,973 includes HCCBPL cost sharing to the tune of \$16,609,808, HUL of \$1,799,127, CAF (HDFC) of \$ 2,930,620, Donor (Dist. Admin, Jajpur) \$67,582, CCIF of \$ 863,010, CTSI of \$ 2,003,771, CAF (HUL) of \$ 73,892 and UNDP contribution upto \$ 430,000. The in-kind funding from other project counterparts is indicative which includes \$1,579,240 from NGOs, Recyclers, Banks, RWAs and \$3,294,923 from ULBs at respective state levels. Details are also at **Annexure F**.

### **Partnerships**

64. Sound plastic waste management will require multiple actions at different levels. The governments, private sector and community actors need enhanced capacities and appropriate technologies; the planning process needs to be transformed to become inclusive and bottom-up. The project will primarily be implemented by UNDP through the strategic collaborations with NGOs, municipalities/ municipal corporations of the respective city, state pollution control board, state government departments, Resident welfare associations and other Donors and Charities. UNDP will develop a systemic approach to link the government sectors like State Pollution Control Board, CIPET, PACE, ICPE, AIPAs, Municipalities / Corporations, ULBs with the informal sectors (waste pickers), the self-help groups (SGHs) and the Non-Government Organizations (NGOs). UNDP will develop formal contractual agreements for plastic recycling with NGOs and appropriate back end recyclers (BERs), and will also create a system for source segregation and value addition to the livelihoods of the waste pickers. It will explore various scientific and technical interventions to find the best possible uses of the recycled plastic in an environmentally safe and healthy manner. As part of the efforts to secure better payment to waste pickers for plastic waste collected by them, efforts will be made to promote R&D to develop value added materials from waste plastics by establishing partnerships with reputed institutions as CIPET.
65. Donors plays a crucial role as stake holder in this project that will provide the majority of the financial support for implementation of the project. As part of 5 by 20 Vision – 5 Million Women Entrepreneurs by 2020. Through this project, the donors will comply with the regulatory mechanisms, which emphasise the involvement of the manufacturers for setting-up plastic waste collection centres in line with the principles of extended producer's responsibility (EPR). Learn from other such programs nationally and through Government linked skills India. This will help in creating more jobs locally.
66. Other important stakeholders are service providers/responsible parties working closely with communities. They will be instrumental in reaching out to the grassroots because of their local presence, reach, flexibility of operations and rapport and so are advantageously positioned to work closely with the households and waste pickers outside the reach and realm of conventional development programs. Local government administration at the district and block level are also key stakeholders of the program. Further, engagement of private sector agencies will be crucial for bringing in technical and funding support for various project initiatives.

All these stakeholders will bring in requisite information, knowledge, skills and practices on plastic waste recycling. The details of different stakeholders and their indicative roles and responsibilities in the context of project are given in the following table.

**Table 1: Partnerships and supported activities through collaborative institutions**

Sr. No	Institutions	Indicative activities to be supported
1.	Donors	Donors will be the primary stakeholder in this project to finance the major portion for implementation of the project. The project team of donors will also provide technical guidance from time to time during the implementation and review of the project stages.
2.	Ministry of Housing and Urban Affairs and State and City Municipal Corporations/ Municipalities	MoHUA is the line ministry for the project and will also chair the Project Steering Committee. Municipal corporations / municipalities will be directly involved in the project to authorise collection funds from residents, enrolling the waste pickers verification and giving Identity Cards, also the required land/space, machinery for development of plastic waste recycling centres and the required vehicle for transportation of the plastic waste will be provided by the municipality of each of the selected cities.
3.	UNDP	UNDP will serve as the implementing agency for the project. Full activities and implementation strategy described in the project document and management arrangements
4.	Resident Welfare Associations and other Institutions	Resident Welfare Associations and other Institutions like Waste pickers, women self-help groups, etc. will be directly involved with the project and play a major role during collection and segregation of all types of plastic wastes. The project will concentrate more on livelihood creations and women empowerment in terms of enterprise development.

Sr. No	Institutions	Indicative activities to be supported
5.	Research and other Institutions	<p>Links and partnership will be made with CIPET (Central Institute Plastics Engineering and Technology, Chennai and its 32 regional and state centres. With other producers under the extended producer responsibility players, Reliance industries etc.</p> <p>Links to Ministry of Earth Sciences, Deptt. of science and technology for assessments of various new technologies. Link to national laboratories to determine testing of the grades, toxicity etc</p> <p>Indian Centre for Plastics in the Environment (ICPE), Mumbai, and with Plastic Industry centres at Hyderabad and Delhi (AIPMA and AIPIA) for technical support during the execution of the project. Links will be to learn the ongoing efforts in the management and recycling of plastics.</p> <p>Links will be strengthened with the Industry Associations like FICCI, PHD Chambers, ASSOCHAM and CII, to learn the steps taken for the necessary recycling plastic waste and also partner with them on various platforms to share experiences and learn lessons.</p>
6.	Private Entities	<p>Onboarding partners for implementation through Professional contracts as “service providers” which are engaged in dry/solid/plastic waste management for field implementation and operations at Material Recovery Centers. This could be recyclers, waste management agencies etc.</p>
7.	Civil Society	<p>With ongoing service providers/responsible parties engaged into plastic and solid waste management. Learn the principles, practices and incentive systems.</p>
8.	Technical Consultants	<p>Technical Consultants will be sourced to bring in technical inputs related to design, development, implementation etc. and review of the project. The consultants will also support in capacity building, technical monitoring, documentation and dissemination of project learning.</p>

### **Risks and Assumptions**

Mains risks are outlined in Table below. On the government (institutionalization) side some resistance might be encountered, since it may represent to include safai sathis as quasi-civil workers. On the safai sathis themselves, in some of the selected wards, they may not be convinced that they will obtain further benefits with their belonging to the organized operations. Regarding recyclers, they may be resistant to participate, since prices of their raw materials may be higher

## UNITED NATIONS DEVELOPMENT PROGRAMME

**PROJECT DOCUMENT****Country: INDIA**Empowered lives.  
Resilient nations.**Table: Risk & Mitigation Strategy**

#	Risk Category/Risk Subcategory	Cause	Event	Impact	Risk Treatment / Management Measures	Risk Owner	Risk Valid From/To	Impact Score	Likelihood Score	High Risk (Y/N)
1	OPERATIONAL/Land Identification & Approvals	Delays in getting land, utility connection like electricity & water connection and necessary approvals for initiating the operations within 4 - 6 months	Allocation of Land, Obtaining Permission/ Approvals from Local Authorities, electricity and water connections will be delayed in the by 4 -6 months post the launch of the new city	Delay in establishing the PWM system in the city within the cumulative project timelines of 4 years in cities	Follow up with ULB/local officials for fast tracking activities – land, electricity & water  Obtaining support in getting approvals from state UDD/MoHUA	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	Y
2	OPERATIONAL/Availability of waste at MRF	Inadequate support from ULBs for waste transportation. Inadequate linkages with local waste pickers/aggre	Availability of dry/plastic waste (quality & quantity) inflow into the MRF to reach 100% project	The PWM system will operate at reduced capacity and tonnage targets will not be achieved for donors	Planning & pre deciding the route map with local authorities, follow up with service provider managing the	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	N

		gators for 100% target achievement. Inadequate awareness amongst communities	specific target		MRF/Swachhta Kendra, creating awareness, engaging local communities etc. Close coordination with ULBs					
3	OPERATIONAL / Waste Management at the MRF/SK	Inefficient waste segregation, sorting at the Swachhta Kendra for 100% target achievement	Dry/plastic Waste handling at the Swachhta Kendra	Reduction in quantity and quality of segregated waste, decrease in achievement of tonnage target from 100%	Skilling/Training the waste pickers on segregation and sorting. Linking Safai Sathis with the social protection schemes, using digital interventions to track waste/data recording	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	N
4	OPERATIONAL/Market Linkages for recyclable plastic/dry waste	The market is informal in nature. There is a lack of registered recyclers in the country and as per CPCB 100% channelization of recyclable plastic waste should happen to	100% Channelization of recyclable plastic waste fraction to co-processors, for road laying, recyclers & their linkages	Non-Compliance with guidelines laid by CPCB  Reduction in financial health of MRF	Establish linkages with cement plants and road projects  Terms of Reference for Service Providers/responsible parties to have	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	N

		registered recyclers. High logistics cost to cement plants. Poor linkages with road laying projects			emphasise on end linkages					
5	OPERATIONAL / Service Provider onboarding	With waste management being an unorganized, hyperlocal and complex sector in India, it is difficult to find 2 - 3 agencies for each short-term procurement cases with required competencies as per the standard Terms of Reference conditions	Unavailability of Waste Management Agency/Service Provider for stop gap arrangement for the project	Delay in operationalization of the project by 2-3 months	Terms of Reference conditions for eligibility criteria of service provider to be flexible/open yet in line with project requirement with experience-based selection	PMU - Saloni Goel, Head – Circular Economy & PWM, Ramakrishna Bhatta, Project Officer - Finance & Operations	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likelihood	N

6	OPERATION AL/Quality of delivery of service providers/res possible parties	Long-time taken by service providers/res possible parties in delivering the activity results. Delay by around 3 - 6 months	Lack of experienced and well capacitated service providers/res possible parties in the area	Reduction in quality performance of the service provider. Delay in submitting qualitative reports to donors	Regular Capacity Building to be undertaken of the service providers, establishing digital monitoring systems.	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	N
7	OPERATION AL/Unprece- dented situations	Social unrest – Riots, civil disobedienc e movements. Natural disasters, floods, pandemic etc.	Unprece- dented situations /events outside the control of projects	Inability of abiding by the pre- decided timelines and results. Jobs, Income of waste pickers is impacted due to migratory reasons High operational costs Deliveries affected by 30 – 40 %	Capacity Building & Training in case of manmade hazards. In case of Natural disasters, a proper contingency plan to be prepared & adopted	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	Y

8	OCCUPATIONAL/Hazards while working	Negligence in 100% adoption of safety gears	Physical Hazards	The most common hazards include injury from sharp items, use of hand and power tools, and material handling, slips, and falls, temperature extremes and hazardous waste	Use of safety gears like gloves, mask, boots and proper clothing will minimize the risk and prevent potential accidental possibility at the site. A safety briefing at the project site should be conducted every month as a healthy practice to prevent physical hazards.	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	N
9	OCCUPATIONAL/Hazards while working	Personnel could contact waste and the typical pathogens contained therein most notably is tetanus.	Exposure to Site Contaminants	Water/Food borne diseases	All site personnel could be provided with tetanus immunizations Handwash at the end of work each day and before handling food. It is also	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	N

					suggested to keep a workplace uniform to maximize the prevention of contamination.					
10	OCCUPATIONAL/Hazards while working	During the operation at the site, there is potential for workers to contact biological hazards such as animals, insects, and plants. Animals such as mice, and snakes may be encountered.	Disease Vectors and Pests	Injury	Workers shall be well instructed to avoid all contact with animals. If these animals present a problem, efforts will be made to remove these animals from the site by contacting a licensed animal control technician	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	N
11	OCCUPATIONAL/Hazards while working	Material recovery facility deals with dry waste there is a potential hazard of ignition of the dry waste trough	Fire Hazards	Injury, loss of paper documentation, disruption in machine operations	Installation of fire extinguisher and other necessary fire safety equipment is must at MRF. Fire drills/training	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	Y

		external agents like flash, electric spark, nearby fire etc.			s to be given at regular intervals					
12	FINANCIAL / Budget availability and cash flow	Delay by 3 – 6 months in release of funds due to verification of document by donor, preparation of necessary document by UNDP etc.	Delay in release of funds from the donor by 3 – 6 months	Delay in project delivery	Timely submission of programmatic and financial report. Follow up with the donor to timely release of the funds	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Moderately Likely	Y
13	FINANCIAL / Corruption and fraud	Unethical practices followed by service provider/responsible party	Service provider receives advance and neither delivers nor refunds the amount.	Project activities stops in the city / location, delivery gets impacted	Safeguards mandated by UNDP with respect to advances and payments to be ensured	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project (4 years)	Intermediate	Low Likelihood	Y
14	FINANCIAL/ Premature closure of contracts/agreements	Market competitiveness, Incompetency of service provider, non-completion of timely deliverables	Premature closure of agreement by donors/service providers/responsible parties	Delay in project delivery by 3 – 6 months	Agreement to have clause on penalties	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project (4 years)	Intermediate	Low Likelihood	N

15	STITUTIONAL/Policy change/delay in notifications	Poor linkages to markets, recyclers resulting in losses in recycling.  Low incentives by the governments for the recycling industry, cement plants etc.	Policies, delay, change in guidelines of Plastic Waste /Solid Waste Management Rules	Inability of abiding by the pre-decided timelines of the project. Income of waste pickers is impacted. Investments in plastic waste have low rate of returns. Low interest by the donors for investments	Close coordination with government officials. Stakeholder consultations with stakeholders. Align project with new policy amendments. Equal wages to men and women. Encourage women participation	PMU – Saloni Goel, Head – Circular Economy & PWM	Risk valid throughout the project timeline (4 years)	Intermediate	Low Likelihood	N
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**PROJECT DOCUMENT****Country: INDIA****Stakeholder Engagement**67. Table 2: Key Stakeholders:

S. No.	Key Stakeholders	Strategies to ensure Key stakeholders are engaged
1.	State Pollution Control Boards (SPCBs)	The regulatory guidelines to be followed while implementing this project is presently the Plastic waste management (PWM) amendment and handling rules, 2021, which also includes and applies to plastic bags. The state pollution control board will be the authorized agency for monitoring the regulatory compliance during implementation of the project. The project will focus on all aspects of the PWM Rules.
2.	Ministry of Housing and Urban Affairs (MoHUA)  State Urban Development Government Departments	The project will be carried out in 50 selected cities in India. Hence, the local state government officials will have direct co-ordination during implementation of the project. MoHUA is the line Ministry for the project and also would be steering the Project Steering Committee. State Urban Development Government Departments will provide logistics support like bailing, transportation of the plastic waste to the agreed cement recyclers. Provide adequate space for setting up the Swachhta Kendras. Linking for the waste pickers for getting the hospital facility, fire brigade, water supply, electricity supply, etc. on day to day requirement basis. The project will maintain close coordination with the District Administration and Block Offices with Panchayat Samitis, Block Development Officers (BDOs) and Gram Panchayats to ensure administrative and political support for project initiatives.
3.	Swachh Bharat Mission; Urban Development Ministry	At later stages, with well-established model and successes, project could be covered in the ambit of Swachh Bharat Urban and the plastic waste could be utilized for higher value purposes, . But for this background research needs to be complete, with well-established model and established value chain and utility for these purposes; before Swachh Bharat Urban is approached.

**South-South and Triangular Cooperation (SSC/TrC)**

68. The project being of national and international importance will impinge upon all the knowledge available both in terms of technology, processes and systems for a more sustainable approach. Contacts and partnerships will be forged across programs and countries in the SOUTH\_SOUTH and Triangular Cooperation. In particular with the regional plastic project that is expecting approval from GEF for all Latin-America, in which some aspects are after similar results. This will be necessary to access both funds, knowledge and experiences existing in the project areas in plastic waste recycling. Special measures will also be taken to learn from the South Asian Association for Regional Cooperation (SAARC) Countries and also similar from the initiatives undertaken by FICCI and CII in collaboration with African Development fund created by the Government of India.
69. Additionally, project may benefit from the many initiatives that are popping up in many countries regarding plastic waste control and management. This will also be considered during implementation of activity for Output 4.2

**Knowledge Management**

Project specific videos/films, plastic waste toolkits, radio campaigns, will be created for knowledge dissemination.

Documentation of best practices, brochures, flyers, case studies for the waste collectors' families, etc will be developed and published.

**Sustainability and Scaling Up**

70. The project built from the lessons learnt from a small initiative which was implemented in two cities in India i.e. Bhopal and Indore; through the GEF UNDP small grants program. Given its success in setting up decentralized systems to plastic waste management and recycling; mainstreaming the waste pickers in the society. The project has a greater scope of setting up systemic approaches to plastic segregation, collection, management and recycling. With greater support from the local governance in cities, donors the project leverages on the current national priorities of Plastic Waste Recycling (Government of India Rules, 2016) and Swachh Bharat initiatives. Given the drive from the Government of India (GOI) in cities of India it is of greater significance that the project activities will create the desired impacts.
71. The project is supported by donors – Hindustan Coca Cola Beverages (HCCB), Hindustan Unilever (HUL), CTSI (Coca Cola Foundation (CCIF), CAF (HDFC Bank), Nayara Energy. This is being funded through the extended producer responsibility contributions.
72. Sustainability of system beyond project life will be supported by the economically sustainable model developed for the 50 SK, which by itself constitutes the basis of the project. The scaling up of the project is to be based in two specific outputs: 2.3 and 4.1. Whole project is designed as a first step for mainstreaming in the country; this will also be supported by feasibility studies for the projection into whole country

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### III. PROJECT MANAGEMENT

#### ***Cost Efficiency and Effectiveness***

73. Since this is a project that requires extensive use of human resources (Safai sathis, technicians, etc), efficient use of resources will be achieved only through minimization of personnel for the operation of the SK and through coordination of the operation of the 50 cities. There is no evidence of similar approaches in the country, since this will be first project of its kind. The selected pathway, of working in pilot cities representing the entire country, is considered to be the only way to approach the development challenge.
74. For efficient and effective project management hands on proposed project management team is shared at page no. 40 under Governance and Management arrangements.
75. **Location:**  
Project will be located in 50 cities PAN India please see annex E for details cities list.

#### IV. RESULTS FRAMEWORK<sup>5</sup>

**Intended Outcome as stated in the UNSDF Country Programme Results and Resource Framework:** By 2022, environmental and natural resource management is strengthened and communities have increased access to clean energy and are more resilient to climate change and disaster risks.

**Outcome indicators as stated in the Country Programme Document Results and Resources Framework, including baseline and targets:**

6.5 Integrated approaches adopted to reduce pollution and environmental degradation with a focus on chemicals and waste management. Baseline: 0 (2018) Target: tbd (2022)

**Applicable Output(s) from the UNDP Strategic Plan as mentioned in the CPD:** Countries are able to reduce the likelihood of conflict, and lower the risk of natural disasters, including from climate change.

**Project title and Atlas Project Number:** Plastic Waste Recycling Management: A Partnership; 00100826

EXPECTED OUTPUTS	OUTPUT INDICATORS <sup>6</sup>	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)						DATA COLLECTION METHODS & RISKS
			Value	Year	Year 1	Year 2	Year 3	Year 4	Year 5	FINAL	
<b>Output 3.2:</b> Effective solutions developed at national and subnational levels for sustainable management of natural resources and ecosystems, ozone depleting substances, chemicals and wastes	Indicator 3.2.1 Number of policies and programme promoting sustainable livelihoods and incorporating gender responsive strategies for natural resources and ecosystems management	<i>Central and state government reports, government steering committee meeting records (annual) information reports (annual); project documents and progress reports (annual), project evaluation reports</i> <i>Responsibility: the Government and project teams</i>	4	2017	4	5	6	7	7	7	<i>Interviews, FGDs, Surveys, City Municipal reports, etc.</i>  <i>No likelihood of risk in data collection.</i>
	Indicator 3.2.2: Number of scalable initiatives incorporating improved management of ozone depleting substances, chemicals and/or wastes	<i>Central and state government reports, government steering committee meeting records (annual) GEF project information reports (annual); project documents and progress reports (annual), project evaluation reports</i> <i>Responsibility: the Government and project teams</i>	2	2017	2	3	3	3	3	3	<i>Interviews, FGDs, Surveys, City Municipal reports, etc.</i>  <i>No likelihood of risk in data collection.</i>

<sup>5</sup> UNDP publishes its project information (indicators, baselines, targets and results) to meet the International Aid Transparency Initiative (IATI) standards. Make sure that indicators are

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S.M.A.R.T. (Specific, Measurable, Attainable, Relevant and Time-bound), provide accurate baselines and targets underpinned by reliable evidence and data, and avoid acronyms so that external audience clearly understand the results of the project.

<sup>6</sup> It is recommended that projects use output indicators from the Strategic Plan IRRF, as relevant, in addition to project-specific results indicators. Indicators should be disaggregated by sex or for other targeted groups where relevant.

## V. MONITORING AND EVALUATION

### Monitoring Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
<b>Track results progress</b>	Progress data against the results indicators in the <b>Results and Resource Framework (RRF)</b> will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly	Slower than expected progress will be addressed by project management.	Ongoing Monitoring Agency (OMA) and UNDP	Budgeted
<b>Monitor and Manage Risk</b>	Project will identify specific risks that may threaten achievement of intended results and monitor risk management actions using a risk log. This includes monitoring measures and plans that may have been required as per UNDP's Social and Environmental Standards. Audits will be conducted in accordance with UNDP's audit policy to manage financial risk.	Six Monthly	Risks will be identified by project management and actions n will be taken to manage risk. The risk log will be actively maintained to keep track of identified risks and actions taken.	OMA, UNDP	Budgeted
<b>Learn</b>	Knowledge, good practices and lessons will be captured regularly, as well as actively sourced from other projects and partners and integrated back into the project.	Six Monthly	Relevant lessons will be captured by the project team and will be used to inform management decisions.	OMA, UNDP	Budgeted
<b>Annual Project Quality Assurance</b>	The quality of the project will be assessed against UNDP's quality standards to identify project strengths and weaknesses and to inform management decision making to improve the project.	Annually	Areas of strength and weakness will be reviewed by project management and will be used to inform decisions to improve project performance.	OMA, UNDP	Budgeted
<b>Review and Make Course Corrections</b>	Internal review of data and evidence from all monitoring actions will be used to inform decision making.	Mid Term Evaluation	Performance data, risks, lessons and quality will be discussed by the Steering Committee and will be used to make course corrections.	OMA, UNDP	Budgeted
<b>Project Report</b>	A progress report will be presented to the Steering Committee and key stakeholders, consisting of progress data showing the results achieved against pre-defined annual targets at the output level, the annual project quality rating summary, an updated risk long with mitigation measures, and any evaluation or review reports prepared over the period.	Annually, and at the end of the project (final report)	Any qualitative, quantitative measures on the project outputs will be looked into.	OMA and UNDP	Budgeted
<b>Project Review by Steering Committee</b>	The project's governance mechanism (i.e., steering committee) will hold regular project reviews to assess the performance of the project and review the Multi-	Bi- Annually	Any quality concerns or slower than expected progress should be discussed by the Steering	OMA and UNDP	Budgeted

	Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Steering Committee shall hold an end-of project review to capture lessons learned and discuss opportunities for scaling up and to socialize project results and lessons learned with relevant audiences.		Committee and management actions agreed to address the issues identified.		
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## Evaluation Plan<sup>7</sup>

Evaluation Title	Partners (if joint)	Related Strategic Plan Output	UNDAF/CPD Outcome	Planned Completion Date	Key Evaluation Stakeholders	Cost and Source of Funding (USD)
Mid-Term Evaluation	Third party agency	Countries are able to reduce the likelihood of conflict, and lower the risk of natural disasters, including from climate change.	By 2022, environmental and natural resource management is strengthened, and communities have increased access to clean energy and are more resilient to climate change and disaster risks.	2022	MoEFCC, Municipal Corporations/Municipalities, Donor (HCCBPL and HUL)	70,000 Donor & UNDP
Terminal Evaluation				2024		

## VI. MULTI-YEAR WORK PLAN <sup>89</sup>

The below table represents the work plan of activities component wise linked through the funding agencies/brand owners.

