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PROJECT DOCUMENT
BANGLADESH

Project Title: Sustainable Solutions to Solid Waste: A Local Response to the Rohingya Crisis in Bangladesh

Start Date: 2018

End Date: 2021

(Version: August 15)

Brief Description

Since August 25, 2017, an estimated 671,000 refugees have fled violence and human rights abuses in Myanmar, seeking shelter primarily in Bangladesh’s Cox’s Bazar District. The rapid influx of refugees into areas which already face significant levels of poverty and environmental fragility has put immense strain on infrastructure, the local economy, and contributed to a rise in tensions in the region.

One of the most visible impacts on the local landscape has been the rapid proliferation of garbage and refuse among both the refugee and host communities. Public spaces, road beds, waterways, and cultivatable land have become piled-high or clogged with litter, due in large part to inadequate facilities and limited local awareness of waste management techniques. This is not simply an aesthetic or superficial concern – allowing large piles of untreated or unprocessed waste to grow unchecked is a serious risk to both public health and human dignity.

Uncontrolled growth in waste within the refugee camps and other affected areas poses significant environmental, protection, and health hazards, but it is also an opportunity. In training vulnerable refugee and host community populations to sort, process, recycle and manage the waste around them, proper waste management techniques also offer gainful employment and a chance at a better life.

In the rush to provide food, shelter, and life-saving services to the unprecedented numbers of Rohingya refugees fleeing persecution in Myanmar, the provision of basic waste management support was initially overlooked by the international community. Following on from UNDP’s successful three-month waste management pilot project in the district in 2018, UNDP is now looking to significantly scale-up its activities with a range of short and long-term initiatives in support of cleaner, healthier, and more dignified living conditions for all.

This proposal outlines UNDP’s Solid Waste Management strategy to contribute to improved environment, recycling, health, water quality, sanitation, livelihoods, and human dignity in areas of Cox’s Bazar District affected by the Rohingya crisis. The project has two outcomes:

1. **Developing Waste Management Systems:** Vulnerable households from refugee and host communities have enhanced access to appropriate waste management services and infrastructure, and live in cleaner, healthier and more humane conditions.
2. **Changing Behaviours and Attitudes:** Local waste management behaviours and practices reformed to be more environmentally and health conscious, to prompt a sustainable change in how waste in the affected regions is created, stored and managed.

Rohingya Joint Response Plan: Objective 2: Ensure well-being and dignity of Rohingya refugees and affected host communities.

Bangladesh UNDAF Outcome No 2: Planet: Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups.

Country Project Document: Outcome 3: Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups.

UNDP Strategic Plan: Output 3.4.1: Innovative nature-based and gender-responsive solutions developed, financed and applied for sustainable recovery

Total resources required:	USD \$4,879,764
Total resources allocated:	
Unfunded:	USD \$4,879,764

I. DEVELOPMENT CHALLENGE

1.1 Overview: The Rohingya Crisis in Bangladesh

The Rohingya Crisis is the most concentrated and fastest-growing refugee crisis in the world. The estimated 671,000 Rohingya who fled to Bangladesh from Myanmar from August 2017 joined over 300,000 Rohingya who took refuge in Bangladesh in three earlier waves (1978, 1992, and 2016), settling largely in a combination of formal and informal camps along the Bangladesh-Myanmar border. When combined with previous cohorts of refugees, UNHCR estimates a total refugee population of 878,596, IOM estimates the population at 905,418, while the Government's biometric registers counted 1,114,386 refugees in Cox's Bazar district¹ (roughly double the population of Göteborg, Sweden's second-largest city). The UN Rohingya Joint Response Plan estimates that slightly over half of all refugees are women (56%), while 53% are under the age of 18.² The majority of Rohingya refugees have settled in Ukhia and Teknaf, two of Bangladesh's poorest Upazilas (counties), whose population has tripled as a result of the influx, while the total population of Cox's Bazar district increased by 50% in less than 3 months. Though Bangladesh already has a very high population density, Cox's Bazar is now well above the Bangladesh national average (1,500 people per square kilometre when compared to a national average of 1,100).

Prior to the crisis, Cox's Bazar was already struggling to address levels of poverty 40% higher than the national average. That figure is since estimated to have risen to 50%, given price inflation and lower daily wages. The security situation in Cox's Bazar has always been a challenge, with porous borders and illicit activity, including trafficking in drugs and people (notably women for the sex trade, and men as forced labour). Government services for host communities and refugees are stretched very thin. Sub district (Upazila) offices find that their workload has increased to respond to the requests from the Camps-in-Charge (CICs), which means they often cannot reliably deliver services, including basic fire and police responses. The influx has further increased pressures on local infrastructure, and tensions are rising.

Cox's Bazar is a dry district, and was already facing water shortages and salination problems related to improvised overuse of water resources prior to August 2017. A 2018 UNDP Environmental Report, published by the Bangladesh Ministry of Environment and Forests, notes that the crisis has since had a further dramatic impact on the quality and availability of water in the district. Tube-wells are the only potable water source in the region, yet this water was found to have elevated levels of arsenic and salinity. The quality of drinking water was found to be of particular concern, as 83% of samples tested at source and household level were found to be biologically or otherwise contaminated.³ Large amounts of untreated and unmanaged waste in the affected areas is one possible cause for such alarming levels of contamination.

Cox's Bazar district is rich in biodiversity, known domestically for its numerous environmental assets and scenic beauty. It has various tourist attractions, most notably the longest uninterrupted sand beach in the world, at 120km. The sea beach also supports five species of sea turtles, while nearby forests are habitat for Asian elephants and an array of birds. 50% of all of Bangladesh's wildlife species are living in small patches of forest across Ukhia, Teknaf, Inani and Himchari Upazilas within Cox's Bazar District. It is for this reason that the Teknaf Wildlife Sanctuary is described by biologists as "the most important ecosystem in Bangladesh",⁴ though expansion of host communities and refugee settlements threatens to alter this delicate balance. Migratory routes for Asian elephants, for example, now run directly through refugee areas, with significant consequences for both people and wildlife.

The United Nations Security Council visited Bangladesh in late April, 2018, to witness the impact and the scale of crisis. A joint statement, released following the visit, expressed "deep appreciation to the Government of Bangladesh for its efforts to provide refugees protection and assistance, and

¹ Intersectoral Coordination Group Situation Report, May 10, 2018. https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/20180510_-_iscg_-_sitrep_final.pdf

² Rohingya Joint Response Plan, pg.09. Available Here: https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/jrp_for_rohingya_humanitarian_crisis_-_for_distribution.pdf

³ Report on Environmental Impact of Rohingya Influx, 2018, pg. 16. Report available at: <https://reliefweb.int/report/bangladesh/report-environmental-impact-rohingya-influx-executive-summary>

⁴ Ibid, pg.37.

expressed their determination to continue supporting Bangladesh, and Bangladeshi host communities... in providing refugees with sustainable support”.

1.2 UNDP’s Mandate and the Rohingya Crisis Response:

UNDP has a firm mandate for launching programming that promotes both emergency and long-term solid waste management in the areas affected by the Rohingya crisis. This is derived from the following:

i. **UNDP and the Rohingya Joint Response Plan (JRP):** UNDP has been actively included under the UN-wide Rohingya Joint Response Plan, agreed in March 2018 in Geneva, Switzerland. The Plan calls for donor states and International Financial Institutions to contribute US \$950m to help manage the crisis, and develop sustainable means of supporting this vulnerable population. UNDP provides support to the Joint Response Plan’s Intersectoral Coordination Group (ISCG), as the plan outlines twelve sets of priority activities that require urgent support from the international community. Of these, this proposed project is planned to contribute substantially to four:

1. **Health:** (JRP Health Objective 3): “Ensure the **prevention** and response to outbreaks of diseases with epidemic potential and other health emergencies”;
2. **Water, Sanitation and Hygiene (WASH):** (JRP WASH Objective 2): “Ensure effective, sufficient and continuous provision of life saving water and sanitation services for targeted men, women, boys and girls”;
3. **Site Management:** (JRP Site Management Objective 2): “Improve physical site access and safe and dignified living conditions for refugees, and adjacent host communities, including reducing their vulnerability to natural hazards”.

ii. **Sustainable Development Goals:** UNDP frames all its development work, even in crisis situations, with reference to targets set by the 2030 Agenda for Sustainable Development (otherwise known as the Sustainable Development Goals, or SDGs). The current crisis risks slowing – and even reversing – efforts to help Bangladesh achieve its commitments under the Sustainable Development Goals in Cox’s Bazar District, and could have an impact on the country’s national SDG achievement rate. The proposed project is expected to be particularly helpful, as it will contribute to a large number of Goals. Of these, the focus will be on **Goal 3: Health and Well-Being, Goal 6: Clean Water and Sanitation, and Goal 8: Decent Work.** Specifically, UNDP will focus on the following targets from each of these goals:

1. **SDG Target 3.9** (Health and Well-Being): By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination;
2. **SDG Target 6.3** (Clean Water and Sanitation): By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally;
3. **SDG Target 8.4** (Decent Work): Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation.

UNDP Bangladesh seeks to assist the Bangladeshi government in meeting these SDG targets in support of the most vulnerable in Cox’s Bazar district. UNDP also expects the waste management activities proposed below to contribute substantially to numerous other SDGs, including Goal 1: No Poverty, Goal 5: Gender Equality, Goal 7: Clean Energy, Goal 9: Industry and Infrastructure, Goal 11: Sustainable Communities, Goal 12: Sustainable Consumption, Goal 14: Life Below Water, Goal 15: Life on Land, and Goal 16: Strong Institutions.

iii. **Other Activities:** UNDP Bangladesh is currently running a range of projects in Cox’s Bazar District, including activities focused on disaster preparation and early response, building social cohesion, reforestation, assistance to local governance, and promotion of economic livelihoods.

UNDP is also coordinating the “Assessment of the Impact of the Rohingya Crisis on Cox’s Bazar District and its Communities”, comprised of five critical studies that will shape the UN system’s understanding of the crisis. This assessment, carried out in close coordination with the local government’s Deputy Commissioner’s Office, is a partnership between UNDP, UNOPS, UNHABITAT, UNHCR and the ILO, and will provide an overview of five key dimensions of the

Rohingya crisis. These dimensions are: Economic Impact, Service Delivery, Demands on the Social Safety Net, Demands on Infrastructure, and Pressure on Space and Spatial Planning. The findings of these studies will be presented in a final combined report and workshop, and will be used to inform possible adjustments to UNDP's ongoing waste management approach in Cox's Bazar.

UNDP Bangladesh has a strong working relationship with a wide range of Ministries and local authorities, which is critical to developing comprehensive governance or institutional responses to issues of particular concern to vulnerable people, including women and girls. UNDP's relationship with the government at both national and local levels will help to maintain political will and ensure key decision makers both in Dhaka, and in the affected districts, are both engaged and supportive of the project.

1.3 Problem Analysis: Current Gaps in the International Response:

a) Solid Waste Management:

- i) **Definition:** UNDP defines solid waste according to the Conceptual Framework for Municipal Solid Waste Management in Low-Income Countries, agreed in Nairobi in 1996. This defines solid waste as the following:

*“Solid waste is waste generated by households, non-hazardous solid waste from industrial, commercial and institutional establishments (including hospitals), market waste, yard waste, street sweepings and gully emptying wastes. By material, [solid waste] can be divided into organic waste, paper, glass, metal, plastic, household hazardous waste, textiles, Waste Electrical and Electronic Equipment (WEEE) and other. The composition varies widely within and across countries, but in most cases organic waste takes up a majority of waste streams”.*⁵

- ii) **Urgency:** UNDP's most conservative estimate is that 0.2 to 0.25 kg of solid waste is produced per person, per day, in the areas affected by the Rohingya crisis. This is a considerably lower rate than the Bangladesh national average of 0.45 kg of waste per person each day, and is adjusted presuming that refugees and local people have restricted access to disposable goods and supplies. A June 2018 UNDP report estimates that Bangladeshis in Cox's Bazar Municipality (Cox's Bazar town only) alone produced between 0.33-0.45kg of waste per person, per day, varying due to different consumption patterns during the dry and rainy seasons.⁶ But even at the comparatively low estimate of 0.25, the two Upazilas most prominently affected by the crisis, Ukhia and Teknaf, still produce over 10,000 tonnes (22,000 cubic meters) of waste per month. Neither have a functioning waste management system, meaning that much of this waste (and likely more than the current estimate) has been left in public areas, on the sides of roads, under bridges, and in any of the few remaining open spaces, including in the local water supply. Even before the refugee crisis, Cox's Bazar's waste management needs were already expected to be severely inadequate, as UNDP and the Bangladeshi Sustainable and Renewable Energy Authority (SREDA) estimated that, at existing rates, daily waste production in Cox's Bazar municipality was already set to multiply close to 5 times from 2013-2025.⁷ Leaving aside this waste produced by the host community, the amount of waste produced in the camps alone is equivalent to a football pitch fully covered in a three-meter-high pile of waste every month. Nearly half of this waste originates from the Kutupalong-Balukhali mega-camp alone. These result in very serious risks to health, water, and sanitation, with implications for site management. Each of these risks shall now be examined in detail, based on the priority areas identified in the Joint Response Plan:
- iii) **Risks to Health:** In much of the affected region, the sheer volume of waste has created large breeding grounds for vermin and insects, which act as vectors for a range of diseases. Stagnant water trapped in waste can contribute to outbreaks of waterborne diseases such as cholera,

⁵ Conceptual Framework for Municipal Solid Waste Management in Low-Income Countries, UNDP/UNCHS (Habitat)/World Bank/SDC, Nairobi, 1996, available at:

http://www.worldbank.org/urban/solid_wm/erm/CWG%20folder/conceptualframework.pdf.

⁶ UNDP & the Sustainable and Renewable Energy Authority of Bangladesh, “CONDUCTING A FEASIBILITY STUDY ON WASTETO-ENERGY CONVERSION IN SIX MUNICIPALITIES IN BANGLADESH”, June 2018, pg 48. Accessible at: [http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20\(1\).pdf](http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20(1).pdf)

⁷ Ibid, pg. 48-49.

typhoid fever, and diarrhoea, and can breed mosquitos that spread malaria, dengue and chikungunya. Rats and vermin can be responsible for the transmission of haemorrhagic fevers and diseases such as meningitis and leptospirosis. Should conditions in the region deteriorate further during the cyclone and monsoon season, these diseases can spread even more rapidly, as waste can be further distributed in floods, landslides and high wind. In the case of heavy rains or flooding, waste can be carried by rain or water out to agricultural areas, where it risks contaminating agricultural land and produce.