**Table 6: Work Plan delineating component, funding source & budget breakup**

<sup>7</sup> Optional, if needed

<sup>8</sup> Cost definitions and classifications for programme and development effectiveness costs to be charged to the project are defined in the Executive Board decision DP/2010/32

<sup>9</sup> Changes to a project budget affecting the scope (outputs), completion date, or total estimated project costs require a formal budget revision that must be signed by the project board. In other cases, the UNDP programme manager alone may sign the revision provided the other signatories have no objection. This procedure may be applied for example when the purpose of the revision is only to re-phase activities among years.

## HCCB

Component	Activities	Planned Budget by Year						PLANNED BUDGET				Total Budget (50 cities for 6 years)
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Funding Source				
								HCCBPL	UNDP	NGO, Recyclers, Banks, RWAs (In- kind)	ULBs (In- kind)	
<b>Component 1: Socio-technical model for packaging plastic waste management developed, supported and implemented.</b>  <b>Indicator:</b> Number of studies and workshops conducted in cities <b>Baseline:</b> 0 <b>Target :</b> 50  <b>Gender marker: GEN2</b>	<b>Activity 1.1: Baseline of plastic waste management – generation to end use and health and environmental impacts developed</b>	34359	45897	76667	0	0	0	118462	0	38462	0	156923
	<b>Activity 1.2: Enabling environment for plastics recycling created</b>	769	1154	1923	0	0	0	0	0	0	3846	3846
	<b>Activity 1.3: Stakeholders selected and covenants/agreements obtained</b>	42513	106090	214551	225128	101205	59551	626154	0	122885	0	749038
	<b>Activity 1.4: Regulatory needs gap analysis and proposal's development for plastic waste sound management, including cleaner consumption, developed</b>	20000	14623	14622	14623	14622	14623	0	150000	0	0	150000
	<b>Monitoring</b>	15385	3846	3846	3846	3846	3846	34615	0	0	0	34615

	<b>Total for Component 1</b>	113026	171610	311609	243597	119673	78020	779231	150000	161346	3846	1094423
<b>Component 2: Project Outcome 2: Material Recovery Centres (Swacchta Kendra) for improved plastic waste management developed implemented</b>  <b>Indicator: Number of Swachhata Kendras set up in cities Baseline: 0 Target : 50</b>  <b>Gender marker: GEN2</b>	<b>Activity 2.1 Economically sustainable model for collection, segregation and transport demonstrated and established</b>	416154	771154	1407692	623077	467692	292308	1946346	0	963269	1068462	3978077
	<b>Activity 2.2 System for plastic waste preparation for recycling or other end- of-life designed and established</b>	291385	643846	1245385	1137692	929385	616923	4163846	0	240000	460769	4864615
	<b>Activity 2.3 Strategies for replication (to 2nd stage and to national scale) developed and documented</b>	83077	200000	396154	376923	301538	188462	1269308	0	191923	84923	1546154
	<b>Monitoring</b>	15385	3846	3846	3846	3846	3846	34615	0	0	0	34615
	<b>Total for Component 2</b>	806000	1618846	3053077	2141538	1702462	1101538	7414115	0	1395192	1614154	10423462
<b>Component 3: Institutionalization of Safi Sathis governance bodies and improved socio- economic conditions of waste pickers obtained</b>	<b>Activity 3.1 Institutionalization of plastic waste management into urban local bodies (at city, state and national levels) achieved</b>	13077	28846	55769	48077	38462	24038	63894	0	5913	138462	208269
	<b>Activity 3.2 Safai Sathis' work as a service to society recognized and their mainstreaming started</b>	240769	371154	626923	423077	30769	19231	156673	0	16788	1538462	1711923

<b>Indicator:</b> Number of waste collectors on board <b>Baseline:</b> 0 <b>Target :</b> 35000  <b>Gender marker:</b> <b>GEN2</b>	<b>Activity 3.3</b> <b>Self-help groups for Safai Mitra living improvements fostered and strengthened</b>	130154	216923	433846	433846	433846	216923	1865538	0	0	0	1865538
	<b>Monitoring</b>	15385	3846	3846	3846	3846	3846	34615	0	0	0	34615
	<b>Total for Component 3</b>	399385	620769	1120385	908846	506923	264038	2120721	0	22702	1676923	3820346
<b>Component 4:</b> <b>Knowledge management, monitoring and communication system developed</b>  <b>Indicator:</b> Number of training programmes on project implementation, Skill Building, systems and approach conducted <b>Baseline:</b> 0 <b>Target :</b> 200  <b>Gender marker:</b> <b>GEN2</b>	<b>Activity 4.1</b> <b>Best practices in 10 cities (1st stage) and in 50 cities (2nd stage) documented</b>	146154	365385	365385	500000	400000	250000	2026923	0	0	0	2026923
	<b>Activity 4.2</b> <b>Innovative practices' Guidelines developed and established</b>	23077	57692	57692	115385	92308	57692	403846	0	0	0	403846
	<b>Activity 4.3</b> <b>Permanent and on-line Project results monitoring, reporting and information exchange protocol established</b>	31538	60385	106923	100769	81538	52692	433846	0	0	0	433846
	<b>Monitoring</b>	15385	3846	3846	3846	3846	3846	34615	0	0	0	34615
	<b>Total for Component 4</b>	216154	487308	533846	720000	577692	364231	2899231	0	0	0	2899231
<b>Components total</b>		1534564	2898533	5018917	4013982	2906750	1807828	13213298	150000	1579240	3294923	18237462
<b>Project Management Cost</b>												
Local & Field Resources		295385	295385	295385	295385	295385	295385	1772308	0	0	0	1772308
Traveling Expenses		55385	55385	55385	55385	55385	55385	332308	0	0	0	332308
<b>Evaluation</b>		0	0	30769	0	0	30769	61538	0	0	0	61538
<b>General Management Support</b>		103083	194000	317746	266546	210554	138427	1230356	0	0	0	1230356

<b>Grand Total</b>	1988416	3443302	5718201	4631297	3468073	2327794	16609808	150000	1579240	3294923	21633972
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HUL –

Components	Project Activity	Planned Budget							
		Yearly Budget					Funding Agency		Total Budget (USD)
		Amount (Yr 1)	Amount (Yr 2)	Amount (Yr 3)	Amount (Yr 4)	Sub-Total	HUL	UNDP and NGO / ULB	
Component 1: Socio-technic model for plastic waste recycling and management developed, supported and implemented	Activity 1.1 Design and development of baselines methodology for plastic waste generated waste pickers, stakeholders, negative impacts and health and environment impacts on stakeholders	693	-	-	-	693	693	-	693
	Activity 1.2 Baseline Study to be instituted through agencies, to be done at the inception stage in the cities as adopted in the project.	12,481	-	-	-	12,481	8,182	4,299	12,481
	Activity 1.3 Identification and allocation of 20 sub wards for collection of plastic waste from 20,000 HHs/ shops/ Hotels/ Schools etc. in the City (2 WardX 10,000 HHs, shops, etc.)	1,387	-	-	-	1,387	-	1,387	1,387
	Activity 1.4 Surveys, meetings, selection process, risk assessment and local legal agreements with NGOs in each city, shops, hospitals, colleges, schools, recyclers and waste pickers for establishing the Swachhta	5,547	-	-	-	5,547	5,547	-	5,547

	<b>Kendras and also for collection of waste</b>								
	<b>Activity 1.5 Formation of 2 to 3 Resident Welfare Associations (RWAs) in each ward for awareness, sensitivity in monitoring/ segregation of plastic waste followed up by regular meetings, fairs, exhibits, rallies within each RWAs and Wards.</b>	1,109	1,109	1,109	1,109	4,438	4,438	-	4,438
	<b>Activity 1.6 Meetings, small workshops with technical organisations i.e. CIPET, ULBs, SPCB, Dept. of Environment on technology introduction and upgradation in every city</b>	2,440	2,440	2,440	2,440	12,737	11,233	1,504	12,737
	<b>Activity 1.7 Safety measures, dress, gloves, face masks etc.</b>	11,094	-	5,547	-	16,641	16,641	-	16,641
	<b>Activity 1.8 Project proposal development cost</b>	13,868	-	-	-	13,868	-	13,868	13,868
	<b>Monitoring</b>	992	992	992	992	992	992	992	992
	<b>SUB TOTAL 1</b>	<b>49,612</b>	<b>4,542</b>	<b>10,089</b>	<b>4,542</b>	<b>68,784</b>	<b>47,727</b>	<b>22,050</b>	<b>68,784</b>
<b>Component 2: Pilots Projects Cities Units (Swacchta Kendras) for improved plastic waste management implemented</b>	<b>Activity 2.1 Organizing drives, meetings, exposure visits and rallies for programs on awareness, collection, segregation of plastics as special events in each city with ULBs, SPCBs in the ward areas to create more support. (E.g. Fairs, Green Haat, Sports events)</b>	6,241	6,241	6,241	6,241	24,962	24,962	-	24,962

<b>Activity 2.2</b> <b>Rentals and related expenses for the Swachhta Kendras for Plastic Waste Collection and Recycling Centre with the Municipal Corporation</b>	11,649	12,231	12,843	13,485	50,208	50,208	-	50,208
<b>Activity 2.3</b> <b>Procurement and installation of equipment and machinery, Phatka machine, dry waste sorter, shredding and bailing machines and related tools and equipments like weighing machines, etc. including Fire &amp; safety equipments.</b>	1,66,414	-	-	-	1,66,414	1,66,414	-	1,66,414
<b>Activity 2.4</b> <b>Setting up of office space in each of the Swachhta Centres minimal support for furniture and fixtures, computer, printer, etc.</b>	5,547	-	-	-	5,547	5,547	-	5,547
<b>Activity 2.5</b> <b>Monthly Utilities expenses at each of the Swachhta Kendras (Electricity, water, miscellaneous expenses etc) in each city.</b>	4,992	4,992	4,992	4,992	19,970	19,970	-	19,970
<b>Activity 2.7</b> <b>Setting up of an arrangement for the Sale of raw material with the cement plants and state road construction Depts.. Revolving fund of 1000 kgs of plastics per day payments @ Rs 5 - 5,000/-).</b>	4,160	-	-	-	4,160	4,160	-	4,160
<b>Activity 2.8</b> <b>Setting up of Revenue generation model by sale/supply of plastics waste into existing systems. Revolving fund for 1000 kgs per day plastics payments @ Rs 8/-- 8,000/-).</b>	6,657	-	-	-	6,657	6,657	-	6,657
<b>Activity 2.9</b> <b>Audit of Swachhta Kendra, and the NGO</b>	1,387	1,387	1,387	1,387	5,547	5,547	-	5,547

<b>Activity 2.10</b> Experience sharing workshops with different stakeholders in the city for exchange of information, knowledge and practices	5,547	5,547	5,547	5,547	22,188	22,188	-	22,188
<b>Activity 2.11</b> NGO Costs per city for institutionalizing waste pickers:	-	-	-	-	-	-	-	-
<b>Field Project Coordinator (1 No.)</b>	14,145	14,852	15,595	16,375	60,967	60,967	-	60,967
<b>Technical Associate (2 No.) - Monitoring, Accounts, Operations, Communications etc</b>	23,298	24,463	25,686	26,970	1,00,417	1,00,417	-	1,00,417
<b>Muqaddams (2 Nos.) for supervising the Waste Collectors in the wards for operations</b>	19,970	20,968	22,017	23,117	86,072	86,072	-	86,072
<b>Activity 2.12</b> Costs for recycling centre (Swachhata Kendra):	-	-	-	-	-	-	-	-
<b>Recycling Centre Operations in-charge (1 No.)</b>	13,313	13,979	14,678	15,412	57,381	57,381	-	57,381
<b>Safai Sathis for collection, packaging, loading at Centre, Operating at Phatka machine, Shredding machine, Air blower (7 No.)</b>	34,947	36,694	38,529	40,455	1,50,625	1,50,625	-	1,50,625
<b>Activity 2.13</b> Ensuring the social security systems for NGOs for all the waste pickers, SHG members, and families, including children.	2,774	-	-	-	2,774	2,774	-	2,774
<b>Activity 2.14</b> Setting up of small enterprises units (5 units) in the ward. (These will be set up with waste pickers individually/SHGs and will carry out activities to produce products from plastic waste, tailoring, trade, etc.).	3,644	21,733	9,761	-	31,723	31,723	-	31,723

	<b>Activity 2.15 Local Travel costs (coordination with stakeholders) for the NGO</b>	3,328	3,328	3,328	3,328	13,313	13,313	-	13,313
	<b>Activity 2.16 Engagement with Social fellows for facilitating projects with NGOs and creating Social Enterprise Models. Working closely with ULBs and other stakeholders</b>	6,657	6,657	6,657	3,241	26,626	26,626	-	26,626
	<b>Activity 2.17 Award, Competition certificate function at RWA/ Ward / ULB level</b>	2,080	2,080	2,080	2,080	8,321	,321	-	8,321
	<b>Activity 2.18 IEC Materials for the NGO</b>	6,934	6,934	1,387	1,387	16,641	16,641	-	16,641
	<b>Activity 2.19 Computer, Printer and other equipment's for the NGO</b>	4,160	-	-	-	4,160	4,160	-	4,160
	<b>Activity 2.20 Activity 2.19Administrative expenditure by NGO</b>	3,328	3,328	3,328	3,328	13,313	13,313	-	13,313
	<b>Activity 2.21 Links of all types of plastic recycling materials with back-end recyclers</b>	-	-	-	-	-	-	-	-
	<b>Activity 2.22 Electrification, Panel, Machine Installation Cost for Machineries</b>	13,868	-	-	-	13,868	13,868	-	13,868
	<b>Monitoring</b>	7,450	3,784	3,552	3,415	18,201	8,201	-	18,201
	<b>SUB TOTAL 2</b>	<b>3,72,489</b>	<b>1,89,198</b>	<b>1,77,607</b>	<b>1,70,761</b>	<b>9,10,056</b>	<b>9,10,056</b>	<b>-</b>	<b>9,10,056</b>
<b>Component 3: Institutionalization of Swacchta Kendras in</b>	<b>Activity 3.1 Assigning photo identity cards to 500 waste-collectors and other measures through municipal corporations</b>	2,774	-	-	-	2,774	2,774	-	2,774

<b>governance bodies and improved socio-economic conditions of waste pickers obtained</b>	<b>Activity 3.2</b> Build in payments for at least 100 waste collectors per city for four years	2,826	3,159	3,159	3,159	12,304	12,304	-	12,304
	<b>Activity 3.3</b> Insurance of plant and machinery for uninterrupted work.	555	555	386	555	2,219	2,219	-	2,219
	<b>Activity 3.4</b> Insurance of the staff working on the plant and machinery, site premises and other staff	832	832	832	832	3,328	3,328	-	3,328
	<b>Activity 3.5</b> Three meetings for 500 waste-pickers per city per year in plastic waste management, SHG formation, links to Banks, etc.	2,080	2,080	2,080	2,080	8,321	8,321	-	8,321
	<b>Activity 3.6</b> Setting up of the systems approach/ meetings with MC/state pollution Boards and other stakeholders	1,664	1,664	1,664	1,664	6,657	-	6,657	6,657
	<b>Activity 3.7</b> Creation of Sub-centres (Dhalos) through Municipal Corporation for garbage management and concrete waste collection centres	13,868	-	-	-	13,868	-	13,868	13,868
	<b>Monitoring</b>	502	169	169	169	1,010	599	410	1,010
	<b>SUB-TOTAL 3</b>	<b>25,101</b>	<b>8,459</b>	<b>8,290</b>	<b>8,459</b>	<b>50,479</b>	<b>29,544</b>	<b>20,935</b>	<b>50,479</b>
<b>Component 4: Knowledge Management, monitoring and communication system developed</b>	<b>Activity 4.1</b> Films, hoardings, boards, publicity materials, plastic waste toolkits at every NGO level in city	5,547	5,547	5,547	5,547	22,188	22,188	-	22,188
	<b>Activity 4.2</b> Documentation of best practices, brochures, games development, case studies for the waste pickers families, publications, and consultants etc	3,467	3,467	3,467	3,467	13,868	13,868	-	13,868

	<b>Activity 4.3 Contest, fests, and social media links to all the knowledge exchange</b>	4,160	4,160	4,160	4,160	16,641	16,641	-	16,641
	<b>Activity 4.5 Monitoring Agency required externally, creating dashboard, website management</b>	20,587	1,325	1,491	1,325	24,727	26,236	-	24,727
	<b>Activity 4.7 Project Technical Advisory Meetings (3/Yr)</b>	3,467	3,467	3,467	3,467	13,868	13,868	-	13,868
	<b>Activity 4.8 Project Advisory meetings in the Cities with ULBs/ Govt. and Other stakeholders (1/Yr)</b>	3,120	3,120	3,120	3,120	12,481	12,481	-	12,481
	<b>Activity 4.10 Project and NGO staff trainings on the project implementation, systems and approaches</b>	8,321	8,321	8,321	8,321	33,283	16,641	15,133	33,283
	<b>Activity 4.1 1 Project Audit/ Spot checks and assurance activities</b>	1,525	1,525	1,525	1,525	6,102	6,102	-	6,102
	<b>Activity 4.1 2 External evaluation: midterm and final project evaluation</b>	-	8,321	-	8,321	16,641	13,313	3,328	16,641
	<b>Activity 4.13 Links to Waste Collectors Trainings with CIPET</b>	55,471	-	-	-	55,471	-	55,471	55,471
	<b>Monitoring</b>	2,156	801	635	801	4,393	2,884	1,509	4,393
	<b>SUB-TOTAL 4</b>	<b>1,07,822</b>	<b>40,054</b>	<b>31,733</b>	<b>40,054</b>	<b>2,19,664</b>	<b>1,44,223</b>	<b>75,441</b>	<b>2,19,664</b>
<b>Component 5: Project Management Cost</b>		-	-	-	-	-	-	-	-
	<b>Local &amp; Field Human Resources</b>	1,09,833	1,14,493	1,19,385	1,24,522	4,68,233	3,24,290	1,43,942	4,68,233
	<b>Overheads and Miscellaneous</b>	13,313	13,729	14,166	14,625	55,833	55,833	-	55,833

	<b>Monitoring visits for Swatchta Kendras - local Expenses</b>	6,657	6,657	6,657	6,657	26,626	26,626	-	26,626
	<b>Computers, Printers and audio-visual equipments etc</b>	5,547	-	-	-	5,547	5,547	-	5,547
	<b>Travelling expenses for Delhi teams/consultants</b>	10,817	10,817	10,817	10,817	43,268	43,268	-	43,268
	<b>SUB-TOTAL 5</b>	<b>1,46,167</b>	<b>1,45,695</b>	<b>1,51,025</b>	<b>1,56,620</b>	<b>5,99,507</b>	<b>4,55,564</b>	<b>1,43,942</b>	<b>5,99,507</b>
<b>6</b>	<b>GROSS TOTAL (SUB TOTAL 1+2+3+4+5)</b>	<b>7,01,191</b>	<b>3,87,949</b>	<b>3,78,913</b>	<b>3,80,437</b>	<b>18,48,489</b>	<b>15,86,532</b>	<b>2,61,957</b>	<b>18,48,489</b>
<b>7</b>	<b>Direct Project Cost @5%</b>	<b>28,587</b>	<b>17,226</b>	<b>16,794</b>	<b>16,720</b>	<b>79,327</b>	<b>79,327</b>	<b>-</b>	<b>79,327</b>
<b>8</b>	<b>Total Project Cost (6+7)</b>	<b>7,29,777</b>	<b>4,05,174</b>	<b>3,95,707</b>	<b>3,97,157</b>	<b>19,27,816</b>	<b>16,65,858</b>	<b>2,61,957</b>	<b>19,27,816</b>
<b>9</b>	<b>UNDP General Management Support @8%</b>	<b>48,026</b>	<b>28,939</b>	<b>28,214</b>	<b>28,090</b>	<b>1,33,269</b>	<b>1,33,269</b>	<b>-</b>	<b>1,33,269</b>
	<b>GRAND TOTAL (6+7)</b>	<b>7,77,803</b>	<b>4,34,114</b>	<b>4,23,921</b>	<b>4,25,247</b>	<b>20,61,084</b>	<b>17,99,127</b>	<b>2,61,957</b>	<b>20,61,084</b>

## HFDC – CAF –

Components	Project Activity	Planned Budget							
		Yearly Budget					Funding Agency		Grand total (US \$)
		Amount (Yr 1)	Amount (Yr 2)	Amount (Yr 3)	Amount (Yr 4)	Sub-Total	HDFC	UNDP and NGO / ULB	
<b>Component 1: Socio-technic model for plastic waste recycling and management developed, supported and implemented</b>	<b>Activity 1.1 Design and development of baselines methodology for plastic waste generated, waste pickers, stakeholders, negative impacts and health and environment impacts on stakeholders</b>	-	-	-	-	-	-	-	-
	<b>Activity 1.2 Baseline Study to be instituted through interns/volunteers to be done at the inception stage in the cities as adopted in the project.</b>	14,015	-	-	-	14,015	14,015	-	14,015

<b>Activity 1.3</b> Identification and allocation of 20 sub wards for collection of plastic waste from 20,000 HHs/ shops/ Hotels/ Schools etc. in the City (2 WardX 10,000 HHs, shops, etc.)	3,504	-	-	-	3,504	1,752	1,752	3,504
<b>Activity 1.4</b> Surveys, meetings, selection process, risk assessment and local legal agreements with NGOs in each city, shops, hospitals, colleges, schools, recyclers and waste pickers for establishing the Swachhta Kendras and also for collection of waste	3,504	-	-	-	3,504	3,504	-	3,504
<b>Activity 1.5</b> Formation of 2 to 3 Resident Welfare Associations (RWAs) in each ward for awareness, sensitivity in monitoring/ segregation of plastic waste followed up by regular meetings, fairs, exhibits, rallies within each RWAs and Wards.	1,682	1,682	1,682	1,682	6,727	6,727	-	6,727
<b>Activity 1.6</b> Meetings, small workshops with Technical organisations i.e. CIPET, ULBs, SPCB, Dept. of Environment on technology introduction and upgradation in every city	2,629	3,400	3,330	3,400	12,760	9,501	3,259	12,760
<b>Activity 1.7</b> Safety measures, dress, gloves, face masks etc.	10,512	-	3,504	-	14,015	14,015	-	14,015
<b>Activity 1.8</b> Project proposal development cost	7,008	-	-	-	7,008	-	7,008	7,008
<b>Monitoring</b>	875	104	174	104	1,256	1,011	245	1,256

	<b>SUB TOTAL 1</b>	<b>43,728</b>	<b>5,186</b>	<b>8,690</b>	<b>5,186</b>	<b>62,789</b>	<b>50,526</b>	<b>12,263</b>	<b>62,789</b>
<b>Component 2: Pilots Projects Cities Units (Swachhta Kendras) for improved plastic waste management implemented</b>	<b>Activity 2.1 Organizing drives, meetings, exposure visits and rallies for programs on awareness, collection, segregation of plastics as special events in each city with ULBs, SPCBs in the ward areas to create more support. (E.g. Fairs, Green Haat, Sports events)</b>	12,614	12,614	12,614	12,614	50,456	50,456	-	50,456
	<b>Activity 2.2 Rentals and related expenses for the Swachhta Kendras for Plastic Waste Collection and Recycling Centre with the Municipal Corporation</b>	21,023	22,074	23,178	24,337	90,612	90,612	-	90,612
	<b>Activity 2.2 Procurement and installation of equipment and machinery, Phatka machine, dry waste sorter, shredding and bailing machines and related tools and equipments like weighing machines, etc. including Fire &amp; safety equipments.</b>	2,10,231	-	-	-	2,10,231	2,10,231	-	2,10,231
	<b>Activity 2.4 Setting up of office space in each of the Swachhta Centres minimal support for furniture and fixtures, computer, printer, etc.</b>	7,008	-	-	-	7,008	7,008	-	7,008
	<b>Activity 2.5 Monthly Utilities expenses at each of the Swachhta Kendras (Electricity, water, miscellaneous expenses etc) in each city.</b>	8,409	8,409	8,409	8,409	33,637	33,637	-	33,637

<b>Activity 2.7</b> <b>Setting up of an arrangement for the Sale of raw material with the cement plants and state road construction Depts.. Revolving fund of 1000 kgs of plastics per day payments @ Rs 5 - 5,000/-).</b>	10,512	-	-	-	10,512	10,512	-	10,512
<b>Activity 2.8</b> <b>Setting up of Revenue generation model by sale/supply of plastics waste into existing systems. Revolving fund for 1000 kgs per day plastics payments @ Rs 8/- 8,000/-).</b>	10,512	-	-	-	10,512	10,512	-	10,512
<b>Activity 2.9</b> <b>Audit of Swachhta Kendra, and the NGO</b>	1,402	1,402	1,402	1,402	5,606	5,606	-	5,606
<b>Activity 2.10</b> <b>Experienc sharing workshops with different stakeholders in the city for exchange of information, knowledge and practices</b>	3,504	3,504	3,504	3,504	14,015	14,015	-	14,015
<b>Activity 2.11</b> <b>NGO Costs per city for institutionalizing waste pickers:</b>	-	-	-	-	-	-	-	-
<b>Field Project Coordinator (1 No.)</b>	25,228	26,489	27,814	29,204	1,08,735	1,08,735	-	1,08,735
<b>Technical Associate (2 No.) - Monitoring, Accounts, Operations, Communications etc</b>	33,637	35,319	37,085	38,939	1,44,980	1,44,980	-	1,44,980
<b>Muqaddams (2 Nos.) for supervising the Waste Collectors in the wards for operations</b>	25,228	26,489	27,814	29,204	1,08,735	1,08,735	-	1,08,735
<b>Activity 2.12</b> <b>Costs for recycling centre (Swachhata Kendra):</b>	-	-	-	-	-	-	-	-

<b>Recycling Centre Operations in-charge (1 No.)</b>	15,137	15,893	16,688	17,523	65,241	65,241	-	65,241
<b>Safai Sathis for collection, packaging, loading at Centre, Operating at Phatka machine, Shredding machine, Air blower (6 No.)</b>	50,456	52,978	55,627	58,409	2,17,470	2,17,470	-	2,17,470
<b>Activity 2.13 Ensuring the social security systems for NGOs for all the waste pickers, SHG members, and families, including children.</b>	2,102	-	-	-	2,102	2,102	-	2,102
<b>Activity 2.14 Setting up of small enterprises units (3 units) in the City. (These will be set up with waste pickers individually/SHGs and will carry out activities to produce products from plastic waste, tailoring, trade, etc.).</b>	-	16,819	25,228	-	42,046	42,046	-	42,046
<b>Activity 2.15 Local Travel costs (coordination with stakeholders) for the NGO</b>	8,409	8,409	8,409	8,409	33,637	33,637	-	33,637
<b>Activity 2.16 Engagement with Social fellows for facilitating projects with NGOs and creating Social Enterprise Models. Working closely with ULBs and other stakeholders</b>	22,299	26,538	26,267	26,517	1,01,621	1,01,621	-	1,01,621
<b>Activity 2.17 Award, Competition certificate function at RWA/ Ward / ULB level</b>	3,504	3,504	3,504	3,504	14,015	14,015	-	14,015
<b>Activity 2.18 IEC Materials for the NGO</b>	7,008	7,008	-	-	14,015	14,015	-	14,015
<b>Activity 2.19Administrative expenditure by NGO</b>	16,819	16,819	16,819	16,819	67,274	67,274	-	67,274

	<b>Activity 2.20</b> <b>Project Officer to facilitate the Swachhta Kendra's operation (3 positions)</b>	60,547	63,574	66,753	70,090	2,60,963	2,60,963	-	2,60,963
	<b>Monitoring</b>	11,338	7,099	7,370	7,120	32,927	32,927	-	32,927
	<b>SUB TOTAL 2</b>	<b>5,66,924</b>	<b>3,54,940</b>	<b>3,68,483</b>	<b>3,56,003</b>	<b>16,46,350</b>	<b>16,46,350</b>	<b>-</b>	<b>16,46,350</b>
<b>Component 3:</b> <b>Institutionalization of Swachta Kendras in governance bodies and improved socio-economic conditions of waste pickers obtained</b>	<b>Activity 3.1</b> <b>Assigning photo identity cards to 500 waste-collectors and other measures through municipal corporations</b>	3,504	-	-	-	3,504	3,504	-	3,504
	<b>Activity 3.2</b> <b>Build in payments for at least 100 waste collectors per city for four years</b>	2,803	2,803	2,803	2,803	11,212	11,212	-	11,212
	<b>Activity 3.3</b> <b>Insurance of plant and machinery for uninterrupted work.</b>	701	701	701	701	2,803	2,803	-	2,803
	<b>Activity 3.4</b> <b>Insurance of the staff working on the plant and machinery, site premises and other staff</b>	1,051	1,051	1,051	1,051	4,205	4,205	-	4,205
	<b>Activity 3.5</b> <b>Three meetings for 500 waste-pickers per city per year in plastic waste management, SHG formation, links to Banks, etc.</b>	2,102	2,102	2,102	2,102	6,433	7,807	-	7,807
	<b>Activity 3.6</b> <b>Setting up of the systems approach/ meetings with MC/state pollution Boards and other stakeholders</b>	7,337	8,108	8,108	8,108	32,264	-	32,264	32,264

	<b>Activity 3.7 Creation of Sub-centres (Dhalos) through Municipal Corporation for garbage management and concrete waste collection centres</b>	35,039	-	-	-	35,039	-	35,039	35,039
	<b>Monitoring</b>	1,072	301	301	301	1,976	603	1,374	1,976
	<b>SUB-TOTAL 3</b>	53,609	15,067	15,067	15,067	97,436	30,133	68,676	98,809
<b>Component 4: Knowledge Management, monitoring and communication system developed</b>	<b>Activity 4.1 Films, hoardings, boards, publicity materials, plastic waste toolkits at every NGO level in city</b>	7,008	7,008	7,008	7,008	28,031	28,031	-	28,031
	<b>Activity 4.2 Documentation of best practices, brochures, games development, case studies for the waste pickers families, publications and consultants etc</b>	7,008	7,008	7,008	7,008	28,031	28,031	-	28,031
	<b>Activity 4.3 Contest, fests and social media links to all the knowledge exchange</b>	3,504	3,504	3,504	3,504	14,015	14,015	-	14,015
	<b>Activity 4.4 Monitoring Agency required externally, creating dash board, website management.</b>	66,697	33,732	33,340	33,732	1,67,501	1,67,501	-	1,67,501
	<b>Activity 4.7 Project Steering Committee Meetings (2/Yr)</b>	2,803	2,803	2,803	2,803	11,212	4,502	-	11,212
	<b>Activity 4.8 Project Advisory meetings in the Cities with ULBs/ Govt. and Other stakeholders (1/Yr)</b>	2,102	2,102	2,102	2,102	8,409	8,409	-	8,409

	<b>Activity 4.10 Project and NGO staff trainings on the project implementation, systems, and approaches</b>	5,606	5,606	5,606	5,606	22,425	11,212	11,212	22,425
	<b>Activity 4.11 Project Audit/ Spot checks and assurance activities</b>	841	841	841	841	3,364	3,364	-	3,364
	<b>Activity 4.12 External evaluation</b>	-	1,402	21,023	1,402	23,826	21,023	2,803	23,826
	<b>Activity 4.13 Links to Waste Collectors Trainings with CIPET</b>	70,077	-	-	-	69,096	35,039	34,057	70,077
	<b>Monitoring</b>	3,381	1,306	1,699	1,306	7,692	6,711	981	7,692
	<b>SUB-TOTAL 4</b>	<b>1,69,026</b>	<b>65,312</b>	<b>84,933</b>	<b>65,312</b>	<b>3,83,602</b>	<b>3,27,837</b>	<b>49,054</b>	<b>3,84,583</b>
<b>Component 5: Project Management Cost</b>		-	-	-	-	-	-	-	-
	<b>Local &amp; Field Human Resources</b>	99,229	1,04,191	1,09,400	1,14,870	4,27,690	4,27,690	-	4,27,690
	<b>Administrative expenses</b>	1,682	1,682	1,682	1,682	6,727	6,727	-	6,727
	<b>Computers, Printers and audio- visual equipments etc</b>	7,008	-	-	-	7,008	7,008	-	7,008
	<b>Travelling expenses for Delhi teams/consultants</b>	6,727	6,727	6,727	6,727	26,910	26,910	-	26,910
	<b>SUB-TOTAL 5</b>	<b>1,14,646</b>	<b>1,12,600</b>	<b>1,17,809</b>	<b>1,23,279</b>	<b>4,68,335</b>	<b>4,68,335</b>	<b>-</b>	<b>4,68,335</b>
<b>6</b>	<b>GROSS TOTAL (SUB TOTAL 1+2+3+4+5)</b>	<b>9,47,933</b>	<b>5,53,104</b>	<b>5,94,982</b>	<b>5,64,847</b>	<b>26,60,866</b>	<b>25,30,873</b>	<b>1,29,993</b>	<b>26,60,866</b>
<b>7</b>	<b>Direct Project Cost @5%</b>	<b>42,850</b>	<b>26,981</b>	<b>29,145</b>	<b>27,568</b>	<b>1,26,544</b>	<b>1,26,544</b>	<b>-</b>	<b>1,26,544</b>
<b>8</b>	<b>Total Project Cost (6+7)</b>	<b>9,90,783</b>	<b>5,80,085</b>	<b>6,24,127</b>	<b>5,92,414</b>	<b>27,87,409</b>	<b>26,57,416</b>	<b>1,29,993</b>	<b>27,87,409</b>
<b>9</b>	<b>UNDP General Management Support @8%</b>	<b>71,989</b>	<b>45,328</b>	<b>48,963</b>	<b>46,314</b>	<b>2,12,593</b>	<b>2,12,593</b>	<b>-</b>	<b>2,12,593</b>

10	<b>GRAND TOTAL (6+7)</b>	<b>10,62,772</b>	<b>6,25,413</b>	<b>6,73,090</b>	<b>6,38,728</b>	<b>30,00,003</b>	<b>28,70,010</b>	<b>1,29,993</b>	<b>30,00,003</b>
11	<b>Transaction Charges</b>	<b>22,647</b>	<b>12,238</b>	<b>13,220</b>	<b>12,505</b>	<b>60,610</b>	<b>60,610</b>	<b>-</b>	<b>60,610</b>
12	<b>Grand Total (with Transaction charges)</b>	<b>10,85,419</b>	<b>6,37,651</b>	<b>6,86,310</b>	<b>6,51,233</b>	<b>30,60,613</b>	<b>29,30,620</b>	<b>1,29,993</b>	<b>30,60,613</b>

## CCIF –

Component	Project Activity	Year 1	Year 2	Year 3	Total Budget (US \$)
<b>COMPONENT 1: Development of a Systematic approach with the establishment of Material Recovery Facility for effective resource recovery from waste and Plastic waste Recycling</b>	<b>Activity 1.1</b> Identification and allocation of location/ward for setting up the systematic approach for collection from 50000 household/establishments/shops/market areas/etc..	2,102	-	-	2,102
	<b>Activity 1.2</b> Setting up of Machineries in the Material Recovery Facility with adequate equipments- Conveyor, Bailer, Fatka & Shredder	84,093	-	-	84,093
	<b>Activity 1.3</b> Setting up of office space in each of the Swachhta Centres minimal support for furniture and fixtures, computer etc.	4,205	-	-	4,205
	<b>Activity 1.4</b> Monthly Utilities expenses at each of the Swachhta Kendras (Water, miscellaneous expenses etc) in each city.	10,091	10,091	10,091	30,273
	<b>Activity 1.5</b> Field Project Coordinator (1 No.)	10,091	10,091	10,091	30,273
	<b>Activity 1.6</b> Technical Associate (1 No.) - Monitoring, Accounts, Operations, Communications etc	10,091	10,091	10,091	30,273
	<b>Activity 1.7</b> Muqaddams (1 Nos.) for supervising the Waste Collectors in the wards for operations	9,082	9,082	,082	27,246
	<b>Activity 1.8</b> Recycling Centre Operations in-charge (1 No.)	7,568	7,568	7,568	22,705

	<b>Activity 1.9</b> Safai Sathis for collection, packaging, loading at Centre, Operating at Phatka machine, Shredding machine, Air blower (4 No.)	16,410	18,327	18,537	60,547
	<b>Activity 1.10</b> Rentals and related expenses for the Swachhta Kendras for Plastic Waste Collection and Recycling Centre with the Municipal Corporation	15,137	15,137	15,137	38,138
	<b>Activity 1.11</b> Insurance of Plant & machineries, workers at the Materia Recovery Facility	3,364			3,364
	<b>Activity 1.12</b> PPE gears, dress, shoes and other safety equipment for minimum 200 safai sathis engaged with the Material Recovery facility in each city over a period of 2 years	10,512	10,512		21,023
	<b>Activity 1.13</b> Development of a monitoring & reporting system for traceability & accountability in the waste value chain	2,102			2,102
<b>Monitoring</b>		<b>3,772</b>	<b>1,855</b>	<b>1,645</b>	<b>7,272</b>
<b>TOTAL FOR COMPONENT 1</b>		<b>1,88,619</b>	<b>92,754</b>	<b>82,242</b>	<b>3,63,616</b>
<b>COMPONENT 2: Knowledge Managemnt &amp; Communication</b>	<b>Activity 2.1</b> Meetings, small workshops with technical organisations, Government Bodies, ULBs, SPCB, Dept. of Environment and other stakeholders on technology introduction and upgradation in every city, Setting up of the systems approach	10,512			10,512
	<b>Activity 2.2</b> Project and NGO staff trainings on the project implementation, systems and approaches (1/yr)	2,467	2,677	2,705	7,849
	<b>Activity 2.3</b> External evaluation: midterm and final project evaluation	1,402	1,402		2,803
	<b>Activity 2.4</b> Development of IEC materials, collaterals, publicity materials, plastic waste toolkits for each city	2,102	2,102	2,102	6,307
<b>Monitoring</b>		<b>336</b>	<b>126</b>	<b>98</b>	<b>561</b>
<b>TOTAL FOR COMPONENT 2</b>		<b>16,819</b>	<b>6,307</b>	<b>4,905</b>	<b>28,031</b>
<b>COMPONENT 3:</b>	<b>Activity 3.1</b> Assigning photo identity cards, linkages to the medical, social & financial entitlement to 200 waste-collectors in each city and other measures through municipal corporations	1,402	1,402		2,803

Livelihood and Inclusion	<b>Activity 3.2</b> Baseline to determine socio-economic condition of waste pickers	2,803			2,803
	<b>Activity 3.3</b> Facilitating access and bridging the information gap for 200 waste pickers that restrict them from getting access to social entitlements	2,803	2,803		5,606
	<b>Activity 3.4</b> Reaching out to 200 waste pickers, mobilizing them and collectivizing them into Self Help Groups	841	981	981	2,803
	<b>Activity 3.5</b> Entrepreneurship Development training and mentorship support to atleast 200 waste picker families interested in exploring livelihood opportunities that would bring additional income to their families	3,214	3,197	3,218	9,629
	<b>Activity 3.6</b> Facilitating credit linkage and market linkage for 200 waste picker families pursuing additional income generation livelihood opportunities.	1,051	1,051	2,102	4,205
	<b>Activity 3.7</b> Career guidance support and bridging the information gap for atleast 200 second generation children of waste pickers	2,102	2,102	4,205	8,409
	<b>Activity 3.8</b> Soft skill training for atleast 100 second generation children of waste pickers.		3,504	3,504	7,008
	<b>Monitoring</b>	<b>290</b>	<b>307</b>	<b>286</b>	<b>883</b>
<b>TOTAL FOR COMPONENT 3</b>	<b>14,506</b>	<b>15,347</b>	<b>14,296</b>	<b>44,149</b>	
Project Management Cost					
Local & Field Human Resources	98,893	98,893	98,893	2,96,678	
Overheads and Miscellaneous	8,409	8,409	4,205	21,023	
External evaluation: midterm and final project evaluation	1,402	1,402		2,803	
<b>TOTAL FOR PROJECT MANAGEMENT COST</b>	<b>1,07,302</b>	<b>1,07,302</b>	<b>1,03,097</b>	<b>3,17,701</b>	
PROJECT COST	3,27,246	2,21,710	2,04,541	7,53,497	
Direct Project Cost (DPC)	16,362	11,085	10,227	37,675	
Project Cost	3,43,608	2,32,795	2,14,768	7,91,172	
UNDP General Management Support (GMS)	27,489	18,624	17,181	63,294	
TOTAL Project Cost	3,71,097	2,51,419	2,31,949	8,54,466	

UN RC Levy	3,711	2,514	2,319	8,545
<b>Grand TOTAL Project Cost</b>	<b>3,74,808</b>	<b>2,53,933</b>	<b>2,34,269</b>	<b>8,63,011</b>

## Nayara – through CTSI

Components	Project Activity	Funding Agency				Total (US\$)
		Amount (US\$) (Yr 1)	Amount (US\$) (Yr 2)	Amount (US\$) (Yr 3)	Amount (US\$) (Yr 4)	
<b>Component 1: Socio-technic model for plastic waste recycling and management developed, supported and implemented</b>	<b>Activity 1.1</b> Design and development of baselines methodology for plastic waste generated, waste pickers, stakeholders, negative impacts and health and environment impacts on stakeholders	-	-	-	-	1,336
	<b>Activity 1.2</b> Baseline Study to be instituted through agencies/consultant, to be done at the inception stage in the cities as adopted in the project.	4,008	-	-	-	4,008
	<b>Activity 1.3</b> Identification and allocation of 2 locations per cities for collection of plastic waste from 5,000 HHs/ shops/ Hotels/ Schools etc. in the City (1 locations in each of the 2 cities X 5,000 HHs, shops, etc.)	1,336	-	-	-	1,336
	<b>Activity 1.4</b> Surveys, meetings, selection process, risk assessment and local legal agreements with NGOs in each city, shops, hospitals, colleges, schools, recyclers and waste pickers for establishing the Swachhta Kendras and also for collection of waste	1,670	3,340	1,670	-	6,679