Glass, needles, medical waste, or toxic materials present in the camps and near host communities pose a direct and real threat to health and security. Children often play near local rubbish piles (often the only available open spaces to do so), and are particularly vulnerable to being injured. Serious cuts or exposure to waste can lead to infections, blood poisoning, or lasting scars and complications.

Inadequate waste management also has a severe impact on local air quality, as local people across Bangladesh often resort to burning waste when levels of local refuse become unbearable, and other waste management options remain inadequate. This has dramatic health implications for both refugees and host communities, as well as international responders, as even a small number of waste fires can contaminate the air for thousands of people. More serious, as deforestation increases and firewood becomes ever more expensive, local people are increasingly burning plastics and other unsuitable materials for fuel. Housewives, in particular, are increasingly responsible for cooking while standing directly over toxic plastic fires, with potentially serious health consequences. Proper solid waste management systems are desperately needed to decrease the supply of waste for such fires and change harmful behaviours, creating tangible health benefits for the over 1.3 million people in the region who share the same breathing space.

iv) **Risks to Water, Sanitation and Hygiene (WASH):** The proliferation of waste in the camps and host communities has already had a serious impact on the water table. Debris and garbage visibly clog local water sources, often layered so thick that it is not possible to properly see the surface of the water. The waste also contaminates the water, changing its colour, texture, and making it unfit to drink or to use for cooking or laundry. Unplanned and open disposal of waste has led to widespread damage to local aquifers, as improvised waste disposal pits have not been built a safe distance from water sources, or with proper methods, and toxins are leeching into both the soil and the water supply. This leeching has a potentially devastating environmental impact, but is particularly dangerous when it occurs next to local wells and sources of drinking water, used by tens if not hundreds of thousands of people. As quoted above, a recent UNDP study found that 83% of all drinking water tested from the camps and host communities contained bacterial or toxic contamination. Proper waste disposal and infrastructure construction techniques are urgently required in the region, and can have a transformative impact on local access to clean water and basic sanitation for the both the refugee and host community populations.

v) **Risks to Site Management:** The unplanned and often spontaneous nature of construction in the camps already make the area at serious risk to the spread of fire. Most refugees and host communities still cook using an open flame, and small housefires have already occurred in the affected areas. Large accumulations of litter and detritus in and around dwellings can pose a very serious fire hazard, allowing a fire to spread from one part of the camp to another. In support of the UN's broader site management approach, a reduction in the levels of waste in the camp can be critical to reducing this risk while improving quality of life.

In addition, waste can disrupt access for people within the camps, and can pose serious challenges to safe movement.⁸ Large, unplanned piles of waste have become obstacles for local people (including women) to pass as they collect water, firewood, or other essentials. Waste also contributes to the damming of waterways, contributing to the formation of stagnant pools which hinder movement, increase flood risk, and contribute to the erosion of fragile grounds. Clearing waste and providing basic waste management systems will have a critical impact on the daily lives of the vulnerable people who must navigate these areas daily.

vi) **Risks to Protection, Human Rights and Dignity:** After decades of oppression and a harrowing flight from Myanmar to Bangladesh, Rohingya refugees have already lost most, if not

⁸ Joint Response Plan, pg. 47.

all, of their physical possessions. But extreme poverty need not automatically confer a lack of dignity. Though it is often easy to presume that refugees become desensitized, if not accustomed, to high levels of uncontrolled waste in their environment, UNDP's experience indicates that refugees and host communities are both very much aware that their conditions are unsanitary and sub-optimal. In fact, many people from host communities and refugee camps are hyper-aware of these conditions, changing their daily route to avoid bad smells or reduce their exposure to local waste. Such awareness naturally brings with it a sense of shame or frustration due to a lack of effective service provision in the community, but may also augment a sense of helplessness many already feel in regards to their circumstances. One person alone can do very little to clean his or her community – without coordinated and effective management and support, many local people likely feel powerless in the face of the sanitation and health challenges too large and complex to manage alone.

Though a concern for human rights and dignity is reflected throughout the Rohingya Joint Response Plan, human dignity was not singled out as a discrete activity area for emergency relief. Regardless, UNDP's proposed activities will aim to help restore a sense of human dignity to vulnerable people across the region, recognizing that this is likely to be every bit as transformative and valuable as improved sanitation and a healthier environment. Dirty, unhealthy and unsanitary conditions are a serious drain on local morale – creating a clean and well-organized environment is a critical first step to restoring a community's sense of value and self-esteem.

vii) **Bangladesh's Commitments:**

- i. **The National Environmental Management Action Plan (NEMAP)** has recommended actions in the areas of sanitation, solid waste management, water supply and environmental awareness;
- ii. **The National Policy for Water Supply and Sanitation** gives special emphasis to the participation of the private sector and NGOs in water supply and sanitation in urban areas. However, some solid waste and recycling strategies are also addressed under this policy, including a specific authorization for local government bodies (city corporations and municipalities) to transfer responsibilities for the collection, removal and management of solid waste to the private sector, where feasible.

b) Support to Women and Girls:

Gender is an essential and core component to all UNDP projects, and this is especially true when working with populations which are already particularly poor and disadvantaged. Solid waste management techniques and practices, when done correctly, have the potential to improve the lives and opportunities available to women and girls across the affected districts.

In wanting to assist vulnerable women and girls, it is important to acknowledge their context. In the camps, the refugee crisis appears particularly gendered: women and girls significantly outnumber men and boys (56% of the total refugee population, and 55% of those aged 18-59), and refugees report having experienced widespread sexual and gender-based violence in Myanmar during flight.⁹ Conservative cultural and religious practices, including purdah (a woman's obligation to remain covered or separated in the presence of men), significantly affect women and girls' access to services and ability to work. As noted in the UN Joint Response Plan, "lack of income generating opportunities and transferable skills development has catalysed the exploitation of adolescent girls and women in the form of forced marriage, survival sex, trafficking for commercial sexual exploitation, drug smuggling and forced labour". Projects which aim to engage or train women for employment should recognise these important restrictions and be sensitive to helping women navigate them effectively.

Though all UN agencies employ gender sensitive approaches, the scale of the crisis and the enormous number of vulnerable women and girls means that the UN's current range of interventions are simply not enough. UNDP has made the challenge of improving conditions for the poorest and most vulnerable women in Cox's Bazar a central priority in all proposed programming in the region. Direct engagement of women in cash for work activities is challenging in the local cultural and camp

⁹ See <http://www.un.org/sexualviolenceinconflict/statement/statement-by-the-special-representative-of-the-secretary-general-on-sexual-violence-in-conflict-ms-pramila-patten-security-council-briefing-on-myanmar-12-december-2017/>.

security context, but UNDP will endeavour to maximize the participation of women and girls by including them in other parts of the livelihoods and waste management value chain.

c) Engaging Host Communities:

In the rush to provide immediate humanitarian assistance to the unprecedented numbers of refugees fleeing Myanmar to Bangladesh, UNDP partners have consistently noted that host communities feel neglected and burdened by the crisis response. Although Cox's Bazar District has coped with influxes before, Rohingya refugees now outnumber the host community in many areas, notably by a factor of two-to-one in the Teknaf and Ukiah Upazilas. Increased costs of living, increased reports of crime, and reduced access to scarce land and natural resources have fed a common perception that the Rohingya are an unwelcome burden for which the host community has to disproportionately bear the costs. The physical impact on the region has also been dramatic and alarming – an estimated three thousand acres of forest have been cleared to build new settlements and to provide firewood. 700 tons of firewood are collected per day - at current rates, the affected Upazilas are estimated to completely lose all forest cover by end of 2019. Daily wages in Cox's Bazar are estimated to have dropped significantly where Rohingya compete with host communities for opportunities, as Rohingya have been charging an average 50-200 taka (\$0.50-\$2.50 USD) less per day for labour (this undercuts pre-existing local daily wages by 20-60%). This is a serious concern, given an estimated 37-50% of households in the host community in Teknaf and Ukhia rely on unskilled labour for their income. Simultaneously, the image of food convoys and supplies bypassing host communities for the camps (the World Food Programme alone provides food supplies to over 800,000 people per day, at a cost of \$43m per month) has led to a perception that the international community does not care for anyone who is not Rohingya. Should this continue, there is a risk that the international community may also be increasingly viewed with resentment or hostility, with significant ramifications for the entire crisis response.