	<b>Activity 1.5</b> Formation of 2 to 3 Resident Welfare Associations (RWAs) in each ward for awareness, sensitivity in monitoring/ segregation of plastic waste followed up by regular meetings, fairs, exhibits, rallies within each RWAs and Wards.	481	481	481	481	1,924
	<b>Activity 1.6</b> Meetings, small workshops with technical organisations i.e. CIPET, ULBs, SPCB, Dept. of Environment on technology introduction and upgradation in every city	3,340	3,340	3,340	3,340	13,359
	<b>Activity 1.7</b> a. Safety measures, dress, gloves, face masks etc. for cities	935	1,737	1,336	1,336	5,343
	b. Safety measures, dress, gloves, face masks etc. for villages	1,800	3,651	2,809	2,842	11,103
	<b>Activity 1.8</b> Project proposal development cost	0				0
	<b>Monitoring</b>	304	256	197	163	920
	<b>SUB TOTAL 1</b>	<b>13,873</b>	<b>12,804</b>	<b>9,832</b>	<b>8,162</b>	<b>46,007</b>
<b>Component 2:</b> Pilots Projects Cities Units (Swachta Kendras) for improved plastic waste management implemented	<b>Activity 2.1</b> Organizing drives, meetings, exposure visits and rallies for programs on awareness, collection, segregation of plastics as special events in each city with ULBs, SPCBs in the ward areas to create more support. (E.g. Fairs, Green Haat, Sports events)	1,202	1,202	1,202	1,202	4,809
	<b>Activity 2.2</b> Rentals and related expenses for the Swachhta Kendras for Waste Collection and Recycling Centre with the Municipal Corporation	6,412	6,733	7,069	7,423	27,637

<b>Activity 2.3</b> Procurement and installation of equipment and machinery, Phatka machine, dry waste sorter, shredding and bailing machines and related tools and equipments like weighing machines, etc. including Fire & safety equipments or vehicle if required	53,435	13,359	-	-	66,793
<b>Activity 2.4</b> Electrification, Panel, Machine Installation Cost for Mahineries	10,687	2,672			13,359
<b>Activity 2.5</b> Setting up of office space in each of the Swachhta Centres minimal support for furniture and fixtures, computer, printer, etc.	2,672	-	-	-	2,672
<b>Activity 2.6</b> Monthly Utilities expenses at each of the Swachhta Kendras (Water, miscellaneous expenses etc) in each city.	2,565	2,693	2,828	2,969	11,055
<b>Activity 2.7</b> Setting up of Revenue generation model by sale/supply of plastics waste into existing systems. Revolving fund for 1000 kgs per day plastics payments @ 8,000/-).	3,206	-	-	-	3,206
<b>Activity 2.8</b> Audit of Swachhta Kendra, and the NGO	1,336	1,336	1,336	1,336	5,343
<b>Activity 2.9</b> Operation Costs per city for institutionalizing the project:	0				0
Field Project Coordinator (1 No.)	8,015	8,416	8,837	9,279	34,546
Technical Associate (1 No.) - Monitoring, Accounts, Operations, Communications etc	7,053	7,406	7,776	8,165	30,401
Muqaddams (1 Nos.) for supervising the Waste Collectors in the wards for operations	4,809	5,050	5,302	5,567	20,728
Costs for recycling centre (Swachhata Kendra):	0				0

<b>Activity 2.10</b> <b>Recycling Centre Operations in-charge (1 No.)</b>	6,412	6,733	7,069	7,423	27,637
<b>Safaii Mitras for collection, packaging, loading at Centre, Operating at Phatka machine, Shredding machine, Air blower (7 No.)</b>	20,198	21,208	22,269	23,382	87,057
<b>Activity 2.11</b> <b>Ensuring the social security systems for NGOs for all the waste pickers, SHG members, and families, including children.</b>	267	267	267	267	1,069
<b>Activity 2.12</b> <b>Setting up of small enterprises units in the city &amp; village/location. (These will be set up with waste pickers individually/SHGs/CSO/waste aggregators and similar agencies and will carry out activities to produce products from plastic waste, tailoring, trade, etc.).</b>	21,374	64,122	64,122	21,374	1,70,991
<b>Activity 2.13</b> <b>Local Travel costs (coordination with stakeholders) for the NGO</b>	1,603	1,603	1,603	1,603	6,412
<b>Activity 2.14</b> <b>Engagement with Social fellows for facilitating projects with NGOs and creating Social Enterprise Models. Working closely with ULBs and other stakeholders</b>	9,650	9,650	9,650	9,650	38,601
<b>Activity 2.15</b> <b>Award, Competition certificate function at RWA/ Ward / ULB level</b>	1,336	1,336	1,336	1,336	5,343
<b>Activity 2.16</b> <b>IEC Materials for the NGO</b>	1,603	1,603	1,603	1,603	6,412
<b>Activity 2.17</b> <b>Computer, Printer and other equipment for the NGO</b>	2,405	-	-	-	2,405
<b>Activity 2.18</b> <b>Administrative expenditure by NGO</b>	8,015	8,015	8,015	8,015	32,061

	<b>Activity 2.19</b> <b>Operation of Sub-centres/small collection points in 15 villages through Nagar Panchayat for garbage management and waste collection centres</b>	35,789	36,006	36,269	37,063	1,45,127
	<b>Activity 2.20</b> <b>Links of all types of plastic recycling materials with back end recyclers</b>					0
	<b>Monitoring</b>	4,287	4,070	3,807	3,013	15,177
	<b>SUB TOTAL 2</b>	<b>2,14,332</b>	<b>2,03,479</b>	<b>1,90,361</b>	<b>1,50,670</b>	<b>7,58,842</b>
<b>Component 3:</b> <b>Institutionalization of Swacchta Kendras in governance bodies and improved socio-economic conditions of waste pickers obtained</b>	<b>Activity 3.1</b> <b>Assigning photo identity cards to 200 waste-collectors and other measures through municipal corporations</b>	267	267	-	-	534
	<b>Activity 3.2</b> <b>Insurance of plant and machinery for un interrupted work.</b>	802	802	802	802	3,206
	<b>Activity 3.3</b> <b>Insurance of the staff working on the plant and machinery, site premises and other staff</b>	802	802	802	802	3,206
	<b>Activity 3.4</b> <b>Three meetings for 200 waste-pickers per city per year in plastic waste management, SHG formation, links to Banks, etc.</b>	802	802	802	802	3,206
	<b>Activity 3.5</b> <b>Setting up of the systems approach/ meetings with MC/state pollution Boards and other stakeholders</b>	470	470	476	476	1,892
	<b>Monitoring</b>	64	64	59	59	246
	<b>SUB-TOTAL 3</b>	<b>3,206</b>	<b>3,206</b>	<b>2,939</b>	<b>2,939</b>	<b>12,290</b>
<b>Component 4:</b> <b>Knowledge Management, monitoring and</b>	<b>Activity 4.1</b> <b>Films, hoardings, boards, publicity materials, plastic waste toolkits at every NGO level in city</b>	2,672	2,672	2,672	2,672	10,687

<b>communication system developed</b>	<b>Activity 4.3</b> Contest, fests and social media links to all the knowledge exchange	2,672	2,672	2,672	2,672	10,687
	<b>Activity 4.4</b> Monitoring Agency required externally, creating dasboard, website management simple MIS system	6,679	4,008	1,336	1,336	13,359
	<b>Activity 4.5</b> Project and NGO staff trainings on the project implementation, systems and approaches	2,004	2,004	2,004	2,004	8,015
	<b>Activity 4.6</b> Project Audit/ Spot checks and assurance activties	1,336	1,336	1,336	1,336	5,343
	<b>Activity 4.7</b> External evaluation: midterm and final project evaluation	0	2,672	0	2,672	5,343
	<b>Activity 4.8</b> Waste Collectors Trainings	5,009	5,009	5,009	5,009	20,038
	<b>Activity 4.9</b> Experience sharing workshops with different stakeholders for exchange of information, knowledge and practices	6,085	6,085	6,192	6,138	24,500
	<b>Monitoring</b>	594	594	488	541	2,218
	<b>SUB-TOTAL 4</b>	<b>29,723</b>	<b>29,723</b>	<b>24,380</b>	<b>27,051</b>	<b>1,10,877</b>
<b>Component 5: Identify and introduce Innovation in the domain of waste management (including RVM)</b>	<b>Activity 5.1</b> Setting up of reverse vending machine including transportation & installation in various cities (both plastic & multi-layer)	1,30,669	1,30,410			2,61,079
	<b>Activity 5.2</b> Creating safe installation of RVM through well cages enclosure kept in uncontrolled environment to protect from any intentional damages or threat	8,683	8,683			17,366
	<b>Activity 5.3</b> Manpower at each vending machine	3,607	7,214	6,882	6,882	24,585

	<b>Activity 5.4</b> Mapping of innovation and scaleup well tested & proven innovation & technologies through showcasing at wider platform and opting market linkage approach			9,351	9,351	9,351	28,053
	Monitoring	2,918	3,177	331	331	6,757	
	<b>SUB-TOTAL 5</b>	<b>1,45,877</b>	<b>1,58,834</b>	<b>16,565</b>	<b>16,565</b>	<b>3,37,841</b>	
<b>Component 6: Technical Advisory</b>	<b>Activity 6.1</b> Training Module development & Capacity building of stakeholders	5,009	15,028			20,038	
	<b>Activity 6.2</b> Exposure Visits & Field Visits	6,446	6,245	6,546	6,546	25,782	
	<b>Activity 6.3</b> Technical Advisory to ULBs on integrated waste management practices					0	
	Monitoring	234	434	134	134	935	
	<b>SUB-TOTAL 6</b>	<b>11,689</b>	<b>21,708</b>	<b>6,679</b>	<b>6,679</b>	<b>46,755</b>	
<b>Local &amp; Field Human Resources</b>		87,205	91,566	96,144	1,00,951	3,75,866	
<b>Overheads and Miscellaneous</b>		6,679	6,679	6,679	6,679	26,717	
<b>SUB-TOTAL 7</b>		<b>93,885</b>	<b>98,245</b>	<b>1,02,823</b>	<b>1,07,630</b>	<b>4,02,583</b>	
<b>GROSS TOTAL</b>		<b>5,13,920</b>	<b>5,28,000</b>	<b>3,53,578</b>	<b>3,19,697</b>	<b>17,15,195</b>	
<b>Direct Project Cost</b>		<b>25,696</b>	<b>26,400</b>	<b>17,679</b>	<b>15,985</b>	<b>85,760</b>	
<b>Total Project Cost</b>		<b>5,39,616</b>	<b>5,54,400</b>	<b>3,71,257</b>	<b>3,35,682</b>	<b>18,00,955</b>	
<b>UNDP General Management Support @8%</b>		<b>43,169</b>	<b>44,352</b>	<b>29,701</b>	<b>26,855</b>	<b>1,44,076</b>	
<b>GRAND TOTAL</b>		<b>5,82,785</b>	<b>5,98,752</b>	<b>4,00,958</b>	<b>3,62,537</b>	<b>19,45,031</b>	
<b>UN RC Cost @1%</b>		<b>5,828</b>	<b>5,988</b>	<b>4,010</b>	<b>3,625</b>	<b>19,450</b>	
<b>Total</b>		<b>5,88,613</b>	<b>6,04,739</b>	<b>4,04,967</b>	<b>3,66,162</b>	<b>19,64,481</b>	
<b>CSR Trust for SDGs in India</b>		<b>11,772</b>	<b>12,095</b>	<b>8,099</b>	<b>7,323</b>	<b>39,290</b>	
<b>Total</b>		<b>6,00,385</b>	<b>6,16,834</b>	<b>4,13,067</b>	<b>3,73,485</b>	<b>20,03,771</b>	

Utthaan – HUL through CAF

Components	Description of Activities	year 1 (Months)	Amount (US\$)
<b>Component 1: Social Protection Pilot in Mumbai &amp; Delhi (3000 Safai Sathis)</b>	Activity 1.1 Application and Documentation fees	1	22,297
	Activity 1.2 Human Resource Cost (1 Community Mobilizer per 500 Safai Sathis)	6	8,757
	Activity 1.3 Tabs for Community Mobilizers for Data Entry/ Surveys/ Need assessment	1	811
	Activity 1.4 Office Supplies, Maintenance of Facilitation Center, Stationery, Printing, Communication, Internet, Miscellaneous	6	811
	Activity 1.5 Organizing of Community Meetings/ Camps/ Awareness Training/ Vocation and Counselling of Safai Sathis and their children.	6	1,622
	Activity 1.6 Implementing Partner Admin Fee (10%)		3,430
<b>Sub-Total 1</b>			<b>37,727</b>
<b>Component 2: Capacity Building - Safai Sathis</b>	Activity 2.1 Development of Handbook with Social Entitlements Tracking Card, City Report and other advocacy materials (Lumpsum)		2,360
	Activity 2.2 Mainstreaming Safai Sathis (Trainings, Awareness camps, IEC activities, Capacity Building Programmes, Health Camps, Vaccination, Community Work)		0
	Activity 2.3 Government Liasoning (Meeting with ULBs, State Govt, Nodal Govt Agencies)		0
	Activity 2.4 Organising virtual training and capacity building sessions for Community Mobilizers/ Master Cadre (2 meetings)		676
	<b>Sub-Total 2</b>		<b>3,035</b>
<b>Component 3: Monitoring &amp; Documentation</b>	Case Studies on success stories		1,622
	Travel- Monitoring, Govt Meetings, Field visits, Launch Events for Visibility		2,703
	<b>Sub-Total 3</b>		<b>4,324</b>
<b>Project Management Unit (PMU)</b>			
Project Associate (full time)		12	12,162
Monitoring & Evaluation Associate (25%)		12	3,649
<b>Sub-Total 4</b>			<b>15,811</b>
<b>Total</b>			<b>60,898</b>

Direct Project Cost @5%		3,045
<b>Total Project Cost (6+7)</b>		<b>63,942</b>
UNDP General Management Support @8%		5,115
<b>Total (8+9)</b>		<b>69,058</b>
CAF Project Coordination Cost @7%		4,834
<b>Grand Total</b>		<b>73,892</b>

### District Administration, Jajpur

Components	Activities	Amount (US\$) (Yr 1)	Amount (US\$) (Yr 2)	Amount (US\$) (Yr 3)	Amount (US\$) (Yr 4)	Total Amount (US\$)
Baseline Study	Ascertain the quantity and quality of waste generated at HHs, public institutions and marketplaces, waste practices and disposal mechanism followed by local kabadiwala /aggregators/enterprises in the target intervention villages-panchayat-2 cities and neighbouring block/GPs	13,486	0	0	0	13,486
Human Resources	Project management Unit (PMU) will be set up at district level	8,092	8,092	8,092	8,092	32,367
Collateral and IEC Materials	Developing and designing training module and IEC materials for the project	6,743	6,743	0	0	13,486
Travel & Admin	Travelling, admin and office expenses	809	809	809	809	3,237
<b>Sub Total</b>		<b>29,130</b>	<b>15,644</b>	<b>8,901</b>	<b>8,901</b>	<b>62,576</b>
<b>General Management Support (8%)</b>		<b>2,330</b>	<b>1,252</b>	<b>712</b>	<b>712</b>	<b>5,006</b>
<b>Grand Total</b>		<b>31,461</b>	<b>16,895</b>	<b>9,613</b>	<b>9,613</b>	<b>67,582</b>

## VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Project will be implemented by UNDP with financial support of and in close cooperation from donors and related National and State Municipal Corporations/ Municipalities over a period of 6 (six) years. Through this modality, UNDP will receive funds from donors, and will be responsible for effective use of resources and the achievement of the project outputs indicated in this Proposal. The project financing will also be supported through State Government/Departments, Communities, UNDP, Recyclers and other sources as indicative in Figure 8. The project will be implemented by UNDP in 50 cities across India, with close collaborations with the local governance bodies like municipalities (urban local bodies), responsible parties/service providers and Resident Welfare Associations or RWAs) and mobilized Safai sathis (Waste-pickers); in alignment within the legal framework and roles of related key government departments and boards. The nodal ministry of the project is Ministry of Housing and Urban Affairs (MoHUA) The Sustainable Dry Waste and Plastic Waste Management Project is currently being executed under the Direct Implementation Modality (DIM) of UNDP India. A Local Project Appraisal Committee (LPAC) approval has been effected for this initiative by Department of Economic Affairs (DEA), Ministry of Finance vide letter F. No. 11/1/2018-UN dt 22nd May 2019. At this juncture, the Ministry of Housing & Urban Affairs (MoHUA) has been requested to oversee the implementation and further scale up of the project. A Memorandum of Understanding (MoU) to this effect has been entered into between MoHUA and UNDP on 6th December 2021. Further to this, a Project Steering Committee (PSC) is to be constituted comprising MoHUA, UNDP India and other key stakeholders.

The project will be directly implemented by UNDP. In this case, UNDP assumes the responsibility for mobilizing and applying effectively the required inputs in order to reach the expected outputs. UNDP assumes overall management responsibility and accountability for project implementation. Accordingly, UNDP would follow all policies and procedures established for its own operations and will be responsible for all financial management, reporting, procurement and recruitment services.

UNDP may identify Responsible Parties/service providers to carry out activities within a DIM project. A Responsible Party is defined as an entity that has been selected to act on behalf of the UNDP on the basis of a written agreement or contract to purchase goods or provide services using the project budget. All Responsible Parties are directly accountable to UNDP in accordance with the terms of their agreement or contract with UNDP. The Responsible Party may follow its own procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of the responsible party, does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition that of UNDP shall apply.

### Project Audit

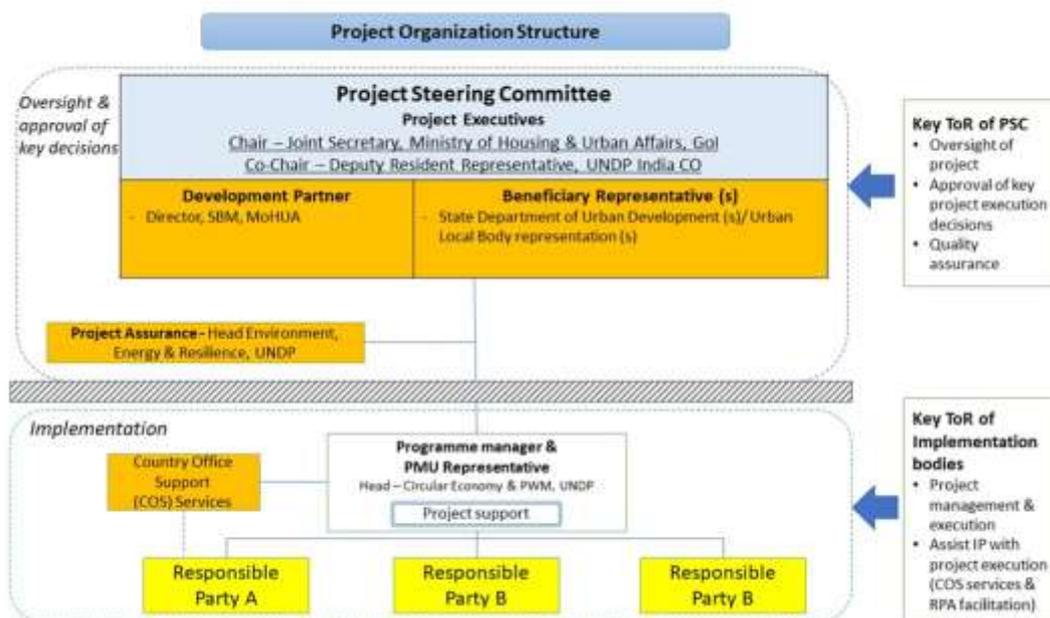
The audit would be conducted as per UNDP rules and regulations

### Project Closure

The project would be closed as per UNDP rules and regulations.

76. The overall proposed project governance and implementation structure is as follows in **Figure 8 & 8.1:**

**Figure 8: Project Governance Structures at Central level**





**Figure – 8.2: Roles & Responsibilities at various levels in the project**

#### Duties and Responsibilities

The two prominent roles of the or Project Steering Committee are as follows:

- High-level oversight of the project This is the primary function of the Project Steering Committee (PSC). The PSC reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports, monitoring missions' reports, evaluations, risk logs, quality assessments, and the combined delivery report. The PSC is the main body responsible for taking corrective actions as needed to ensure the project achieves the desired results. And its function includes oversight of annual (and as-needed) assessments of any major risks to the programme or project, and related decisions/agreements on any management actions or remedial measures to address them effectively.
- The PSC also carries the role of quality assurance of the project taking decisions informed by, among other inputs, the project quality assessment. In this role the PSC is supported by the quality assurer, whose function is to assess the quality of the project against the corporate standard criteria. This function is performed by a UNDP programme or monitoring and evaluation officer to maintain independence from the project manager regardless of the project 's implementation modality.
- The PSC reviews updates to the project risk log.
- Approval of key project execution decisions The PSC has an equally important, secondary role in approving certain adjustments above provided tolerance levels, including substantive programmatic revisions, budget revisions, requests for suspension or extension and other major changes.
- The PSC is responsible for making management decisions by consensus when required, including the approval of project plans and revisions, and the project manager's tolerances. The PSC approves annual work plans and reviews updates to the project risk log.
- Within the overall governance and management arrangements of the project, the role of the PSC as regards these two key functions ('High-level oversight of the project' and 'Approval of key project execution decisions') is distinct from the roles of entities involved in the implementation of the project, namely the implementing partner (IP), responsibilities parties, service providers and project staff.
- The diagram above outlines the main entities involved (and their respective responsibilities) in the 'oversight/approval of key execution decisions' layer and the 'implementation' layer of the project structure.

#### 77. Project Executive & Chair of the Project Steering Committee:

Chair: Swachh Bharat Mission (U) – MoHUA represented by the Joint Secretary will provide the strategic guidance and support in project planning and implementation.

Co-Chair: United Nations Development Program represented by Deputy Resident Representative shall ensure the responsibility and accountability of project implementation under this Direct implementation Modality (DIM). As the project executive, UNDP has the fiduciary accountability, responsibility for effective implementation of the project.

78. Beneficiary Representative (s):

They shall represent the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. Beneficiary representatives shall include representatives from State Department of Urban Development (s)/ Urban Local Body (s) etc.

79. Project Assurance Representative:

Project assurance representative (independent from PMU) is responsible for carrying out objective and independent project oversight and monitoring functions. Project assurance representative from UNDP shall perform the role of quality assurance and support the PSC & PMU by carrying out objective and independent project oversight and monitoring functions, including applying UNDP's social and environmental management system to ensure the SES are applied through the project cycle. The role will be played by Head – Environment, Energy & Resilience, UNDP

80. Project Management Unit:

The Project Management Unit (PMU) represented by Head- Circular Economy & PWM, UNDP will be responsible for the day-to-day planning and implementation of project activities and will be based out of UNDP Country Office in New Delhi. The team will work under the guidance of the PSC and in close coordination with the donor on all matters related to project implementation and will coordinate with the decentralized state/regional teams. The regional teams will be put in place and will work in close coordination with key agencies of the local government and agencies of selected cities under the states. Necessary support staff will be provided as required at the State/Regional Units.