Local authorities are currently coordinating the overall response to host communities and refugees under the guidance of the Ministry of Foreign Affairs (MoFA), the Ministry of Disaster Management and Relief (MoDMR), as well as the related National Task Force responsible for the overall strategic and policy coordination on refugee matters. At the district level, the mandate of the Refugee Relief and Repatriation Commissioner (RRRC) has been extended to coordinate the overall operational response in close cooperation with the District Task Force and the Deputy Commissioner.

In January 2018, UNDP (in collaboration with UN Women) conducted a joint mission to assess the state of the crisis in the region, including host communities in the affected districts. The results clearly demonstrated that increased support to host communities and local government institutions is necessary to stabilize livelihoods, restore damaged and stressed infrastructure and ecosystems, and increase local understanding of the humanitarian response. The Rohingya Joint Response Plan (JRP) also repeatedly references the need to engage local Bangladeshis and be sensitive to their needs, with the expectation that approximately 25% of all resources mobilized by the response are to go towards supporting host communities in Cox's Bazar. UNDP will work with both host communities and refugees, recognizing that health risks caused by untreated waste, including disease, contaminated water, fire hazards, and air pollution, observe no political boundaries between groups and pose a potential danger to everyone.

d) Protection, Forced Labour and Child Labour:

As of 2015, the ILO estimated that over 1.2 million children in Bangladesh were engaged in the worst forms of child labour (roughly comprising slavery or forced work, prostitution, pornography and the sex trade, or employment in illegal trafficking or criminal activities), despite the fact that Bangladesh had signed and ratified the relevant ILO Conventions and had passed legislation outlawing particularly exploitative practices.

These prominent protection, forced labour and child labour challenges are also present in Cox's Bazar District. As noted in the Rohingya Joint Response Plan,

“Adolescent boys and girls [in the Rohingya camps and some host communities] face specific risks as they do not have access to education, girls in particular are susceptible to sexual abuse, whilst boys face heightened risk of child labor, exploitation and human trafficking. Key informants speak of the worst forms of child labour, including girls and boys as young as 7 years old being recruited into

*abusive and exploitative work. Girls are mostly engaged as maids, boys as herders, shop workers, fishermen, rickshaw pullers and other daily casual work. Adolescent girls also face the risk of early or forced marriage, particularly as families are engaging in these potentially harmful coping strategies in order to access additional food rations”.*¹⁰

UNDP has a comprehensive commitment to ending child labour and forced labour, as part of broader United Nations protection strategy. UNDP’s general Social & Environmental Standards¹¹ specifically reference child and forced labour under UNDP Standard 3: Community Health, Safety and Working Conditions (pages 23-25). UNDP follows standard definitions and precautions against the use of child labour as laid out by the International Labour Organization (ILO), specifically ILO Conventions Nos. 29 and 105 (forced and bonded labour), 87 (freedom of association), 98 (right to collective bargaining), 100 and 111 (discrimination), 138 (minimum age), and 182 (worst forms of child labour). UNDP has carefully considered means of ensuring its compliance with the above agreements in Cox’s Bazar District, in current conditions that are even more prone to child or forced labour than the rest of Bangladesh. To properly address these concerns, UNDP will pursue a two-pronged strategy to prevent the use of child or forced labour throughout all of its programming in Cox’s Bazar District (both camps and host communities):

- a) Zero-Tolerance Contracting Practices:** In recruiting local partners to implement specific activities (cash for work, recycling, rehabilitation of areas already contaminated by solid waste) UNDP shall ensure that all contracts contain a zero-tolerance clause in reference to child labour or forced labour. In practice, this means that should any local partner be found to be using either forced or child labour, UNDP can declare any previous contract or agreements void, and any remaining payment will be immediately suspended. This shall be clearly and repeatedly communicated to all partners, to ensure that implementors are fully aware that UNDP’s standards are to be followed at all times, and that repercussions for using prohibited practices (which also include corruption or inappropriate displacement of funds) will be both immediate and severe.
- b) Monitoring of Work Sites:** The key to preventing the use of child or forced labor will be regular monitoring of project sites and hands-on implementation. UNDP will employ a dedicated national Monitoring and Evaluation Officer who will be responsible for the overall monitoring of activities in the field, and will be supported by other project team members. Monitoring visits will be both regular and unannounced. The Monitoring and Evaluation Officer will frequently speak with locals to ensure that all workers are above 18, working the agreed hours, in safe conditions, and with the appropriate equipment. In addition, community representatives will be selected to participate in the monitoring groups and visits. Community members will be able to identify the minors from their respective communities, and perform additional spot checks, sometimes without the formal project team presence (a low-key approach). Special attention will be given to 2 key steps in the monitoring process: a) worker selection and registration, b) payment sites during payment days. The UNDP Monitoring & Evaluation Officer will be present at the site on payment days to ensure workers are being paid on time and at the agreed rate. Participation of community members will be crucial for verification and identification purposes, to ensure that the individuals receiving payments are those on the pre-approved lists set at the start of the work activity, to avoid fraudulent payment claims. Disbursement of wages will proceed in accordance with guidelines agreed by the Inter-Sectoral Coordination Group (ISCG),¹² which coordinates appropriate rates for cash-for-work and payment practices, updated and approved every 3 months.

1.4 Sweden’s Potential Role

¹⁰ Rohingya Joint Response Plan, pg.56. Available Here: https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/jrp_for_rohingya_humanitarian_crisis_-_for_distribution.pdf

¹¹ UNDP’s Social and Environmental Standards are available at: <http://www.undp.org/content/undp/en/home/librarypage/operations1/undp-social-and-environmental-standards.html>

¹² Inter-Sectoral Coordination Group, “Rohingya Volunteer Incentive Rates”, v.09, June 11, 2018. This version is not yet available online, but the previous version (v.08) is accessible at https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/180424_-_volunteer_incentive_rates_rohingya_refugee_response_final.pdf

The Kingdom of Sweden has been a prominent supporter of the Rohingya people on both sides of the border since the escalation of the crisis in August 2017. Sweden has contributed significantly to the international relief effort, and has prominently called on other UN member states to contribute time, money and energy in support of the most vulnerable. This was particularly notable in response to the recent visit of the UN Security Council to Bangladesh, after which Swedish Ambassador to the UN made the following remarks: “The visit was a demonstration of solidarity with the refugees sheltering in the camps in Bangladesh. There was a strong and clear call from the refugees for the Council’s ongoing support and action. We must not let them down. The visit also represented solidarity with the government of Bangladesh, and the Bangladeshi host communities, who we must continue to support.”