Other Special Invitees and government agencies can include:

81. Responsible parties & Implementation Partners: The project shall be implemented with the support of implementation partners/ service providers that will be responsible for planning, implementation, operation and management for sustainable operation of Smart Swachhta Kendras and conducting IEC activities. In this it will draw on the significant experiences from current operations and partnerships in urban areas across the cities in the country. The project will further form partnerships for working in new geographies and with new, innovative technologies in the field of plastic waste management. The project will ensure identification, orientation and support to the implementation partners to be engaged in implementation of project initiatives. In addition, technical Consultants will be engaged for technical inputs related to plastic waste management and supporting in capacity building, technical monitoring, documentation, and dissemination of project learning.

82. State Governments: The project through the selected agencies in every city will build partnerships with the city municipal corporations, state pollution control boards, and related state departments. State governments will also play a role here in guiding and steering the project activities for better recycling facilities.

83. Ministry of Environment, Forest & Climate Change (Central/State Pollution Control Board): provide the requisite guidance and clearance to operate the facility as per SWM rules, PWM rules, EPR guidelines and all other applicable local regulations.

84. NITI Aayog: helping UNDP strengthen coordination with multiple stakeholders including pollution control boards, urban development departments, recyclers, CSOs, waste management agencies etc.

Registered recycler: having facility authorized under the respective state pollution control board for processing the respective material and also issue the requisite documentation on a timely basis in accordance with existing rules and regulations.

Others: Researchers, circular economy experts, representatives from industry bodies/associations, recycler bodies/associations, CSOs, technology experts and other associated experts.

85. **Workshops:**

Inception Workshop and Report:

A project inception workshop will be held within two months after the project document has been signed by all relevant parties to, amongst others:

- Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation;
- Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- Review the results framework and finalize the indicators, means of verification and monitoring plan;
- Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutions to be involved in project-level M&E;
- Update and review responsibilities for monitoring the various project plans and strategies, including the knowledge management strategy, and other relevant strategies;
- Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and
- Plan and schedule Project Board meetings and finalize the first-year annual work plan.
- The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and will be approved by the Project Board.

## 86. Monitoring and Evaluation

The project will undertake monitoring and evaluation related activities such as – developing Key Performance Indicators (KPIs), monitoring of indicators in project results framework as per standard UNDP reporting requirements, monitoring of operational, occupational, financial and institutional risks, knowledge management, Independent term evaluation and Mid term review (MTR), supervise and oversee project progress.

## 87. Trainings and Capacity Building:

This project entails a large participation of people in different activities, which many of them need to be involved in training activities, either to raise their awareness or in most of the cases to implement the plastic waste management in its different stages and from their different perspectives. A summary of which is presented in the following Table, by Component and by Activity number. Most of the training will be between half day and one full day. However, some of them will be more extensive, such as specific training workshops for managerial level.

Component	Activities	Description of Workshops/Meetings/Trainings	Numbers
1	1.3	Surveys and meetings for local legal agreements with service providers/responsible parties and waste pickers for establishing the Kendras	100 Meetings in meetings to select stakeholders over project time-period. .
	1.5	Creation of Resident Welfare Associations (RWAs) in each Ward for awareness/ segregation of waste followed up by regular meetings of each RWAs (1x10 wardsx50 citiesx4 years- 2000)	2,000 meetings
2	2.1	Organizing drives, meetings and agreements for programs on awareness, collection from schools/colleges/events/hospitals etc. (E.g. Fairs, Sports events)	1600 meetings for awareness raising.
	2.11	Experience sharing workshops with different stakeholders in every city for exchange of Information, knowledge and practices	250 workshops
	2.23	Strategy design workshop and stakeholder's engagement for implementation of second stage and for national replication	ONE workshop
3	3.3	Two meetings for 400 waste-pickers per city per year in plastic waste management, SHG formation, links to Banks, etc.	400 meetings
4	4.6	Project Technical Advisory Meetings- 1 meetings per year per city per year	200 meetings
	4.7	Project workshops	Atleast 10 workshops by the end of 6 years

## VIII. LEGAL CONTEXT

[NOTE: Please choose **one** of the following options, as applicable. Delete all other options from the document]

### Option b. Where the country has NOT signed the [Standard Basic Assistance Agreement \(SBAA\)](#)

The project document shall be the instrument envisaged and defined in the [Supplemental Provisions](#) to the Project Document, attached hereto and forming an integral part hereof, as "the Project Document".

This project will be implemented by (“Implementing Partner”) in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply.

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## IX. RISK MANAGEMENT

### Option b. UNDP (DIM)

1. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds]<sup>10</sup> [UNDP funds received pursuant to the Project Document]<sup>11</sup> are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via [http://www.un.org/sc/committees/1267/aq\\_sanctions\\_list.shtml](http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml). This provision must be included in all sub-contracts or sub-agreements entered under this Project Document.
3. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (<http://www.undp.org/ses>) and related Accountability Mechanism (<http://www.undp.org/secu-srm>).
4. UNDP as the Implementing Partner will: (a) conduct project and program-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or program to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.
5. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
6. UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:
  - a. Consistent with the Article III of the SBAA [or the Supplemental Provisions to the Project Document], the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP’s property in such responsible party’s, subcontractor’s and sub-recipient’s custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
    - i. put in place an appropriate security plan and maintain the security plan, considering the security situation in the country where the project is being carried;
    - ii. assume all risks and liabilities related to such responsible party’s, subcontractor’s and sub-recipient’s security, and the full implementation of the security plan.
  - b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of the responsible party’s, subcontractor’s and sub-recipient’s obligations under this Project Document.
  - c. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial

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<sup>10</sup> To be used where UNDP is the Implementing Partner

<sup>11</sup> To be used where the UN, a UN fund/programme or a specialized agency is the Implementing Partner

management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

- d. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at [www.undp.org](http://www.undp.org).
- e. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.
- f. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

- g. Choose the following options:

UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of this Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement. Recovery of such amount by UNDP shall not diminish or curtail any responsible party's, subcontractor's or sub-recipient's obligations under this Project Document.

Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

- h. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.
- i. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.
- j. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled "Risk Management" are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled "Risk Management Standard Clauses" are adequately reflected, mutatis mutandis, in all its sub-contracts or sub-agreements entered into further to this Project Document.
- k. **"Capacity Assessment:** UNDP follows Harmonized Approach to Cash Transfer approach for partnering with/ and transfer of funds to project responsible parties. HACT changed the

management of cash transfers from a system of rigid controls to a risk management approach aimed at reducing transaction costs, simplifying and harmonizing rules and procedures, while strengthening the capacity of implementing partners to effectively manage resources. Under this approach, UNDP undertakes capacity assessments of such partners and ensures spot checks, internal control audits and financial audits of such partners as required.”

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## **X. ANNEXES**

- 1. Project Quality Assurance Report – (Template Annexed)**
- 2. Social and Environmental Screening – (Template Annexed).**
- 3. Risk Analysis.** Refer Risk & Assumptions Section
- 4. Capacity Assessment:** Results of capacity assessments of Implementing Partner (including HACT Micro Assessment)
- 5. Project Board Terms of Reference and TORs of key management positions – Attach as Annex**

## Annexes

### Annex A.

#### **Framework for Plastic Waste Collection, Segregation & Recycling Swachhta Kendras (Material Recycling Centres)**

#### **1. What is a Swachhta Kendra:**

Swachhta Kendras (SKs) defined as “integrated material recycling centres” for recycling all types of plastic; which is collected with support from City Municipal Corporations (CMCs) or equivalent and by the Waste Pickers, Implementing Partners (IPs), in every city. The centres enable segregation of all types of plastics, adds product value, for increased incomes from the sale of different plastics. Links the waste collectors with recyclers along the value chain particularly for the low-grade, thin plastic litter bags, multi-layered plastics, PET, rigid plastics of all types in the city. The value addition will be done on the collected plastic waste on the parameters of thickness, their qualities; and re-processed (e.g. shredding, bailing, etc.) as per the requirements by the back-end recyclers (BERs), for Road Making and in Cement Kilns.

The SKs are largely, integrated within the existing systems and can cater 4-5 MTs of plastic waste per day per SK. This can be done through the use of different mechanical operations, using air pressure dust free (phatka machine); shredders; dry waste sorters; bailing and Agglo-gatta machines.

#### **2. Setting up SKs:**

Responsible party/Service provider who acts as an aggregator largely will ensure.

- . Land area approximately 3500 sq meters allocated for establishing the SKs on lease basis from the CMC/Equivalent supported by the project. The setting up of Swachhta Kendra (MRF) (including civil, electrical, mechanical, machinery) on need basis shall be done by UNDP based on requirements from ULBs and donors.
- i. Low-cost platform covered shed and the necessary room, toilet needs to be created for the management of the operations at the Swachhta Kendra.
- ii. Plant and machinery need to be installed, supported from the CMC/Equivalent.
- iii. Procurement of Vehicles – Based on a need analysis vehicle to be procured for ULBs to enhance collection and transportation of plastic/dry waste to Swachhta Kendra. The role for UNDP is to procure the vehicle and to handover it to the ULB.
- iv. Trainings & capacity building for the IPs and the waste collectors working on it - in the use, upkeep, and maintenance of machines. Project provides technical support.
- v. All legal sanctions for the implementation of the SKs procured from the State Pollution Control Board; CMCs and related authorities, supported by project.
- vi. Insurances for plant and machinery; persons working to be undertaken by the IP.
- vii. Requirements met with the concerned departments to register SKs (an institutional body under the MSME departments of the state/centre).
- viii. All operations to ensure economic viability of the Swachhta Kendra as a revenue model.
- ix. An end to end digital waste traceability maintained through the technology support; trainings.
- x. Different value-added operations to happen at the SKs on the segregated waste transported to the backend recyclers.
- xi. Requisite contracts, agreements done with back end recyclers, City Municipal Commissioners / Municipalities/State Pollution Control Boards etc. for transport, and pick of waste.

**3. Process of Implementation: Figure I,** clearly defines the schematic diagram of how the collection and processing of all types of plastic waste will be done at the SK. Consideration for development of innovative methods for mechanical recycling/upcycling; including improved segregation into 07 different types of plastic wastes as per SWMgt. Rules 2016.

SKs would ensure better rates are paid by recyclers to the responsible party/service provider and the waste pickers per/kg of plastic waste.

#### 4. Plastic Waste Collection Area for the SK:

Project considered in a smaller area – ten wards in each city; with each one ward - consists of 10,000 HHs, shops, market yards, institutions, religious, academic institutions, hospitals etc. Strategies for scaling up and replication will be developed from results from pilot to cover the city. Therefore covering a total of 100,000 households and related institutions etc. as mentioned above

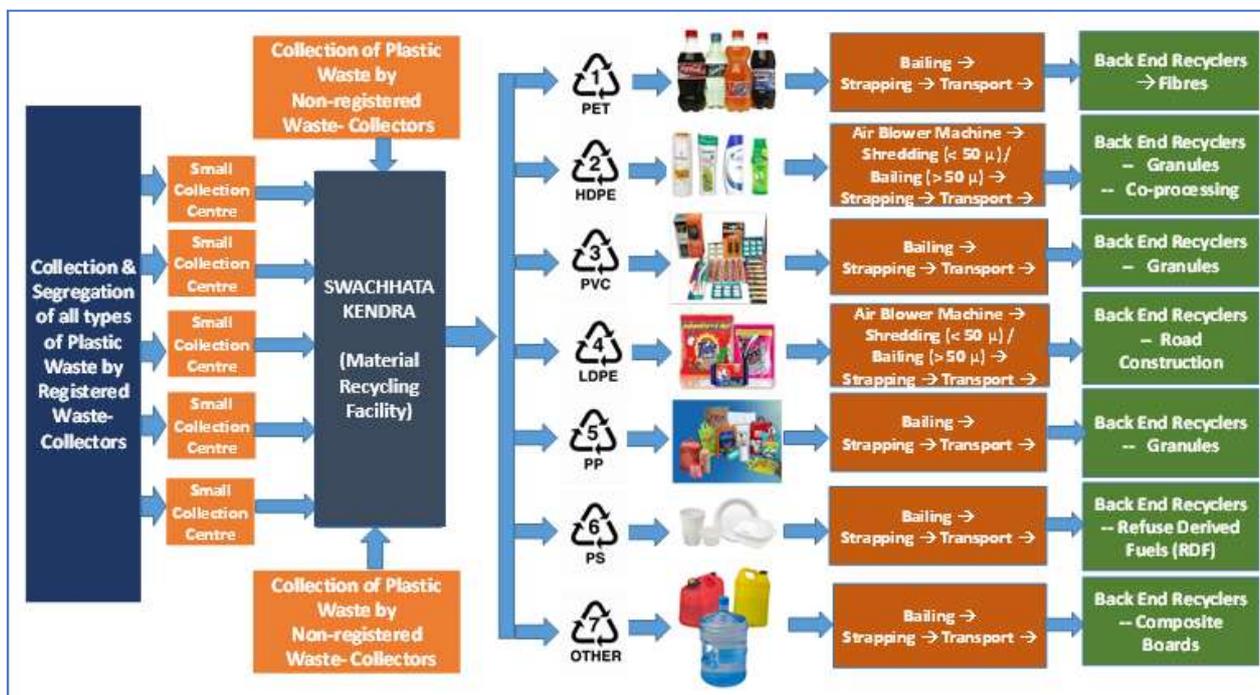
#### 5. Operations at the SK:

Plastic waste operations would be classified as:

PET, PE, HDPE, LDPE, PVC, PS and PP waste to be mechanically bailed/shredded etc category-wise and supplied to Recyclers (produce pallets or others), cement kilns (alternate fuels), road making etc as the need be;

Plastic waste less than 100 microns, multilayered shredding them in 2.4 mm size goes for road making, after mixing with bitumen, or making lumber blocks/RDF use in construction, recyclers or to the cement plants for co-processing. etc. All processes to follow the SWMGT Rules 2016.

**Figure – 1: Framework for Plastic Waste Collection, Segregation & Recycling**



#### Notes:

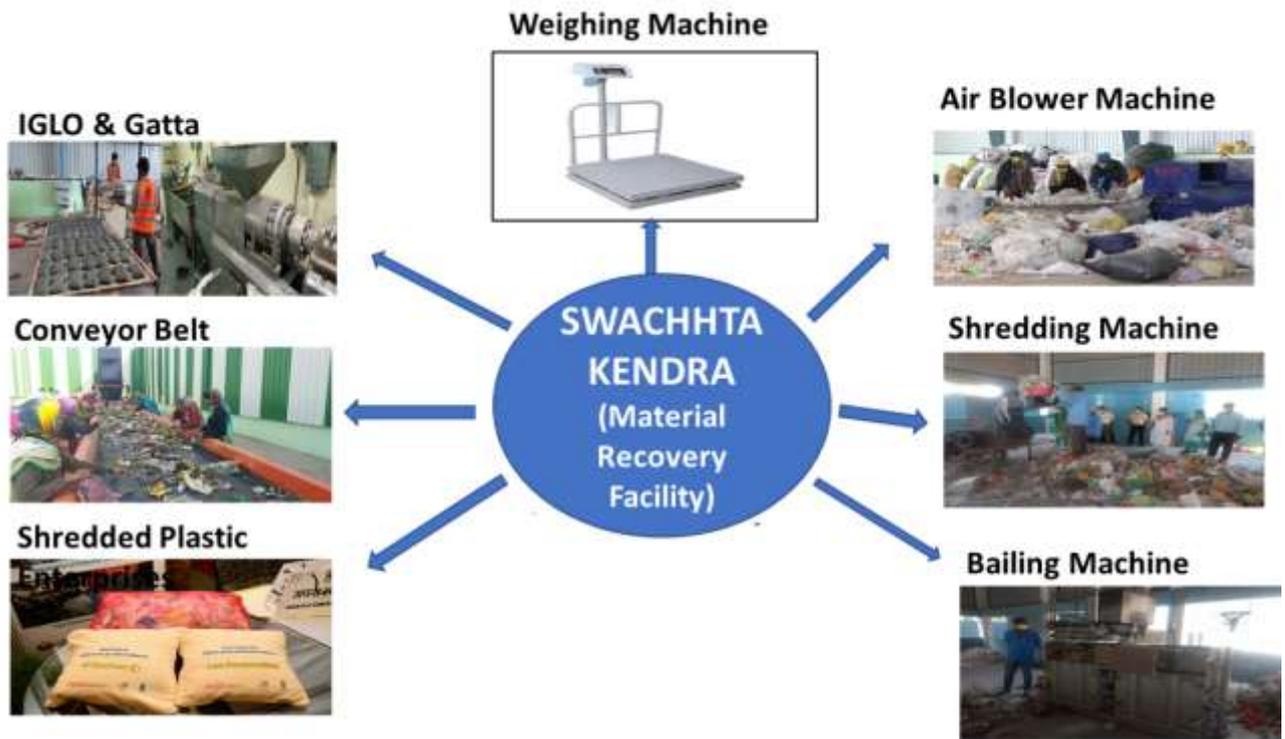
- The **Figure 1**, clearly defines the schematic approach for the collection and recycling of the plastic waste. Consideration to be given for development of innovative methods etc for mechanical recycling/upcycling; including improved segregation into 07 different categories of plastic wastes (as authorised SW Mgt. rules 2016, as shown in the above figure 1) to improve the quality of the recycled materials and better pricing for the segregated plastics.
- The start should happen in a smaller area of 10,000 HHs, (stage 1) shops, market yards, institutions, religious, academic institutions, hospitals, including any other stakeholders etc . Strategies for scaling up and replication to be developed into stage 2, based on the results from stage 1, after considering learnings and improvisations to cover the whole city.
- **Swacchta Kendra in the city ensures improved socio-economic conditions for waste pickers (Safai sathis) and waste collectors (kabadiwallahs).** By mainstreaming waste pickers' (Safai sathis') activities and strengthening self-help groups (SHGs) leads to improve their living conditions, including their families.

- Safai sathis given identity cards to maintain their respect and dignity in the society. These cards will be issued by the Urban Local Bodies along with the facilitating CBO/NGO/Institution. Each member in the SHGs formed will be linked with bank accounts individually and group based. Regular savings and credit systems will be created for the members to meet their immediate credit (access) needs through the banks. This will lead to the locals (waste pickers) to agree, take decisions, and sharing costs etc. so as to maximise efficiency and effectiveness.



**Figure 2: A sample of the Identity Card for the Safai sathis.**

- Ensure the sustainability of the Swachhta Kendra (SK), we need to have value addition/recycling of collected, segregated plastics; that involves setting of 5-6 machines as the Shredding, Bailing and Weighing scales, and making gatta, etc. making it a more business model as shared in the **Figure 3**.
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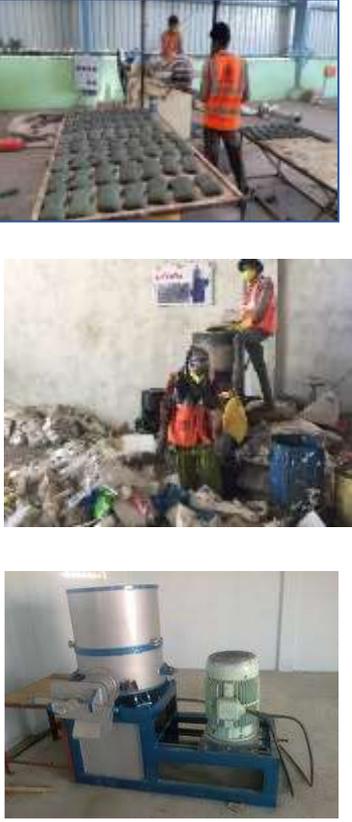


**Figure 3: Swachhta Kendra: A Material Recycling Centre (decentralized).**

- Activities, results and lessons-learned documented and shared, to have access of information by a wider stakeholder community. Annual workshops organized to create awareness, solicit feedback, and allow for networking among stakeholders during the project. Various activities will be developed for creating awareness on the various issues for clean, hygienic sanitation practices, education, and health for kin and kith of the waste pickers etc. Counselling and awareness will be provided to waste pickers on children education, schooling, violence to women/ girl child, drinking habit, gossiping habit, etc.
- At the Material Recycling Facility, the waste is sorted to remove soils/dust through (phtaka {air pressure} machines) and the thin polythene shredded as required. In each of the SKs, depending upon the dry waste matter the machinery installed and tailor made to suit the needs. some machines which will hold good are detailed. All safety precautions will be ensured during the setup of the facility. Necessary insurances for the plant and machinery, people working on the machines considered; and safety guards will be taken as per the prevailing laws and systems.

**Figure 4: Complete System Requirements**

Sl. No.	Equipment	Photos	Capacity	Horse Power	Price (Amount in INR)	Working Details
1	Dry waste sorting Conveyor Belt system		3 MTs per day	5	5,00,000	This is a slow moving 600mm wide Flat conveyor. The plastic/waste which can be monetized will be picked from the conveyor and will be dumped on any side of the conveyor. All the waste which of value will be hand sorted and the rest will go for removal of dust.
2	Phathka Machine		5 mt per day	5	2,50,000	A High-pressure machine used to separate dust from the plastic waste to be recycled. All the collected waste is loaded in to the machine for removal of dust. There is also a dust arrestor put in front to check the dust harming the persons at the machine.
3	Bailing Machine		5 mt per day hydraulic in nature	8	6,00,000	Vertical type pressing balers will be needed to compress the cleaned plastic waste and then linked to be transported to the Cement Factories and Power Plant boilers.
4	Shredding Machine		5 mt per day	30	6,50,000	Shredder with a capacity of 500 Kg/hr or as the case may be based on the city requirements; is required to shred the polyethylene plastic bags (shredded aggregates), including multi-layered packets less than 100 microns to 2.4 mm sizes to be further supplied for the Road Laying after mixing with Bitumen at 160/170 Centigrade temperatures. This is all done as per the CRRl guidelines in an eco-friendly manner.  The benefits are road strength increased by 50%; can withstand heavy loads and value addition to plastic waste.