For the 34,000 Rohingya refugees that have been in Bangladesh since 1992, their exile from Myanmar has become a multi-generational problem. While the international community hopes that a voluntary repatriation of the refugees to Myanmar, respectful of human rights and dignity, might bring a speedy end to the current crisis, these conditions appear unlikely. Steps need to be taken to support the national and local authorities to prepare for a protracted situation that respects the rights of the Rohingya refugees and host communities.

Levels of unmanaged waste in the camps and host communities are already at critical levels. Through support to a comprehensive range of emergency and long-term solid waste management activities, for both refugees and host communities, the Kingdom of Sweden can help address critical gaps that threaten to weaken the international response if left unaddressed. This complements the Kingdom of Sweden’s existing support to UNDP’s solid waste pilot activities, supported through technical expertise sourced from the Swedish Civil Contingencies Agency (MSB in Swedish).

II. STRATEGY

UNDP’s waste management strategy has been designed with a number of core UNDP principles in mind. Given the sensitive and complex problems facing this region, it is critical that UNDP adopt a “Do-no-harm approach” that will carefully assess risks and opportunities before acting. All of the following activities will conform to the high ethical and moral standard that UNDP expects of its staff and project design. Furthermore, UNDP’s commitment to, and strong track record in promoting localization of its initiatives, to promote grassroots ownership of results and activities, has also helped shape the design of this proposed project. The project has been designed in preliminary consultation with district and sub-district authorities, as well as civil society groups throughout the 2018 pilot project. This is also reflected in a concern for sustainability, to building the capacity of local partners to one day move forward alone without further UNDP assistance. Finally, a focus on gender issues will also be prominently supported throughout the project, in recognition of the unique pressures faced by women and girls in the camps and in host communities.

Theory of Change:

Solid waste challenges do not dissipate independently. Waste accumulation in the water supply and many public spaces is already critical in the affected Upazilas, and without a comprehensive strategy, this waste will only increase. Investments in sustainable solid waste management systems today will be much cheaper and cost-effective than if these problems are permitted to escalate.

Proper solid waste management is multidisciplinary – as described above, UNDP’s proposed project will tie innovative solid waste activities to well-defined environmental, health, WASH, site management, and protection goals (both under the Joint Response Plan and the SDGs), with significant additional anticipated benefits to livelihoods, social cohesion, gender, and human dignity in Cox’s Bazar District. This will be done through a deliberately phased approach, to respond effectively to pressing and urgent waste removal needs in the short-term. The project will then transition from quick-impact responses into longer-term recycling, livelihoods, campaigns, capacity development and government engagement activities to expand and nurture a local economy for solid waste. This is in line with the vision outlined in the Rohingya Joint Response Plan, which states that at the present “stage of the response, solid waste management programs will be supported by Cash-Based Interventions for waste collection, [while in time] a solid waste management system will be established including the installation, operation and maintenance of a shared landfill”.¹³ Households, including vulnerable women and children, will be prominently engaged as the most

¹³ Joint Response Plan, pg. 48.

critical local unit, as it is at the household and family level that much of the current waste is produced, and it is at this level that solutions must be applied. The construction of new infrastructure and support to recycling enterprises will transform the existing waste management options on the ground. When the profitable incentives for household recycling and waste disposal are adjusted, permanent changes in local behaviour, waste disposal, recycling patterns, and effective waste management systems will result. This will improve the local environment and health for all people in affected communities, removing potential sources of toxins and danger to both the water supply, the physical landscape, and the air (by preventing the burning of trash), while providing added benefits to the local economy. Improvements to the management of waste, and a cleaner local landscape, are visible and demonstrable improvements in conditions for local communities, and reinforce social cohesion by making it clear to host communities, in particular, that the Rohingya crisis has the potential to benefit everyone.

The project's theory of change can alternatively be summarized as follows:

Summary: Theory of Change

If innovative approaches to promoting Reduce, Reuse and Recycle are introduced at household and community levels (with a specific focus on **women and children** in both Rohingya and Host Communities), and long-term partnerships are built for sustainable solid waste management solutions, alongside urgent waste clearance to address immediate needs

Resulting in permanent changes to local behaviour, waste disposal and recycling patterns, as well as effective waste management systems;

Then the social, economic and environmental landscape for all people, especially vulnerable women and children will be improved, with benefits for social cohesion in the region;

This will in turn contribute to better quality of life and human dignity, through a cleaner environment, but also through improved protection and improved health;

III. RESULTS AND PARTNERSHIPS

The outputs and activities proposed below seek to address waste management in Cox's Bazar District, but are simultaneously designed to contribute substantially to other developmental, governance, economic and gender-related priorities.

1. Developing Waste Management Systems (Outcome 1)

Why UNDP? Comparative Advantage: Solid Waste Management:

- a) **Pilot Project Experience in Cox's Bazar:** This proposal builds on UNDP's previous Waste Management pilot project in Cox's Bazar, where UNDP implemented a series of quick-impact activities to collect and manage waste, improve sanitation, and provide employment in one host community and two refugee camps. The local response to this pilot was swift, positive, and highly cost-effective. UNDP also learned a number of important lessons, including:
 - i. **Size of Workforce Required to Clean an Area:** From this experience, UNDP can now estimate that approximately 1 person per 100 population should be employed in cleaning waste to be able to effectively rehabilitate an affected area over the course of one to three weeks, depending on the level of waste;
 - ii. **Size of Workforce Required to Maintain an Area:** After an area has been cleaned, 2.5 people per 1000 should be retained to maintain the area, to keep it clean, transport waste from bins, and prevent waste from returning;
 - iii. **Host Community Challenges:** The Host Community and refugee areas faced different waste management challenges. Host community villages faced higher traffic,

and local people requested that cleaning activities proceed at night, when rehabilitation activities stood less of a chance to disrupt the working day or block roads; Host Community members were also noted to be slightly more reluctant to work in waste removal than Rohingya refugees;

- iv. **Trash Bin Size:** When distributing waste bins for family or communal use, other agencies provided bins that were much too large to easily move when full, and which unfortunately ended up contributing to further waste management problems. UNDP prefers to distribute 75L waste bins with handles for comparatively easy waste disposal;
- v. **Land Scarcity:** Dense settlement patterns and hilly terrain have made it very challenging to find space for pit construction in the camps. Few areas of an appropriate size or location remain available, especially in areas that are not additionally prone to floods or landslides. In some locations, pits have had to be constructed far from the camp, and so appropriate transportation of waste had to be managed and arranged;
- vi. **Hilly Terrain:** The terrain of waste transport routes can be very difficult to pass with wheelbarrows. In other parts of Bangladesh, waste is collected by rickshaw, but this is equally difficult given the hilly terrain, especially during the rainy season. Waste collection must therefore be done manually, in portable baskets, carried through manual labour.

This pilot experience has already given UNDP valuable insights into dynamics in Cox's Bazar that will make an upscaled project considerably more impactful.

b) Other UNDP Solid Waste Experience in Bangladesh:

Waste to Energy: UNDP is currently working with SREDA (the Bangladesh Sustainable and Renewable Energy Authority) to explore means of turning solid waste into energy and fuel across Bangladesh. This is a component of UNDP's broader project entitled "Sustainable and Renewable Energy Power Generation", or SREPGen. Elements of this project include:

- i. **Solid Waste Feasibility Study:** The first step in this process was a comprehensive feasibility study conducted in 6 municipalities across Bangladesh¹⁴ (including Cox's Bazar town) to assess the composition of local waste as well as its rate of production. This timely report was released in June 2018, and classifies different types of solid waste, including plastic, paper, metal, glass, organic/ vegetable and "other", finding that Bangladesh has a market for most types of waste already, even while formal systems to remove or transport waste are lacking.
- ii. **Pilot Conversion of Organic Waste to Fuel:** The above study is a key document supporting a pilot project for converting solid waste to energy and fuel in the Bangladeshi town of Kustia in Central-West Bangladesh. This pilot will help sponsor the development of a facility capable of converting organic waste to pellets that can, in turn, be converted into electricity or sold to local households for fuel. This pilot is expected to be fully operational by the end of 2018, after which UNDP may consider replicating it elsewhere.
- iii. **Possible Future Applicability to Cox's Bazar:** Provided the pilot results are positive, UNDP would likely prioritize extending this waste-to-fuel pilot project to Cox's Bazar District. Given the high rate of deforestation in areas affected by the Rohingya crisis, due in large part to a high demand for cooking fuel, a facility capable of turning organic waste into an alternative fuel source could be of critical environmental importance and address multiple pressing challenges. UNDP will review the results from the Kustia pilot before committing to any expansion, however, so a similar activity is not proposed in the document below. Despite this, UNDP expects that activities of this kind could form a key component of a broader plan to address solid organic waste in the region - the proposed waste collection activities below, including developing a government model and plan for waste management, could be critically important in establishing the conditions in Cox's Bazar District that would make a potential future facility viable. As the feasibility study notes of Cox's Bazar town's prospects for waste-to energy activities, "wastes are [currently] not considered as resource here, as there are no technology and no climate

¹⁴ UNDP & the Sustainable and Renewable Energy Authority of Bangladesh, "CONDUCTING A FEASIBILITY STUDY ON WASTETO-ENERGY CONVERSION IN SIX MUNICIPALITIES IN BANGLADESH", June 2018. Accessible at: [http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20\(1\).pdf](http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20(1).pdf)

change awareness amongst the local people. Most of the cities canals are choked by the dumping of untreated waste, which is contaminating the environment. [...] Without an efficient waste collection [system], it will be difficult to implement successfully the further steps that require much more technical management and that are more expensive”.¹⁵

- c) **International Experience:** The proposed project team consists of national and international waste management specialists and engineers, with experience in the private sector, government partnerships and responding to prior disasters, notably the Aceh Tsunami and Philippines Typhoon Haiyan.

Aceh, Indonesia: The international response to the 2004 Boxing Day Tsunami in Aceh was notable for its phased approach. UNDP focused initially on the clearance of disaster debris, providing short-term employment, and supporting local authorities to swiftly resume the provision of basic municipal solid waste services. Emergency support shifted over time towards enhancing local government capacity to manage waste infrastructure, with an ever-growing focus on creating sustainable livelihoods, in tandem with the Indonesian government’s Master Plan for Rehabilitation and Reconstruction. The last phase was intensively focused on developing the capacity of district sanitation departments, reflecting UNDP’s evolving response from recovery to longer-term development.

Philippines: Following Typhoon Haiyan in the Philippines (2013 – 2015), UNDP also began with short-term debris clearing activities designed to restore the local landscape within three months. Priorities then shifted to supporting Local Government Units (LGUs) in waste management initiatives to help them transition from rapid response to recovery. Over time, UNDP began addressing the public health concerns and environmental impacts associated with the disposal of typhoon waste. A similar evolution is planned in UNDP’s approach to managing solid waste in Cox’s Bazar in response to the Rohingya crisis.

These approaches and skills are fully transferable to Bangladesh, as Rohingya camps have essentially become urban settings where the level of poverty is particularly elevated and the damage to the environment severe. Implementation locations for activities include two Upazilas (Ukhia and Teknaf), the District office in Cox’s Bazar, and five affected unions (local municipalities): Raja Palong, Palong Khali, Nhilla, Whykong, and Baherchara.

Rationale and Overview: Developing Waste Management Systems (Outcome 1):

The proliferation of solid waste in the camps and nearby host communities has gone largely uncontrolled and unmanaged since the most recent Rohingya influx of August 2017. Waste management facilities, infrastructure and services are severely inadequate, and local communities desperately need repairs or revitalization of old infrastructure, and the construction of new waste management sites. These construction projects will benefit local people, not solely as beneficiaries of the completed projects, but as workers paid for the betterment of their own communities. These projects provide a source of cash income to groups who have lost all other income and assets, to assist them in meeting their most urgent family and community expenses. UNDP calculates the below activities to provide a total of 233,000 days of paid work for unskilled labour, and 4,400 days for skilled labour. This will provide a significant boost to the local economy.

Women will be encouraged to participate and benefit from all the activities listed below, though it should be noted that Cox’s Bazar is considered within Bangladesh to be a religiously and socially conservative region. This poses a very serious dilemma for programming, as UNDP would not want to train women for roles where they would potentially face serious repercussions, especially when the justice system and means of legal recourse across the region are already over-stressed. Women will be involved as equal if not priority recipients of opportunities wherever possible, through consultation with local partners.

All activities will be implemented in a conflict-sensitive manner, in possible conjunction with UNDP’s social cohesion initiatives. Several checks and balances will be introduced to work the repair or construction of waste systems into broader social stabilization efforts in the district. This will be done with several key principles in mind:

¹⁵ Ibid, pg. 58.

- a) Selection of beneficiaries will be done transparently and in close consultation with communities. To promote equity, both host and refugee communities' beneficiaries will be selected, and the approved lists will be shared with the community.
- b) Payments to the workers will be calculated based on rates agreed across the sector, following consultations with other development partners on the ground, using available ISCG criteria;
- c) UNDP project staff will regularly visit construction sites with local government partners. Communities may also be given a choice to appoint representatives to monitor the work to ensure appropriate quality.

Proposed Outputs and Activities:

Output 1.1: QUICK-IMPACT WASTE REMOVAL PROJECTS

Justification: UNDP proposes to run a series of cash-for-work projects in host communities and refugee camps that have been negatively affected by recent waste mismanagement. The provision of effective community services is particularly critical among host communities, where many see no benefit from the international response. The fastest and most visible means of improving the goodwill of the host community is to provide them with concrete and highly-visible improvements to their communities. In doing so, UNDP is responding to the Joint-Response Plan's call for host communities to be "supported directly through structured interventions across the sectors at District, community and household level, and to include appropriate quick impact projects to alleviate immediate pressure".¹⁶

Relevant Experience: UNDP has experience running highly successful gender-based cash-for-work activities in other parts of Bangladesh (Kurigram and Satkhira) through its SWAPNO (Supporting Womens' Ability for Productive New Opportunities) project. The project employed 4,464 women to conduct road maintenance and labour-intensive repairs to community infrastructure, and was administered through the Local Government Division of the Ministry of Local Government, Rural Development & Cooperatives.

Safety and Ethical Considerations: All workers shall be provided with appropriate equipment and training, including personal protective equipment (PPE - gloves, boots, masks), working tools (shovels, brooms, collection bins, wheelbarrows), a standard emergency kit for each team of workers, and training in standard working/safety procedures. (Specific estimates for the amount of equipment to be provided are listed under the "Project Results" section on page 14).