5.	IGLO Gatta Machine		5 mt per day	15	6,50,000	<p>IGLO Machine has the characteristic of reducing moisture from the plastic. After the reduction of moisture, the waste plastic, including Styrofoam is used to make pallets; these are nearly 400 gms and can be used. Recycling through the Gatta machine involves processing of waste in to a pallet forms, for making recycled products like pipes use for irrigation, tubs, mugs and dustbins. This is the most preferred and widely used recycling process due to its cost effectiveness and ease of conversion to useful products of daily use; thus, a Briquetting Machine is combined. These recycling materials are e helpful in reducing the volume of other waste. This machine is being approx 1000 kg waste plastic dry (reduce moisture) in 8 hours.</p> <p>Gatta Machine can do nearly 500 kg in 8 hours. This can be increased.</p>
6.	Open Dry waste Manual Sorting		Can be increased as required		On the rolls of the MC or the NGO etc	The waste pickers doing the manual sorting of the dry waste into 12/13 different forms of waste, including 07 types of plastic wastes as per rules. These are then given to the scrap dealers/back end recyclers as the case may be.
88.	Weighing Scale; Stitching machine; Hand Tools; Sharpening machines, Spares			100 kGS SCALE	1,50,000	A proper electronic weigh scale needs to be purchased for taking care of the incoming materials etc needs to be weighted as given by the waste collectors. Along with this bag stitching machines, hand tools, Sharpening tools, Screw drivers etc.

**Melting Points of Different Plastics:**

<b>PLASTIC TYPE</b>	<b>MELT TEMPERATURE RANGE (DEGREE CELSIUS)</b>
LDPE	180-240
HDPE	210-270
PET (Semi Crystalline)	260-280
PET (Amorphous)	260-280
Polypropylene (Copolymer)	200-280
Polypropylene (Homopolymer)	200-280
Polypropylene (30% Talc Filled)	240-290
Polypropylene (30% GF)	250-290
Polystyrene	170-280
PVC P	170-190
PVC U	160-210
Polyethylene Terephthalate, PET	264
Polyethylene, PE	141
Polypropylene (PP)	168-175

## Annexure B

**Plastic Waste Management Partnership****Communications Plan<sup>12</sup>****OVERVIEW**

This document outlines the strategic roadmap for communications efforts around a proposed partnership on plastic waste management for India's cities. **It is aimed at increasing awareness about the partnership and drive favourability for the project's unique public-private partnership model with key stakeholders, including state and local governments and the private sector, to achieve impact at scale.** It also aims to position the partnership as making a key contribution to the Government of India's flagship Swachh Bharat Mission.

This roadmap must be viewed only as an overarching guide for communications. Specific actions for communications around a pilot, event or milestone will be mapped and activated by the communications team under the direction outlined by this strategic roadmap.

**PROJECT OBJECTIVES**

- Develop, implement and support an economically sustainable model for managing plastic waste from packaging, ultimately reducing the negative impact of plastic use on the environment and health
- Design, sustain and support elements to institutionalize the plastic waste management model in governance bodies in cities
- Create improved socio-economic conditions for waste-pickers

**KEY COMMUNICATIONS MESSAGES**

- The United Nations Development Programme (UNDP), donors, in close collaboration with state and civil society partners, are running a programme in Indian cities to reduce the impact of extensive plastic use on the environment and on health.
- We aim to introduce, test and scale new technologies to help manage plastic waste, especially from plastics used in packaging.
- By focusing on the critical role played by waste-pickers in collection and recycling, we can improve the quality of life and livelihoods of one of the most vulnerable socio-economic groups in India.
- The partnership complements important efforts already being undertaken by the Government of India through the Swachh Bharat Mission.

**BRANDING AND RISK MANAGEMENT<sup>13</sup>**

- Develop an easy-to-understand name for the partnership for easy audience identification and recall
- Develop a visual identity for the partnership
- Develop a joint strategy for crisis communications and reputation risk management
- Develop a crisis communications plan for risks specific to UNDP

<sup>12</sup> Draft for further discussion

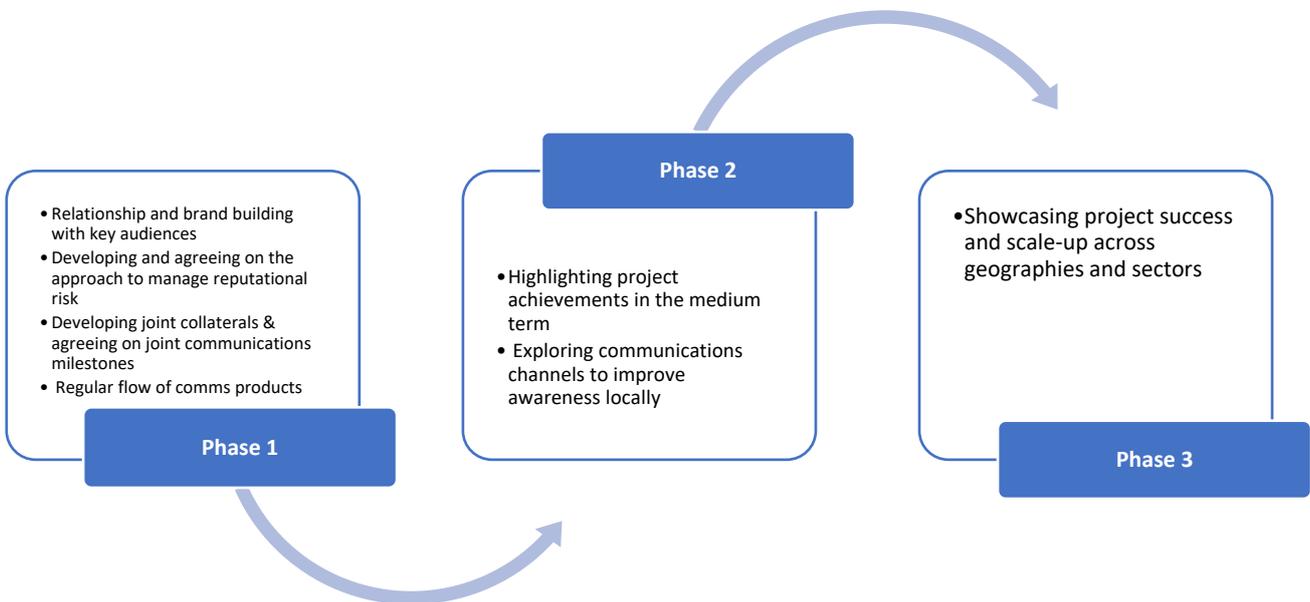
<sup>13</sup> All detailed plans and collaterals to be developed two weeks before announcement of partnership

## KEY AUDIENCE GROUPS

- Programme partners
- Local municipalities and state governments
- Civil society organizations
- Participating and prospective waste-pickers
- National government
- General public – targeting young people, engaged businesses in the project
- National and regional media are an audience and a channel

## STRATEGIC APPROACH

A phased approach can help build momentum gradually around the partnership as it scales.

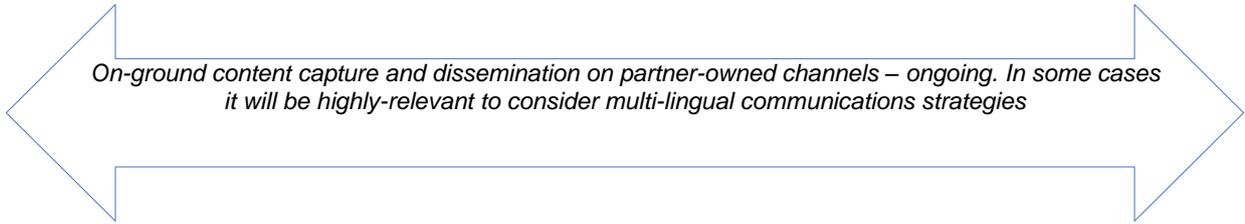


## KEY DELIVERABLES

- Brand video
- Project branding pack including PowerPoint template; brochure; pilot fact sheets, message bank, common identity guidelines
- Reputation risk management approach
- Key media engaged and briefed
- Regular communication around roll-out in different cities
- Human interest and corporate testimonials captured for each city – video diaries in different languages
- Pilot success communicated as data released
- Strategy for communicating with communities of practice
- Build on momentum of roll-outs and successes to demonstrate success
- National and local media coverage secured
- Prominent speaking opportunities secured

## ROLES & RESPONSIBILITIES

The communications strategy will be jointly executed by all partners.



*On-ground content capture and dissemination on partner-owned channels – ongoing. In some cases it will be highly-relevant to consider multi-lingual communications strategies*

**Annexure C:**

## **Communication Risk Assessment:**

### **This risk assessment aims to:**

1. Identify the potential media and communications risks for the partnership
2. Assess the severity of these risks
3. Outline a plan to mitigate risk

### **Communications Plan:**

There are two components to effectively handling the partnership from a communications perspective: One, a communications strategy to roll out the partnership; and two, a crisis communications plan for the project.

**Roll out strategy:** The strategy will briefly include (1) key messages in alignment with the donors (2) Identification of audiences (3) Channels of communications (4) Identification of digital campaigns given Coca-Cola's strong list of endorsements among the best known in India (5) Agreement on branding with all partners (6) Constitution of a risk committee including identification spokespersons, holding statements for the media, etc

### **Crisis Communications:**

The goal of this plan is to establish guidelines for dealing with a variety of crisis situations that might arise and provide policies and procedures for the coordination of communications.

It will contain:

- A deep inventory of potential crisis and brand and public relations vulnerabilities
  - Makeup of the crisis management team
  - Team assignments and responsibilities
  - Details on situation assessment procedures, including stakeholder analysis
  - Guidelines for response, which include: Designation of spokesperson(s), internal communications, external communications, rumour control activities, response activity checklist
  - List of pre-agreed holding statements
- Protocols for follow up with UNDP India, with donors and outside agencies: Follow up information, post-mortem meeting(s), plan update (if required)

## Annex D. List of key organizations carrying out plastic waste recycling in India

Sl. No.	Name: NGO/Institution/ULB etc.	Type	Contact details	E-mail id, Contact No.
1	<b>Ahmedabad (Gujarat)</b>			
	Bioways India		Mr. Christopher Joseph Rosario, Director, 402-SHYAM SUNDER AVENUE, ST. XAVIER'S SCHOOL ROAD, MEMNAGAR, AHMEDABAD Country: India Zip: 380052	<a href="mailto:info@aav.co.in">info@aav.co.in</a>
	Central Institute of Plastics Engineering & Technology		Dr. Pradeep Updhyaya, Principal Director & Head, Plot No.:630, Phase 1V, G.I.D.C. Vatva, Ahemdabad - 382 445	7228903004, 9662517001; cipetahmd@gmail.com
	Let's Recycle	Recycler	Sandeep Patel, CEO, 206, Kalasagar Mall, Opp. Saibaba Temple, Sattadhar Cross Road, Sattadhar-380061, Ahmedabad, Gujarat, India	s.patel@nepra.co.in; 9924143113
	Paryavaran mitra	NGO	Ashish Agarwal , Centre for Environment Education Thaltej Tekra, Ahmedabad 380 054 India	7383434065, paryavaranmitra@ceeindia.org
	Plastics India		Samer Joshi, Sudeep Industries, G/125, Phase III, GIDC, Vatva, Ahemadabad	9370146290; sajenvironment@plastindia.org
	Sudeep Industries	Recycler	Atul Kanuga, C,125, Phase II, GIDC-Vctva, Ahmedabad.	9824010327; atulkanuga@hotmail.com
	Textile Division, GHCL Limited		Nana Chikhalkar, Asst. Manager, 191/192, Mahala Falia, Village: Bhilad, Dist. : Valsad, Gujarat - 396 105	+91-260-3983046, 7573023046; nana@ghcl.co.in
2	<b>Allahabad (Uttar Pradesh)</b>			
3	<b>Amravati (Maharashtra)</b>			
4	<b>Aurangabad (Maharashtra)</b>			
	Aurangabad, Civic Response team, (CARPE)		Gauri Mirashi, B-14, MIDC Railway Station, Aurangabad - 431 001,	9503249494, 80074 47750, info@civicresponseteam.com
5	<b>Bangalore(Karnataka)</b>			
	Bangalore BBMP		Head Office, BBMP Head office, Corporation circle, Hudson Circle, Bangalore-560002	22221188, 080-22660000, Email-id-contactusbbmp@gmail.com

	Bangalore Daily Dumps	NGO	1163, 1st Cross Road, 12th Main Road, 2nd Stage, Indiranagar, Bengaluru, Karnataka 560038	<a href="mailto:hello@dailydump.org">hello@dailydump.org</a> ; <a href="tel:+919916426661">M +91 9916426661</a> <a href="tel:+918041157311">T +91 8041157311</a>
	ELCITA (Electronic city)	COMPANY	Electronics City Industrial Township Authority 7(P) ELCIA Complex, West Phase, Electronics City Bangalore – 560 100.	080-4660 2222
	E-Parisaraa Pvt. Ltd.	company	Dr. P Parthasarathy, Managing Director, B-41/1, Peenya Industrial Area, 3rd Stg, , Bengaluru, Karnataka 560058	78885-88303, rdhwan@ssrdp.org, recycle@ewasteindia.com 80 28360902,80 32906684
	Hasirudala Innovations	NGO	D-20, A/B Block, 4th Floor, Golden Orchid, 10/8, Kasturba Road, (gate next to McDonalds dive thru/Bharat Petroleum gas station, Shanthala Nagar, Ashok Nagar, Bengaluru, Karnataka- 560001	Nalini Shankar; nalini.hasirudala@gmail.com; nalinipalyam@gmail.com 078297 77737
	Infrastructure Development Corporation (Karnataka) Ltd.		Subramani T, Vice President, #9/7, KCN Bhavan, Yamuna Bai Road, Madhavnagar Etsn., Bengaluru-560001, Karnataka, India	subramani.t@idfc.com; 80 4344 8000
	MindTree		Bengaluru, Karnataka EPIP Second Phase KIADB Industrial Area Hoody Village, Whitefield Bengaluru 560066 Karnataka,India	91 (80) 6747-0000
	Paper Board & Speciality Papers Division, ITC Limited	COMPANY	Afsar Ahmed Mohammed, I 8, Banaswadi Main Road, Maruthi Sevanagar, Bangalore 560 005, India	+91 9632393384; afsar.ahmed@itc.in
	Sahas Bangalore	NGO	<b>21, Ground Floor, 5th 16th Main, 5th C Cross Road, MCHS Colony, Stage 2, BTM 2nd Stage, Bengaluru, Karnataka 560076</b>	99992 75002; alagkaro@saahas.org; Wilma, Rodrigues, 080-41689889/7349744271/2/4, Email : info@saahas.org

	Shell India Markets Pvt. Ltd.		Mr. Lakshmi Narasimhan, Lead-IH2, 21, Ground Floor, 5th 16th Main, 5th C Cross Road, MCHS Colony, Stage 2, BTM 2nd Stage, Bengaluru, Karnataka 560076	<b>124 6661500, <a href="mailto:generalpublicenquiries-in@shell.com">generalpublicenquiries-in@shell.com</a></b>
	Sri Sri Rural Development Programme Trust	<b>NGO</b>	R. M. Dhawan, Chairman & Trustee, The Art of Living International Center, 21 KM, Kanakpura Road, Bengaluru- 560082, Art of Living International Center, Sri Sri Rural Development Program Trust, 21st Km, Kanakapura Road, Udayapura, Bengaluru, INDIA 560082.	<a href="mailto:deepak.sharma@ssrdp.org">deepak.sharma@ssrdp.org</a> , 91 94357 00011 Mr. Deepak Sharma Trustee
<b>6</b>	<b>Bhopal (Madhya Pradesh)</b>			
	Gui Civil Construction		Zeeshan Khan, Managing Director, A-32, Housing Board Colony, Koefiza, Bhopal (M.P.) 462001	<a href="mailto:gulcivilconstruction@gmail.com">gulcivilconstruction@gmail.com</a> ; 9203 100100
	Kabadiwalla Bhopal		Anurag Asati, Founder, 127, Near Takshila School, Rachna Nagar, Bhopal, Madhya Pradesh 462023	<a href="mailto:contact@thekabadiwala.com">contact@thekabadiwala.com</a> ; 076972 60260; <a href="mailto:prajeeth@kabadiwallaconnect.in">prajeeth@kabadiwallaconnect.in</a> +91 9042371508
	Sarthak Bhopal /Indore		Imteyaz Ali 597, New Categorized Market Near Golden Transport, Berasia Road Bhopal M.P.- 462018	70002 96955; 98263 25798; <a href="mailto:sarthakbpl@gmail.com">sarthakbpl@gmail.com</a>
<b>7</b>	<b>Bhubaneswar (Orrisa)</b>			
	Central Institute of Plastics Engineering & Technology (CIPET)		Dr. Shusant Kumar Samal, Scientist, B-25, C.N. I complex, Patia, Bhubaneswar-751024, Odisha, India	<b>0674-2742852/2740173; <a href="mailto:larpmcipet@larpm.in">larpmcipet@larpm.in</a></b>
	CIPET: School for Advanced Research In Polymers(SARP) - LARPM, Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers (Govt. of India)		Dr. Smita Mohanty, Sr. Scientist, B-25, C.N. I complex, Patia, Bhubaneswar-751024, Odisha, India	0674-2742852/2740173; <a href="mailto:larpcipet@larpm.in">larpcipet@larpm.in</a>
	Green Circle Environment Pvt. Ltd		Subhasis Mohanty Manager(Operation & Liaison) Mukti Nilay, Khandagiri Bhubaneswar- 751030, India	Mob-9437101941/9437211841; <a href="mailto:gcindia01@gmail.com">gcindia01@gmail.com</a>

	PGL Group		Kamal s Aggarwal, Managing Director, Plot # M-18, 3rd Floor, Fire Station Sqr., Baramunda, Bhubaneswar, Odisha 751 003, India	98611 77777; ksa@pglgroup.in
8	<b>Bikaner (Rajasthan)</b>			
9	<b>Chennai(Tamil Nadu)</b>			
	Central Institute of Plastics Engineering and Technology		S. Sugumar, Pradhan Nideshak, Gindi, T.V.K. Industrial Estate, SIDCO Industrial Estate, Guindy, Chennai, Tamil Nadu 600032	+91-44-2225 4780, 9840726640; ssugumar@cipet.gov.in
	Kabadiwala connect	Recycler	SIDDHARTH HANDE, Managing Director, Uthamar Gandhi Rd, Ponnangipuram, Tirumurthy Nagar, Nungambakkam, Chennai, Tamil nadu-600034	<a href="mailto:sid@kabadiwallaconnect.in">sid@kabadiwallaconnect.in</a> 06718902
	Paperman, Chennai		B5. K30, Shakthi Apartment 6th Avenue East, Anna Nagar, Chennai, Tamil Nadu- 600034	080152 69831, info@paperman.in
10	<b>Coimbatore (Tamil Nadu)</b>			
11	<b>Cuttack (Orrisa)</b>			
12	<b>Dhanbad (Jharkhand)</b>			
13	<b>Faridabad (Uttar Pradesh)</b>			
14	<b>Ghaziabad (Uttar Pradesh)</b>			
	Bioenergy Consult		Mr. Salman Zafar, CEO	<a href="mailto:salman@bioenergyconsult.com">salman@bioenergyconsult.com</a> , 999 – 796 – 3312
15	<b>Guntur (Andhra Pradesh)</b>			
16	<b>Gurugram (Haryana)</b>			
	Hindustan Coca-Cola Beverages Pvt. Ltd.		Shri. Amit Saha, Chief Sustainability Officer, 3rd Floor, Orchid Centre, Golf Course Road, Sector 53, Haiderpur, Haryana 122003	0124 234 8041, aha.amit@gmail.com
	<b>PEPSICO</b>		Samir Pathak, Corporate Affairs Director, Pepsico India Holdings Private Limited, Level 3 - 6, Pioneer Square, Sector-62, Near Golf Course Extension Road, Gurugram - 122101, Haryana, India	<a href="mailto:samirkumar.pathak@pepsico.com">samirkumar.pathak@pepsico.com</a> ; 9899719195

	<b>Rare Innovative Products Pvt. Ltd.</b>		Rakesh Kumar Singhal, Managing Director, E-55, Greenwood City, Sec-45, Gurgaon, Haryana-122003 (India)	<a href="mailto:singhalkr@gmail.com">singhalkr@gmail.com</a> ; 9650807159
	Saahas Zero Waste Management Pvt. Ltd.		Mrs. Sonia Garga, Program Director-North India C-881, Ground Floor, Sushant Lok 1 Sector 43, Gurgaon, Haryana 122022	9999275002, <a href="mailto:info@saahas.org">info@saahas.org</a>
	<b>Tetra Pak India Pvt. Ltd.</b>		Jaideep Gokhale, Communications Director, Director, South Asia Markets, Marketing Communications Director, South Asia, East Asia & Oceania, DLF Epiteome, Building No. 5, Tower C, 16th Floor, DLF Cyber City, DLF Phase III, Gurgaon - 122002	+91 124 4124600, 9650893355; <a href="mailto:jaideep.gokhale@tetrapak.com">jaideep.gokhale@tetrapak.com</a>
17	<b>Guwahati (Assam)</b>			
	Plastic Waste Management Centre (PWMC), Guwahati (A branch of CIPET in North East), Govt. Organization.		Prof. (Dr.) S K Nayak, Director General; Guwahati-Baihata Rd, Bongolagarh, Hajo Circle, DIST: Kamrup, Bargaon, Assam 781104	91-361-2914005, 91-8811083298(M) <a href="mailto:pwmc.guwahati@cipet.gov.in">pwmc.guwahati@cipet.gov.in</a>
18	<b>Gwalior (Madhya Pradesh)</b>			
19	<b>Goa (Panjim)</b>			
	Centre for Incubation & Business Acceleration (CIBA)		Tushar V. Sawant, Manager	<a href="mailto:tushar@ciba.org.in">tushar@ciba.org.in</a> ; 9923755037
	Centre for Incubation & Business Acceleration (CIBA)		Gajanan (Amey) P. Karmali, Manager	<a href="mailto:amey@ciba.org.in">amey@ciba.org.in</a> ; 9923755034, 0832-2791420
	Detritus Solutions	Consultancy, Design, Policy making	Gaurav Pokle, TrivikamPrabhugoankar and Siddesh Thali, Flat no.A/F-102 Saldan Kieran Apts II, near Mapusa Industrial Estate, Altinho Mapusa403507, Goa	<a href="mailto:contact@detritussolutions.com">contact@detritussolutions.com</a> ; 08323290383/ 9371194600 9922930567/ 9823665956
	Ecoman Foodie	Waste management with Composting	Mr. Jose Vincet (Gomes of state of Goa) G-4, Dukle Heaven, St. Inez, Panaji, Goa	<a href="mailto:inquiries@ecomanenviro.com">inquiries@ecomanenviro.com</a> ; 9096879999

	GOA Foundation;		GREEN GOA WORKS	Espie Khandolkar; 98501 01137; greengoaworks@gmail.com
	Mahal Plastics	Recycler	Shed No. D2-5, Kundaim Industrial Estate, Kundaim- Goa	
	Sai Pack	Recycler	H. No. 275, Dhauji, Old-Goa	
	Samrat Industries	Recycler	Shed No. D3-4, Canacona Industrial Estate, Canacona -Goa	
	Siddhi Plastic Industries	Recycler	207, Dhaujim, Old-Goa, 403402	
	Solutions Providers	Waste Water	Melvin Fernandes, 310/5A, Bamon Vaddo, Oxel, Siolim, Bardez, Goa	melvin.fernandes@yahoo.com; 9822988255, 3251470
	Sustainable Biosolutions	Technology Provider	Akshat Tyagi (Founder) Office no. 3, Incubation Center, BITS Pilani KK Birla Goa Campus, Near NH17/B, Zuarinagar, Goa 403726	info@susbio.in; 8888980197/ 8806908550
	V Recycle WMS	Waste Pickup Services	Clinton Vaze (Founder) P-35, Margao Industrial Estate, San Jose de Areal, Goa	98909 36828; klintvaz@gmail.com
20	<b>Hubli-Dharwar (Karnataka)</b>			
21	<b>Hyderabad (Telangana)</b>			
	Banyan Tree Hyderabad		26th Mile Stone on Srisailam Highway, Thummaluru village, Maheswaram Mandal, Hyderabad, Ranga Reddy, Telangana 501359	040 2333 9595,info@makprojects.com www.makprojects.com
	Chandrasedkar plastics	Recycler	H.No. 3-4-1050, Jiyaguda, Hyderabad, Ph.9246575251,	
	Deccan Plastic Industries	Recycler	18-9-70/B, Inner Ring Rd, Kummar Basthi, Chandrayangutta, Hyderabad, Telangana 500005, Inner Ring Rd, Kummar Basthi, Chandrayangutta, Hyderabad, Telangana 500005	099636 35712

	E Sree Foundation		M. M. Asrar, Chief Functionary Officer, No: 6-3-1216/55, Flat no. 202, Sagarvilla Apartments, Methodist Colony, Begumpet, Hyderabad - 500016	98665 67070, 040 -23403339; asrar@esreefoundation.com
	Green - Lace Society		B. Vachan Kumar, President, 1-9-670/44, SRT, Vidyanagar, Hyderabad - 500 044, (TS) India	+91-97032 52044; greenlacesociety@gmail.com
	Green Waves		P. Anil Chowdary, Sri Durga Bhavani Business Complex, Opp Satyam Theatre, Ameerpet, Hyderabad-16	anil@greenwavesrecyclers.in, 7093351666, 7793954666
	Haliyana Plastics	Recycler	8-4-343/b, erragadda, Hyderabad	
	Ramky Hyderabad		Ramky House, Site Nos. 25-30, 2nd Cross, Raghavendra Nagar, Hennur Ring Road, Kalyan Nagar, Bengaluru - 560 043	+91 80 2544 4666/ 4999; rilbnl@ramky.com
	Samki group		S. Sampath President & Chief Executive Aqeela Siddiqui Vice President Flat no 101, Plot No 12-2-709/c/207, Padmanabha Nagar Colony, Hyderabad, Telangana 500028	Phone: 040 2351 5967 Email: samki@samkigroup.in anything@samkigroup.in
	Sri Amarnath Industries	Recycler	15-7-421/422, Near Post Office, Begum Bazaar, Begum Bazaar, Hyderabad, Telangana 500012	040 2461 4295
	Sri Guru Plastics, (Sun Plastics)	Recycler	H.No.13-3- 1050/21/1, Jiyaguda, Hyderabad	
	Sri Sai Plastics Industries	Recycler	13-3-1050/21, zaiguda, Hyderabad	
	Waste ventures India		30, Bollaram Rd, Bachupally, Miyapur, Hyderabad, Telangana 500049	Roshan Miranda; 91009 76109; <b>roshan@wasteventures.com</b>
22	<b>Indore (Madhya Pradesh)</b>			
	Basix Municipal Waste Bentures	NGO	Deepak Kumar Sahu, Manager - Operations, 134-A, Mahadeve Nagar, Near Bangli Square, Indore-452 001, M. P.	deepakkumar.sahu@basixindia.com; 9827297568
	Basix Municipal Waste Bentures		Asad Warsi, SWM Consultant	asad.cleantech@gmail.com; 9827060693

	Basix Municipal Waste Bentures		Shri Gopal Jagtap	shrigopal@basixindia.com; 9827202095
	Clean Tech		Asad Warsi, SWM Consultant	asad.cleantech@gmail.com; 9827060693
	Confederation of Indian Industry (CII)	NGO	Sweta Sharma Joshi, Deputy Director, 402, Sapphire Twins, Scheme No. 54, 16 AB Road, Indore - 452010	sweta.sharma@cii.in; 7314009061, 7869936366
	EcoGreens	Shredder maker	Sudesh Kalway	sudesh.kalway@appsphere.in; 98262 79913, 99260 79913
	Asad Warsi, SWM Consultant		Gyan Prakash Godhane, 1st Floor, 151, Vishwakarma Nagar PO. Sudama Nagar, Indore – 452009(M.P.)	greene.systems@gmail.com; 91-9575504953/ 8109844371
	Indian Plastpack Forum		Sachin Bansal, Hon. Secretary, 18 D-2, Sanwer Road, Sector-D, Industrial Area, Indore-452015 (M.P.)	sachinbansal123@gmail.com; 0731-4040600
	Indore Municipality		Rohan Saxena, Addl. Commisioner IMC	rohan007saxena@gmail.com; 9827781765
	Indore Municipality		Mahesh Sharma, SE IMC	maheshsharmaim@gmail.com; 7440443334
	Indore Municipality		Vijay S. Marathe, Planning Consultant	maratheurban@gmail.com; 9893699134
	Jaidka Polymer Ind. Pvt. Ltd.		Angad Singh Jaidka, Director, 32-C &D, Sector- C, Sanwer Road, Industrial Area, Indore-452015 (M.P.)	angadjaidka@gmail.com; 9826958058, 98269-06262
	M.H. Paper Bag Solutions		Afzal Khan, 110/1, Juna Risala, Subhash Marg, Indore (M.P.) 452002	mushshi104@gmail.com, mhbps100@gmail.com; 9755835940, 9893081653, 9424778110,9425495272
	Pristine Environmental Associates Pvt. Ltd		Vipul Jain, Manager, Business Development, 57-A, Sanchar Nagar Annex, Aloknagar Road, Opposite SBI Bank, Indore(M.P.)-452016	0731-4900746

23	<b>Jabalpur (Madhya Pradesh)</b>		
24	<b>Jaipur(Rajasthan)</b>		
	Rajasthan State Pollution Control Board		Payal Pancholi, Jr. Scientific Officer, 4, Jhalana Institutional Area, Jhalana Doongri, JAIPUR(Raj.) <a href="mailto:pancholipayal16@gmail.com">pancholipayal16@gmail.com</a>
	Rajasthan State Pollution Control Board		Asstt. Environment Manager, 4, Jhalana Institutional Area, Jhalana Doongri, JAIPUR(Raj.) 9413966129; rahulsharma141@gmail.com
25	<b>Jammu (Jammu &amp; Kashmir)</b>		
	<b>Jamshedpur (Jharkhand)</b>		
26	<b>Jodhpur (Rajasthan)</b>		
27	<b>Kanpur (Uttar Pradesh)</b>		
	Quality Décor Dzines	Scrap tyre recycling	Vaishali Biyani, CEO, Office: 13/392, C-1, Civil Lines, Kanpur-208001 Works: C-1156, Rooma, Industrial Area, Kanpur-208001 <a href="mailto:vaishali@dedzines.com">vaishali@dedzines.com</a> ; 8800405678
28	<b>Kochi (Kerala)</b>		
29	<b>Kota (Rajasthan)</b>		
	Rajasthan State Pollution Control Board		Amit Sharma, Regional Officer, Environment Engineer, Plot No. SPL-2A, Paryavaran Marg, Road No. 6, Indraprastha Industrial Area, Kota-324005(Raj.) <a href="mailto:amitrpcb@gmail.com">amitrpcb@gmail.com</a> ; 9414177311
30	<b>Madurai (Tamil Nadu)</b>		
31	<b>Maharashtra</b>		
32	<b>Mumbai (Maharashtra)</b>		
	Green Communities Foundation		Kedar Sohoni, Founder, A-103, Mahindra Eminent, S. V. Road, Goregaon West, Mumbai - 400062 +919821394551; kedar@greencf.org

	ACC Limited		Pratyush Panda, Head- Corporate Social Responsibility, Cement House, 121, Maharshi Karve Road, Mumbai 400 020, India	pratyush.panda@acclimited.com; 022- 3302 4567, +91 90043 59111
	Chamunda Plastic Industries	Recycler	Plot No. B-2/11 MIDC, Nanded	
	Covestro(India) Private Ltd.		Gilroy Correia, Senior Manager - CSR, Bayer House, Central Avenue, 3rd floor, Hiranandani Estate, Off Ghodbunder Road, Thane (West) - 400 607, Maharashtra, India	+91 22 2586 6477,96191 03293; gilroy.correia@covestro.com
	Deluxe Recycling Pvt. Ltd.	Recycler	Mr. Jignesh Shah, Managing Director	jls@ecolinkindia.com; 9821082759
	Dow Chemical International Pvt. Ltd.		Vipul Babu, Sales Director, India Subcontinent, Packaging and Speciality Plastics Business, 1st floor, Block B, 02 Godrej Business District, Pirojshanagar, LBS Marg, Vikhroli (W), Mumbai - 400 079, India	+91 22 6674 1509; vhbabu@dow.com
	Environmental Design Solutions Pvt. Ltd.		Gurmeet Singh, D-1/25, Vasant vihar, New Delhi-110057, India	9899240140
	FORCE		Prakash Sonawane, Shivaji Nagar, Near Ration Office, Baji Prabhu Deshpande Road, Govandi, Mumbai-43	<a href="mailto:mumbaiforce@gmail.com">mumbaiforce@gmail.com</a>
	GEM Enviro Management Pvt. Ltd.		Paras Gupta, New Delhi - Unit No. 203, Plaza-3, Central Square, Bara Hindu Rao, Delhi - 110006; Mumbai - 23/91, Yashwant Nagar, Near Filmistan Studio, Goregaon (W), Mumbai - 62	9811525816; paras@gemrecycling.com
	Geocycle India		Ulhas V. Parlikar, Dy. Head, ACC Thane Complex, Near Teen Hath Naka, L.B.S. Marg, Thane-400604, India	ulhas.parlikar@geocycle.com; 9967581975

	Good Governance India Foundation		V Suresh, President, 305, 3rd Floor, The summit Business Bay, Near WEH Metro Stn., Off Andheri Kurla Road, Andheri(East), Mumbai 400093, India	vsuresh30@gmail.com, vsuresh@municipalika.in, vsuresh@fairfest.in; 9987505511, 9818513344
	Hyva (India) Pvt. Ltd.		Sudesh Dabhekar, General Manager- Sales, Plot # EL-215, MIDC, Mahape, Navi Mumbai- 400710, India	sudesh@hyvaindia.com; 88796 30225
	ICLEI		Emani Kumar, ICEI-South Asia Secretariat Ground Floor, NSIC-STP Complex, NSIC Bhavan, Okhla Industrial Estate, New Delhi-110020, India	emani.kumar@iclei.org; iclei-asia@iclei.org; 9810544035
	Indian Centre for Plastics in the Environment (ICPE)	Policy Maker	Vijay Merchant, Member Governing Council	icpe@icpe.in; icpe.mumbai@gmail.com; 9821254666
	Indian Centre for Plastics in the Environment (ICPE)	Policy Maker	S. K. Ray, Hon. Secretary- Member Executive Committee, Flat no:401, 4th Floor, Choksey Mansion, 303, Shahid Bhagat Singh Road, Fort, Mumbai-400001	icpe@icpe.in, icpe@mumbai@gmail.com; 022 22617137/ 65/ 68
	Indian Centre for Plastics in the Environment (ICPE)	Policy Maker	T. K. Bandopadhyay, Flat no: 401, 4th floor, Choksey Mansion, 303, shahid Bhagat Singh Road, Fort, Mumbai-400001	tk.bandopadhyay@icpe.in, icpe@icpe.in, icpe.mumbai@gmail.com, icpe@envis.nic.in; 022 22617137/ 65/ 68
	Jai Sai Plastic Industries	Recycler	Plot No. B-3/6, MIDC Nanded	-
	Mahindra & Mahindra Ltd.		Hitesh Kataria, Manager, Group Sustainability, Mahindra Towers, 5th Floor, A Wing, Dr. G.M. Bhosle Marg, Worli, Mumbai 400 018, India	<a href="mailto:kataria.hitesh@mahindra.com">kataria.hitesh@mahindra.com</a> ; 9619925818

	Manav Rachna Innovation & Incubation Centre		Dr. B. S. Gill, Advisor, Sector 43, Delhi-Surajkund Road, Aravalli Hills, Faridabad, New Delhi, India	bsgill@mrei.ac.in; 9818646576
	Municipal Corporation of Greater Mumbai	MC	Kiran S. Dighavkar, Assistant Commissioner 'A' Ward, 134-E, Shahid Bhagat Singh Marg, Near Reserve Bank of India, Fort, Mumbai - 400001,	ac.a@mcgm.gov.in, kirandighavkar@gmail.com; 022-22607000, 9920185201
	Navi Mumbai Mahanagar palika		Mohan B. Dangavakar, Charter Engineer, Navi Mumbai Mahanagar palika, Mukhyalaya, 2nd Floor, Palm Beach Junction, section 15 A, C. B. D. Belapur, Navi Mumbai-400614	<a href="mailto:mdagonkar@nmmconline.com">mdagonkar@nmmconline.com</a> ; <a href="mailto:cenmmc@yahoo.co.in">cenmmc@yahoo.co.in</a> ; 9821430919
	New Pack Industries	Recycler	4 Janta Industrial Compound, Opp Phoenix Mill , SB Marg, Lower Parel Mumbai	-
	Plastindia Foundation		Dr. Sameer Joshi, Member, National Environment Committee, 401, Landmark - 'B', Suren Road, Off Andheri Kurla Road, Andheri East, Mumbai -400 093, India	<a href="mailto:sajenvironment@plastindia.org">sajenvironment@plastindia.org</a> ; 9370146290
	Plastindia Foundation		Atul Kanuga, Chairman, Environmrnt & Plastic Image Committee, 401, Landmark - 'B', Suren Road, Off Andheri Kurla Road, Andheri East, Mumbai -400 093, India	<a href="mailto:environment@plastindia.org">environment@plastindia.org</a> ; 9824010327
	Polycraft		Vijay Merchant, 15-Unique House, 25, S.A. Brelvi Road Fort, Mumbai-4000001, India	<a href="mailto:polycraft@vsnl.com">polycraft@vsnl.com</a> ; 022-22662627; <a href="mailto:icpe@icpe.in">icpe@icpe.in</a> ; <a href="mailto:icpe.mumbai@gmail.com">icpe.mumbai@gmail.com</a> ; 9821254666
	Polygenta Technologies Ltd	Recycler	Gat No. 265/1, 266, Village : Avankhed, Tal : Dindori, Dist : Nashik - 422201	<a href="tel:9102557228100">91 (0)2557 228100</a> <a href="mailto:info@polygenta.com">info@polygenta.com</a> , <a href="mailto:customercare@polygenta.com">customercare@polygenta.com</a>
	Proctor & Gamble, India		Rajjev Srivastava, India Sustainability Leader, P & g Plaza, Cardinal Gracias Road, Chakala, Andheri East, Mumbai 400 099	(+91-22)2826 7494; <a href="mailto:srivastava.r@pg.com">srivastava.r@pg.com</a>

	Recycle Karo		Rajesh Gupta, Millenium Business Park, Unit No. 8, Building No. 5, Sec-03, Mahape, Navi Mumbai-400701	<a href="mailto:rajesh@recyclekaro.com">rajesh@recyclekaro.com</a> ; 9967310007
	Recykal	Recycler	Chetan Baregar, Marketing Manager	<a href="mailto:chetan.baregar@rapidue.com">chetan.baregar@rapidue.com</a> 7799996254
	Reliance Industries Limited		Kamal P. Nanavaty, President - strategy Development, Reliance Corporate Park, Bldg. no. TC23, 4th Floor, A-Wing, Thane - Belapur Road, Ghansoli, Navi Mumbai - 400 701, India	9821060525, +91-22-4478 0308; kamal.nanavaty@ril.com
	Scrapcrow Pom, Mumbai,			<b>Find the mail ID; Address</b>
	Selection Ply-N-Wood	Recycler	Gat No. 63,Chikhali Moshi Road, Jadhavwadi, Pune	
	Stree Mukti Sanghatana	NGO	Jyoti Mhapsekar, President	smsmum@gmail.com; 022-24174381; 022-24174381
	The Shakti Plastic Industies	Recycler	Vinod Poddaar	vinod@shaktiplasticinds.com; 9820030371
	The Shakti Plastic Industies	Recycler	Rahul V Podaar	rahul@shaktiplasticinds.com; 9820300446
	Ultratech Cement Ltd.		Dr. K. V. Reddy, Sr. Vice President & Corporate Head, Ahura Centre, 'A Wing', 1st Floor, Mahakali Caves Road, Andheri(East), Mumbai - 400 093, India	022 6691 7800
	WeWork	NGO	Sanya Chawla, Insight Advisor, BKC C-20, G Block, Bandra-Kurla Complex, Bandra-East, Mumbai, Maharashtra 400051, India	sac@xynteo.com; +91 8879944468
	Sampurn(e)arth Environment Solutions Pvt Ltd		Debartha Banerjee sampurn earth No.2\, Mahinder Chambers\, WT Patil Marg\nOff V.N.Purav Marg.Near Shivaji Chowk\nChembur. Mumbai 400071 India www.sampurnearth.com	022-4120 9120; +91 90960 39586 sespl@gmail.com

	Evergreen Recyclekaro (I) Pvt.Ltd		Rajesh Gupta Director Unit No. 8,Ground floor, Building No. 5, Sector no. 3, Millennium Business park,Mahape, Navi Mumbai - 400 701.	Mobile: 022 - 41231340 / +91 9967310007 E-mail: rajesh@recyclekaro.com Web Site: www.recyclekaro.com
	YES BANK LIMITED		Rakesh Shejwal, Vice President, YES BANK Tower, IFC 2, 27th Floor, Elphinstone (W), Senapati Bapat Marg, Mumbai-400013	(+91)-9920949532; rakesh.shejwal@yesbank.in
33	<b>Murthal (Haryana)</b>			
	Central Institue of Plastic Engineering & Technology (CIPET)		S. Barathi, Senior Technical officer	barathiviolet@rediffmail.com; cipetmurthal@gmail.com; 9466146008
34	<b>Mysore (Karnataka)</b>			
35	<b>Nashik (Maharashtra)</b>			
36	<b>New Delhi</b>			
	NCCR/ MoES		Pravarkar Mishra, Scientist - F	
	Yes Bank Limited		Chandan Bhavnani, Executive Vice President, Yes Bank Limited, 9, Nyaya marg, Chanakya Puri, New Delhi-110021	+91 (011) 66560563, 8130937555; chandan.bhavani@yesbank.in
	Actor Alliance for Recycling Beverage Cartons		Ashwani Sharma, Program Coordinator, A 73, Malviya Nagar, New Delhi- 110017,	9582706076; asharma@aacrc.org.in
	Actor Alliance for Recycling Beverage Cartons		Rajat Kumar, Program Manager, A 73, Malviya Nagar, New Delhi- 110017,	8373986372; rkumar@aacrc.org.in
	Advanced Educare Training Pvt. Ltd.		Swadhin Mohanty, F-1018/19, UG-1, Near Mahagun, Metro Mall- PVR, Sector-3, Vaishali, Ghaziabad	swadhinmohanty@gmail.com; 94370 81765
	All India Plastic Waste Pickers Association		Shashi Pandit	9968413109