Protections to prevent the use of child labour or exploitation of vulnerable people will be put in place, in line with UNDP's official standards for Community Health, Safety and Working Conditions.¹⁷

Activities: Likely activities, pending the outcome of a consultation process, may include:

- a) **Assessment:** Assist local level waste management consultations with host communities and refugees, including women, within the Union level planning process to identify local priorities for development or rehabilitation of common areas;
- b) **Clearing Roads and Public Infrastructure:** Support the Upazila and local authorities to collect waste along the sides of roads, and around public spaces used by children (schools, sports grounds);
- c) **Cleaning Waterways:** Clean and rehabilitate local waterways, including streams, riverbanks and canals, that have become clogged with debris, and establish new waste pits in locations where contamination of local groundwater is prevented or minimized;
- d) **Heavily Affected Areas:** Clear areas where the build-up of garbage is particularly heavy, including under bridges and walkways, in local culverts, and surrounding local markets;
- e) **Waste Storage:** Provide emergency support to temporarily store waste from the highlighted areas, principally in waste bins and communal pits; technical experts will oversee site selection, design and management of communal pits. Environment and social standards will be employed to prevent impact and ensure sustainability.

¹⁶ Joint Response Plan, pg. 32.

¹⁷ See UNDP's Official Social and Environmental Guidelines (2015) at: <http://www.undp.org/content/dam/undp/library/corporate/Social-and-Environmental-Policies-and-Procedures/UNDPs-Social-and-Environmental-Standards-ENGLISH.pdf>

- f) **Recycling and Enterprises:** Bringing in recycling or waste sorting enterprises to collect and repurpose waste removed through cash-for-work.

Output 1.2: BASIC WASTE MANAGEMENT SYSTEM

Justification: Following the clearing campaign, a basic system is needed to maintain the cleanliness of the rehabilitated areas within the host communities and camps. Though this system is likely to start with UNDP support at the community level, it is important that it be linked into the government-led waste management systems when these are developed or expanded.

Activities: Possible activities include:

- Distributing and Clearing Waste Bins:** Distributing an adequate number of waste bins for a group of households in the host community, as well as in the camps, shops, and in the markets (based on pilot project experience, UNDP estimates that one 75L bin should be provided to every 7 households¹⁸). This is to be linked with Household Engagement under Output 2.3;
- Maintain Rehabilitated Areas:** Support an adequate number of cash for work opportunities for the collection/segregation and disposal to maintain areas which have already been cleared of waste;
- Regular Waste Transport:** Establish a network/collection/transportation system and provision of transport equipment from household to the dumping points/communal pits

Output 1.3: NEW WASTE MANAGEMENT INFRASTRUCTURE

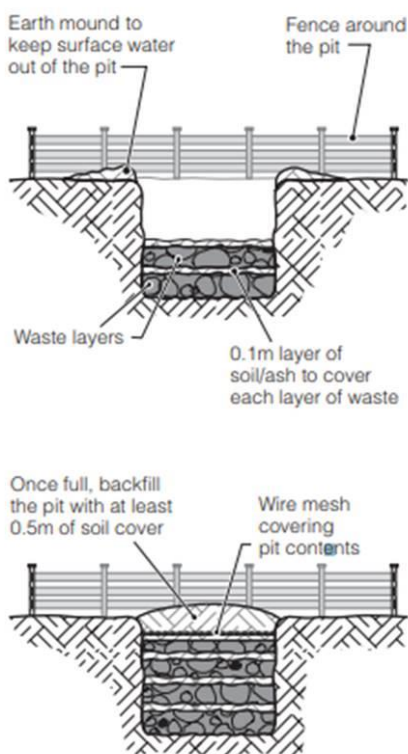


Figure 1. Waste Pit Construction (WHO)

Justification: While preference shall be given throughout the project to promote the recycling of appropriate materials, some waste typically cannot be recycled and will need to be safely disposed. The Rohingya Joint Response Plan acknowledges a pressing need for new infrastructure, calling for “a solid waste management system to be established including possible installation, operation and maintenance of a shared landfill”.¹⁹ Therefore this project proposes to support the feasibility study and additional assessments, including environmental impact assessment, to decide about the best and relevant to the context solution. If the results of the assessments confirm the need to design and construction of a mid-sized and medium-term sanitary landfill with a capacity of 5 years the project will support this investment. This project does not envisage to support the operation of the landfill for the full 5 years. Within the course of this project the landfill will be designed, constructed, commissioned, and handed over to the government, who will be trained to operate it.

Specifications: All landfills and waste pits shall be constructed in line with approved international guidelines established by the World Health Organization (WHO).²⁰ as well as UNDP’s own standards (e.g. UNDP “Guidance on municipal solid waste management in crisis and post crisis

settings”²¹). This requires careful assessment of potential waste disposal sites, with approved distances from major water sources to avoid toxic leaching into the water supply. Waste pits, for example, are ideally to be constructed with proper fencing, raised mounds around the pit to

¹⁸ This number is based on the calculation that the maximum waste produced per person per day is 0.3 kg/person, or 0.75 liters per person. Presuming an average household size of 5 people, 7 families will produce 52.5 liters of waste every 2 days until waste is next collected. (52.5 liters < 75 liters)

¹⁹ Joint Response Plan, pg. 48.

²⁰ World Health Organization and WEDC, “Solid Waste Management in Emergencies”, July 2013. Available at http://www.who.int/water_sanitation_health/emergencies/WHO_TN_07_Solid_waste_management_in_emergencies.pdf

²¹ <http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/municipal-solid-waste-management-in-crisis-and-post-crisis-setti.html>

prevent water from pooling inside, and layers of ash and soil to cover waste. As seen in the WHO diagram (left), a mesh covering and additional soil cover should also be placed over the pit once full. Landfills, by contrast, should be located a minimum of 1km from the nearest village or community. All landfills should be maintained as sanitary landfills, which means that waste must be covered daily, reducing the risk to public health in areas surrounding the landfill. In order to ensure that waste disposal options are clean, efficient, sanitary and effective UNDP specialists will work with the local authorities in host communities and with Site Management representatives in the camps to identify suitable and safe locations for all disposal sites (waste pits and the landfill). Once the preliminary sites are identified Environmental Impact Assessment will be conducted to ensure that all waste infrastructure is built to the approved standards, in a safe distance from high biodiversity areas including, water bodies, wetlands and other high biodiversity ecosystems. All necessary measures will be taken to prevent potential leakage of polluted waste water from the land fill, or water that has been in contact with landfilled material and when diverted may pollute freshwater bodies and groundwater. Special fire safety measures will also be taken to prevent potential emissions of methane gas, dioxins and CO₂ that can cause health and environmental hazards in a case of a fire. The Environmental Impact Assessment will also, as far as possible, identify potential natural safety barriers (ecosystem services). Constructed safeguards will be used to complement the natural safety barriers. Such safeguards may include artificial barriers, bottom seals and tire deposits. The need for safeguards will be governed by the types of waste deposited.

UNDP Expertise and Procurement: The construction of this new infrastructure will require competent expert technical consultants on UNDP's team, to supervise and help guide processes. UNDP has comprehensive regional and global rosters of established experts which can be used to quickly hire reputable specialists, though UNDP Bangladesh would also be pleased to continue its relationship with MSB to procure the relevant technical expertise, following a successful partnership during the pilot project. Design and construction companies, will be selected according to UNDP standard procedures.

Activities: Likely activities will include:

- a) **Feasibility Study:** UNDP will conduct feasibility studies to develop a long-term solid waste management system (covering issues like waste composition, means of collecting, segregating, transporting and disposing of waste) with a view to designing large-scale permanent facilities;
- b) **Partner Identification:** Identify reputable partners to help the local government to implement longer-term solid waste management activities and infrastructure development, responding to a desperate need for sustainable and more permanent approaches to managing the proliferation of waste among both refugee and host communities;
- c) **Waste Pits:** Support the Upazila local authorities to construct interim waste pits at the community level. Waste shall be relocated to safe locations set aside by local government, in line (as best as possible, in particularly congested areas) with international standards for calculating safe distance from dwellings and local water sources. WHO guidelines suggest that waste pits should be a minimum of 90m from water sources, for example, and constructed using established methods to prevent toxic leeching.
- d) **Landfill:** Work with Upazilla and District Authorities to set aside land for one medium-size sanitary landfill capable of safely handling and processing waste from entire camps or communities.