			Sandeep Kumar Jindal, Managing Director, Regd. Office: D-49, Masarovar park, Shahdra, New Delhi, India; Corp. Office: 13A, Udyog kendra, Ecotech III, Greater Noida (UP) India	jindalsandy@gmail.com; 9312284458
	Ashtech Buildpro India Pvt. Ltd.			
	Chintan		Rajat Rai Handa, Manager-Advocacy and Communications, C-14, 2nd Floor, Lajpat Nagar, Part-3, New Delhi-110024, India	46574171, 29842809; rajatr@chintan-india.org
	Chintan Environment Delhi		Bharati Chaturvedi, C-14, Second Floor, Block C, Lajpat Nagar III, Lajpat Nagar, New Delhi, Delhi 110024	011 4657 4171
	Clean Energy Access Network		Dr. S.N. Srinivas, Chief Executive Officer, A-23, 2nd Floor, Behind Green Park Free Church, Aurobindo Marg, Green Park Main, New Delhi- 110016	9818844798; sn.srinivas@thecleannetwork.org
	CPHEE, Ministry of Urban Development	Policy Maker	Rohit Kakkar, Deputy Adviser, Room No. 654-A, Wing, Nirman Bhawan, New Delhi-110011	rohit.kakkar@nic.in rohitkakarud@gmail.com; 8750622900
	Delhi Technological Univ.		Prof. S. K. Singh, Professor & Dean (IR), Dept. of Civil & Environmental Engineering, Shahbad Daulatpur, Bawana Road, Delhi- 110042, India	singhsk@email.com, sksinghdce@gmail.com; 9891599903
	Department of Environment, Govt. of Delhi	Government	Dr. Anil Kumar, Director, Level-6, C-Wing, Delhi Secretariat, I. P. Estate, New Delhi-110002	dr.anilkumardelhi@gmail.com; direnv.delhi@nic.in; 9717593505
	Department of Science & Technology(DST), Ministry of Science & Technology, Government of India		Dr. Nisha Mendiratta, Adviser/Scientist 'G' & Associate Head, Strategic Programmes, Large Initiatives & Coordinated Action Enabler (SPLICE) Division and Climate Change Programme(CCP), Technology Bhawan, New Mehrauli Road, New Delhi - 110016(India)	011-26565776; nisha67@nic.in

	Embassy of Switzerland in India	Marylaure Crettaz, Head of Swiss Cooperation Office and Counsellor, Nyaya Marg, Chanakyapuri, New Delhi- 110 021	marylaure.crettaz@eda.admin.ch; 011-49959500 (Ext. 800894)
	Energy & Environment, Delhi	Er(Mr) K K Roy Chowdhury, Expert Consultant	<a href="mailto:eroychowdhury1@gmail.com">eroychowdhury1@gmail.com</a> ; 8527897067
	Environmental Design Solutions Pvt. Ltd.	Gurmeet Singh, D-1/25, Vasant vihar, New Delhi-110057, India	9899240140
	Fairfest Media Ltd.	Amit Maharishi, Assistant Project Manager, 216A/1, Gautam Nagar, Gulmohar Park, New Delhi 110049	(91)(22) 4555 8555; amit@fairfest.in
	Food and Agriculture Global Practice	Paramveer Singh, 70, Lodhi Esate, New Delhi, 110 003, India	psingh16@worldbank.org; 9643506499
	GEM Enviro Management Pvt. Ltd.	Ms. Smita Bhatia, Unit no.203 Plaza -3 Central Square Bada hindu Rao, Delhi 110006	096433 18021
	Green-o-Tech, Delhi	GREEN-O-TECH INDIA RAGHU NAGAR Near JANAK Cinema, New Delhi	info@greentech.in; +91 78400 24848, +91 78400 34848
	Growdiesel Ventures Limited	Atul Saxena, CEO, Suite S-51, Second Level, Cross River Mall, CBD, Near Karkardooma Metro, Delhi-110092, India	ceo@growdiesel.com; 9212094531
	ICLEI	Emani Kumar, ICEI-South Asia Secretariat Ground Floor, NSIC-STP Complex, NSIC Bhavan, Okhla Industrial Estate, New Delhi-110020, India	emani.kumar@iclei.org; iclei-asia@iclei.org; 9810544035
	IGEP	Ms. SVJ Chintamani, Deputy Director, Delta Tower, Plot No. 54, institutional Area, sector 44, Gurgaon-122003, Haryana, India	info@igep.org, igepnd@vsnl.com; 0124-4048273/77

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	IILM Academy of Higher Learning		Ajay Pratap singh, Sr. Director Plot No-18, Knowledge park – II, Greater Noida- 201306 (UP)	ajay.singh@iilmcet.ac.in; 7070192744
	Indian Pollution Control Association (IPCA)		Ashish Jain, Director, 4, DDA Market, Hargobind Enclave, Vikas Marg, Opp. Shanti Mukund Hopspital, Delhi-110092	ashish@ipcaworld.co.in; 9312432405
	Invitation Electronics		Didar Singh Grover, Proprietor, E-17, Main Market, South Extension-2, New Delhi-110049	1141644566; invitationelectronics@gmail.com
	JBM Group		Yogesh Mittal, AGM-SGA, Plot No. 9, Institutional Area, Sector 44, Gurgaon- 122003 (Hr.)	yogesh.mittal@jbmgrou.com; 0124 4674500-550
	Karo Sambhav Private Ltd.		Ritika Jain, Manager, EPR, 408 & 409, Fourth Floor, Suncity Business Tower, Sector 54, Golf Course Road, Gurgram, Haryana	ritika.jain@karosambhav.com; 8010275164
	Manav Rachna Innovation & Incubation Centre		Dr. B. S. Gill, Advisor, Sector 43, Delhi-Surajkund Road, Aravalli Hills, Faridabad, New Delhi, India	bsgill@mrei.ac.in; 9818646576
	Manav Rachna Innovation & Incubation Centre		Dr. B. S. Gill, Advisor, Sector 43, Delhi-Surajkund Road, Aravalli Hills, Faridabad, New Delhi, India	bsgill@mrei.ac.in; 9818646576

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	Ministry of Micro, Small & Medium Enterprises		Sanjay Bisariya, IRAS, Joint Development Commissioner	bisariya.sanjay@nic.in; 9717597600
	Ministry of Micro, Small & Medium Enterprises, Gol	Government	Sanjay Bisaria, A-Wing, 7th Floor, Room No. 723, Nirman Bhawan, New Delhi- 110011	bisariya.sanjay@nic.in; 011-23061091
	Ministry of State for Environment, Forest and Climate Change	Government	Mahesh Kumar Jerath, Additional Private Secretary, 5th Floor, Aakash Wing, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003	maheshjerath@gmail.com; 9873350752
	MoEF&CC		Manoj Kumar Gangeya, Director	
	National Skill Development Corporation (NSDC)		Dr. (Mrs.) Parveen Dhamija, Advisor	pdhamija@sscgj.in; pdhamija.greenjobs@gmail.com; 9810281521
	PET Packaging Association		Pankaj Uppal, Senior Executive - Public Policy, 313, New Delhi House, 27 Barakhamba Road, New Delhi-110001	9810787439; consultant@paceindia.org.in
	Quality Council of India	Policy Maker	Ankit Tulsyan, Project Manager, Institution of Engineers Building, 2, Bahadur Shah Zafar Marg, New Delhi-110002	ankit_tulsyan@qcin.org; 8287959434
	Quality Council of India		Dr. Ramanand S. Shukla, Director (ZED), IMA Building, 3rd Floor, I P Estate. Ring Road, New Delhi – 110002, India	ram.zed@qcin.org; 011-2370 8371
	R R Collective		Shri. Rakesh Solanki	
	Reliance Industries Limited		S. R. Debnath, General Manager - Marketing Development, Polymer Business - Petchem, 10th Floor, International Trade Tower, Nehru Place, New Delhi - 110 019	+91-11-4651 1200; 9650240011; s.r.debnath@ril.com
	SACEP		Muhammad Khurshid, Director General	

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	Sustainable and Environmental-friendly Industrial Production (GIZ)		Raghu Babu Nukala, Project Director, B-5/1, Safdarjung Enclave, New Delhi-110029, India	nukala.raghu@giz.de
	Sygenta Foundation India		S. Baskar Reddy Ph.D. Executive Director, 4th Floor, Statesman House, Barakhamba Road, Connaught Place, New Delhi – 110 001, India	baskar.reddy@syngenta.com; 011-3044 6875
	Tetra Pak India Pvt. Ltd.		Sumit Jagran, Environment Manager, DLF Epitome, Building No. 5, Tower C, 16th Floor, DLF Cyber City, DLF Phase III, Gurgaon- 122002	sumit.jugran@tetrapak.com; +91 8800553178
	The World Bank		Jeevanandhan Duraisamy, 70, Lodhi Estate, New Delhi-110 003, India	jeeva@worldbank.org, jeevaduraisamy@gmail.com; 8588893639
	Toxics Link, Delhi		Ravi Agrawal	
	USDA Certified Biobased product		Amit Kushwaha, Associate Sales Manager, M-58, Second Floor, M-Block Market, Greater Kailash - II, New Delhi-110048	+91-11-29211477, 8447758893; amitkushwaha@ecoware.in
	USDA Certified Biobased product		Bal Krishna, National Sales Manager, M-58, Second Floor, M-Block Market, Greater Kailash - II, New Delhi-110048	'+91-11-29211477, 8447758891; balkrishna@ecoware.in
	Welt Hunger Hilfe		Abhishek Joshi, Value Chain Specialist - Agri Programs, A-3, Soami Nagar, New Delhi - 110017, India	9717088005; abhishek.joshi@welthungerhilfe.de
	Welt hunger Life		Abhishek joshi, Value Chain Specialist – Agri Programs, A-3, Soami Nagar, new Delhi- 110017, India	abhishek.joshi@welthungerhilfe.de; 011-40520131

WeWork	NGO	Sanya Chawla, Insight Advisor, BKC C-20, G Block, Bandra-Kurla Complex, Bandra-East, Mumbai, Maharashtra 400051, India	sac@xynteo.com; +91 8879944468
YES Bank Ltd.		Ms. Namita Vikas, Group President & Global Head, Climate Strategy & Responsible Banking	
Extra Carbon (Green Tooth Technologies Pvt. Ltd.)		Gaurav Joshi, Director, 615, ILD Trade Center Sector-47, Gurgaon (Hr.) 122001	9810397172, 0124-4208589 gaurav@extracarbon.com www.extracarbon.com
SMP Greenworks (Daily Dump Putlet)		Vipan Barsar, A71, Golf View Apartment, Plot no. 4, Sec 19B, DwarkaNew Delhi 110075	9810925956 vipanbarsar55@gmail.com, v.basrar@yahoo.co.in
Radar Business Solution Pvt. Ltd.	Bags Manufature	R. Sridhar Iyer, Vice President, 64/1, Second Floor Regal Building, Cannought Place, New Delhi- 110001	9910445122, sridhariyerdelhi@gmail.com www.radarbusinesssolution.com
Saahas		Alik Nayan Ghosh Project Coordinator C-881, Sushant lok-1, Gurgaon, Haryana, 122002	alikhghosh@saahas.org www.saahas.org
USAID		Mark Peters, P.E. Water Sanitation and Hygiene (WASH) Team Lead U.S. Agency for International Development, American Embassy, Shanti Path, Chanakayapuri New Delhi - 11--21	<a href="mailto:9811100723.mpeter@usaid.gov">9811100723.mpeter@usaid.gov</a>
NDMC		Dr. Shakuntala Sriwastawa Chief Medical Officer (SAG) 52, Muniraka Enclave, New Dlehi - 110067	9811547118, drshakuntalandmc@gmail.com
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	Zuari Agro Chemicals Limited		Umesh Sood, General Manager- Finance, Global Business park, Tower-A, 5th Floor, M. G. Road, Sector 26, Gurgaon – 122 002, Haryana, India	umesh.sood@adventz.com; 0124 482 7800, 98107 32970
37	<b>Noida(Uttar Pradesh)</b>			
	Cement Manufacturers Association		Anil Yadav, Head-Administration, CMA Tower, A- 2E, Sector-24, Noida 201301 U. P.	+91 9910144774, +91 120 2411955/57; anil.yadav@cmaindia.org
	Krishak Bharati Cooperative Limited		Dr. I. B. Singh, Addl. General Manager(HR),A-10, Sector-1, Noida-201301, Distt. Gautam Budh Nagar (U.P.)	9899290149; ibsingh@kribhco.net, ibsingh62@rediffmail.com
	Krishak Bharati Cooperative Limited		Narinder Kumar Bhadu, Addl. GM (M) - North, A- 10, Sector-1, Noida-201301, Distt. Gautam Budh Nagar (U.P.)	9711276029; nkbhadu@kribhco.net
			Anand Jain, GHCL Ltd., B-38, Sector-I, Noida	9999644080
38	<b>Patna (Bihar)</b>			
	Development Management Institute	Education Institute	Prof. G. Krishnamurthi, Senior Professor & Dean, Udyog Bhavan, Second Floor, East Gandhi Maidan, Patna-800 004, Bihar, India	gk@dmi.ac.in, gk1949@gmail.com; 709 149 6201, +91 992 504 8133
	Nidaan, Patna		Arbind Singh	
39	<b>Pune (Maharashtra)</b>			
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	JFE Engineering India Private Limited		Soumya Bhattacharya, Westend Center III, 169/1, 2nd Floor, North Wing, Sector II, Aundh, Pune-411007 Maharashtra, India	soumya-bhattacharya@jfe-eng.co.in; 78-7577-0131
			Sameer Joshi	sajenvironment@plastindia.org; 9370146290

40	<b>Rajkot (Gujarat)</b>			
41	<b>Ranchi (Jharkhand)</b>			
42	<b>Salem (Tamil Nadu)</b>			
43	<b>Siliguri (West Bengal)</b>			
44	<b>Solapur (Maharashtra)</b>			
45	<b>Surat (Gujarat)</b>			
46	<b>Trichy (Tamil Nadu)</b>			
47	<b>Trivandrum (Kerala)</b>			
48	<b>Udaipur(Rajasthan)</b>			
	Lifi Data System Ltd.		Er. Dheeraj Nagda	8890437859
49	<b>Uttarakhand</b>			
	G. B. Pant Institute		Dr. R. S. Rawal, Director, Uttarakhand	9410392114
	IVL Dhunseri Petrochem Industries Pvt. Ltd.		Roomly Mohapatra, Engineer-Marketing Development, Dhunseri House, 4A, Woodburn Park, Kolkata 700020	<a href="mailto:roomly.mohapatra@ivldhunseri.com">roomly.mohapatra@ivldhunseri.com</a> ; 9903273026
	Kolkata(West Bengal)			
50	<b>Vadodara (Gujarat)</b>			
51	<b>Varanasi (Uttar Pradesh)</b>			
52	<b>Vijayawada (Andhra Pradesh)</b>			
53	<b>Vishakhapatnam (Andhra Pradesh)</b>			
54	<b>Warangal (Telangana)</b>			

**Annex E. List of 50 cities for the Management Operations in establishing plastic waste - Swachhta Kendras**

S.No.	City	State	Region
1	Amritsar	Punjab	North
2	Aurangabad	Maharashtra	West
3	Bengaluru	Karnataka	South
4	Bhubaneswar	Odisha	East
5	Bhopal	Madhya Pradesh	North
6	Bicholim	Goa	West
7	Bihar Sharif	Bihar	East
8	Chennai	Tamil Nadu	South
9	Cuttack	Odisha	East
10	Dehradun	Uttarakhand	North
11	Delhi	Delhi	North
12	Greater Noida	Uttar Pradesh	North
13	Howrah	West Bengal	East
14	Hyderabad	Telangana	South
15	Indore	Madhya Pradesh	North
16	Jaipur	Rajasthan	North
17	Jajpur	Odisha	East
18	Jammu	Jammu & Kashmir	North
19	Jamnagar	Gujarat	West
20	Jodhpur	Rajasthan	North
21	Khambalia	Gujarat	West
22	Kheda	Gujarat	West
23	Kolkata	West Bengal	East
24	Lucknow	Uttar Pradesh	North
25	Mormugao	Goa	West
26	Mumbai	Maharashtra	West
27	Panaji	Goa	West
28	Patna	Bihar	East
29	Pimpri-Chinchwad	Maharashtra	West
30	Ranchi	Jharkhand	East
31	Rishikesh	Uttarakhand	North
32	Sundergarh	Odisha	East
33	Surat	Gujarat	West
34	Tambaram	Tamil Nadu	South
35	Tirupati	Andhra Pradesh	South
36	Trivandrum	Kerala	South
37	Ujjain	Madhya Pradesh	North
38	Varanasi	Uttar Pradesh	North
39	Vijayawada	Andhra Pradesh	South
40	Vadodara	Gujarat	West

## **Annex F. Resource Requirements for Project Implementation**

The following resources will be required to achieve the expected Results and Benefits:

### **1.1 Human Resources:**

For collection and segregation, initially the existing waste pickers in the selected cities will be utilized and they will be mainstreamed to the formal system. Integrated MIS system will be developed to track the unique IDs given separately for the waste pickers and tracking for all waste pickers. This will help in monitoring and tracking the social indicators for the waste-pickers as per anticipated outcomes.

Women self-help groups will be selected and they will be trained for enterprise development using plastic waste. For managing the project activities, suitable project team members will be selected for implementation at each city. Technical consultants will be selected for technical support at various stages of project implementation, monitoring and review.

### **1.2 Partners as resources:**

All the required service providers/responsible parties and human resources will be selected diligently to ensure the timely achievement of the above expected results. In each city, the program will be implemented by the local SP/RP who will be selected based on their experience, capabilities, public relations and liaison with ULBs and municipalities following the UNDP risk-assessment systems.

The project will develop guidelines in the form of Standard Operating Procedures (SOPs) for the selection of the SP/RP which will include mainly due diligence, proposal from the possible SP/RP and the final selection process. These will help to have systemic implementation of the program, define role and responsibilities at their level for implementation of the programs. Preference will be given to those SP/RP which are locally based in the city and having field offices and operations, experienced in the fields of plastic waste management and sustainable livelihoods in plastic waste management, have good relations with local and state authorities and have an excellent track record with the informal sector, more so with waste pickers.

These NGOs will facilitate all aspects of community leadership, in city meetings, institutional building, and awareness to trigger the communities in plastic waste recycling. The SP/RP would also facilitate, through their teams RWAs and waste mobilizers in each city. Monitoring systems will be developed for each activity, at the city levels and at the SP/RP levels reporting back to the project unit/external agency. Capacity building and workshops will be organized and a systemic approach will be developed at the start of the project. SP/RP will also be guided and supervise the activities as required. More exposure visits will be done for communities and the SP/RP teams. The concerned SP/RP will also identify and recruit the services of one City Motivator from each city, preferably women. The City Motivator will serve as a crucial link between the project and the city communities.

### **1.3 Land, Equipment and Machinery:**

The **plastic waste recycling centres**, at selected 50 cities, will be developed at the sites (preferably a readily built up land to be allocated by the respective municipalities). In general, in any selected city, based on the size and population, there will be few decentralised waste collection centres and one main waste collection centre (where the recycling centre will be developed). Necessary site construction activities, as required, will be carried out preferably with necessary support from Municipalities / ULBs.

Processing machineries (e.g. fatka machine, bailing machine, shredder, extruder, etc.) will be selected and purchased as per the required capacity (based on the expected quantity of waste collected) of the recycling centres. Technical specification of each machine will be designed and approved from respective authorities before finalizing the purchasing process. The machines can be also provided by the backend recycling companies; along with making efforts with respective municipal commissioners (MCs) and this of course will vary from place to place.

Necessary vehicles will be arranged for transportation of bulk material from decentralised collection centres to main collection centres and hand carts provided to the waste pickers at the decentralised points through Municipal Corporations. Necessary small implements and gears will be provided at each of the centres for the waste pickers.

### **1.4 Financial Resources:**

Financial resources will be required for each city as per the agreed budgets and with other contingencies. Donors will extend the necessary financial support required for the project implementation at 50 cities over a period of 6 years. UNDP will also facilitate linkages with banks etc. for the working capital will be considered for extending payment to the waste pickers against collection of plastic waste. This will vary from city to city. In addition, UNDP will develop a financially sustainable model for the plastic waste management at the local centres (city/ ward levels) by leveraging the available pool of resources and sound financial sustainability practices inbuilt in the model.

### **1.5 Regulatory and Legal Resources:**

At each stage of project activities, the regulatory guidelines will be followed strictly as per Plastic Waste Management Rules 2016 and the respective State Pollution Control Board officials will be involved and apprised accordingly.

Special attention will be given to the Environment, Health and Safety (EHS) aspects of the operating personnel as well as place of operation at all the recycling centres.

For any legal requirements, necessary supports will be ascertained from the ULBs (urban local bodies), Municipalities / Municipal Corporations and other government offices of the respective cities where the plastic recycling centres will be developed.

### 1.6 Capacity Building and Knowledge Management:

Necessary training materials, in local languages will be developed for each activity related to project implementation. Necessary training programs, workshops will be organized at the community level to include awareness as well as implementation activities. Project reports will be publicized in terms of booklet / leaflet, paper publication, video films, media coverage, etc. to disseminate the project results, lessons, and best practices.

Training program for Service providers/responsible parties will include one workshop at each city; go to city and identify the area of operation; allocation of ward through municipality / corporation; waste pickers identification, weekly meeting with waste pickers; counselling, etc

### Annex G. Occupational Health Impacts of plastic collection and recycling process

Activity	Possible Health Risks	Target stakeholder
Collection from the bins and community based collection scheme	Cuts and injuries due to presence of broken glass, sharps, needles which may lead to septic wounds and tetanus. Exposure to fumes causing irritation of nose, throat and lungs. Vulnerability to upper respiratory ailments like rhinitis, shortness of breath and asthma. Contact with fecal matter and the risk of contracting gastrointestinal diseases and worm infestations. Vulnerable to blood borne diseases if hospital waste is collected. Exposure to sun, radiation and rain. Callosities on the fingers observed. Ergonomic problems like body ache, leg ache due to long distances travelled.	Waste picker and itinerant buyer
Sorting and bailing	Exposure to dust during sorting and unloading could cause allergic respiratory disorders. Ergonomic problems like body ache, back ache and fatigue. Eye strain and steno synovitis Chemical injury depending on the type of chemicals that they come in contact with and skin allergy. Accidents due to sharps.	Junk Dealer
Washing, sorting and bailing	Health risks can occur during the washing as cheap detergents and caustic soda are used. Continuous exposure can cause shriveled skin known as "washer man's hands" / Contact with washing soda may produce blisters.	Whole seller
Plastic waste reprocessing	During <b>resizing and grinding</b> , dust particles may be inhaled and retained in the lung tissue causing upper respiratory ailments. Further, contact of dust particles with skin can cause dermatitis or skin disorders. During <b>extrusion</b> , volatile matters (like styrene, benzene, etc.) are released which can cause pharyngitis, rhinitis and unproductive cough. Inhalation of fumes released containing chlorine and HCl can affect the upper respiratory tract and lachrymation of eyes. Vibration and mechanical friction that occur during this process can cause white fingers and continuous friction may lead to callosities.	Operator