2. Changing Behaviours and Attitudes (Outcome 2)

Rationale and Overview: Changing Behaviours and Attitudes:

The most powerful means of convincing someone to change their behaviour is to provide them with a profitable alternative. To maximize the reuse of recovered materials, minimize the volume of waste requiring ultimate disposal, and improve waste management in the longer term, UNDP and its partners are considering several livelihood support activities. If strong local businesses are buying and recycling waste, local people have much less incentive to passively contribute to the spread of unmanaged waste in their communities.

Local recycling businesses predate the recent escalation of the Rohingya crisis, but their profits have been reduced as they now must compete with humanitarian convoys to rent trucks to transport their recyclables to processing centres in Chittagong or Dhaka. UNDP will undertake analysis of the recycling value chain, and will work with interested NGOs, the private sector, and government to support these initiatives and find innovative solutions that can make both private and public waste management schemes sustainable and profitable.

UNDP experience in other countries demonstrates the commercial value of solid waste processing, and the transformative impact it can have on local attitudes and behaviours. For example, in UNDP's Aceh Tsunami Recovery Waste Management Programme (Indonesia), some USD \$3 million was invested in waste management livelihoods that generated over USD \$6 million in profits in the first two years.

Proposed Outputs and Activities:

Output 2.1: RECYCLING AND LIVELIHOODS DEVELOPMENT

Justification: Livelihood development is essential to ensure sustainability in the long-term, and is a comprehensive element of the proposed project, providing economic incentives for changing behaviours and habits permanently. Recycling, repurposing and reselling waste can be a lucrative industry, with transformative potential for vulnerable people and communities. To maximize the reuse of recovered materials and improve waste management in the longer term, UNDP and its partners are considering several livelihood restoration and support projects that can alter the local incentives when managing and disposing of waste. These sorts of “trash-to-cash” activities encourage local people in both host communities and refugee camps to view solid waste as a potential resource when managed properly, with the potential to shape how entire communities manage the waste they produce.

Current Situation in Cox's Bazar: Currently there are a number of small private enterprises in Cox's Bazar purchasing and selling waste for recycling (UNDP has identified 3 recycling enterprises in Ukhia Upazila, for example), but the potential for the development of recycling enterprises is still largely untapped. Approximately 27,000 MT of waste was produced per year prior to the Rohingya influx. After the arrival of close to one million Rohingya refugees, the volume of waste has logically increased much faster than previous estimates. Of this volume, 75.3% of all waste produced is estimated to be organic (vegetable + wood pieces), 4.3% plastic, 5.7 paper, 0.1% metal, and approximately 15% other waste including glass and textile waste.²²

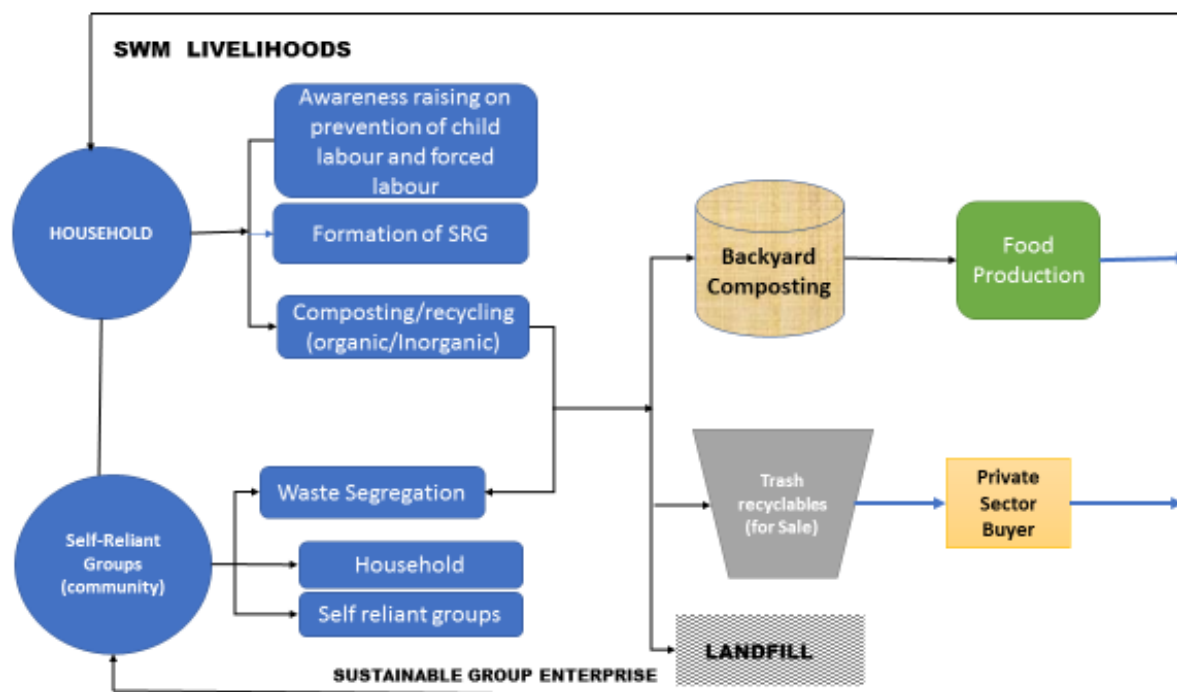
Discarded plastic and other recyclable materials including metals and alloys can be sold from BDT 14.00 to 38.00 per kilogram. At the current estimated levels of trash, 198,000 kg of plastic and metal waste is produced per month. **If sold and recycled, this amount of waste alone can generate an estimated BDT 5.1 million or USD 62,000 per month.**

Recycling and Livelihoods Approach: The project's recycling and livelihoods development approach aims to improve both demand and the supply of recyclable waste:

- a) **Increase Demand for Recyclables:** Increase the capacity of new and existing enterprises to absorb, recycle and process more waste;
 - i. Provide initial capital outlay and mentoring to the existing and start-up business to ensure small and medium-sized recycling enterprises are self-sustaining;
 - ii. Work with interested NGOs, the private sector, and the government to re-establish and expand established recycling activities to other locations;
 - iii. Help reduce the transaction costs that can impair profit. UNDP will look into various options to streamline the collection and transport of products, including:
 - Facilitating the signing of a marketing agreement with vetted buyers and sellers of trash items;
 - Support local communities to tie up with major buy and sell the business to acquire packing or bundling equipment;

²²UNDP & the Sustainable and Renewable Energy Authority of Bangladesh, “CONDUCTING A FEASIBILITY STUDY ON WASTETO-ENERGY CONVERSION IN SIX MUNICIPALITIES IN BANGLADESH”, June 2018. Accessible at: [http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20\(1\).pdf](http://www.sreda.gov.bd/files/SREDA-UNDP_Bangladesh_FS-WTE_final%20report%20for%20uploading%20(1).pdf)

- Facilitate direct selling to buy and sell companies or direct pick up of products in the community whichever is cost-effective (thus removing intermediaries).
- iv. Work with the authorities to create a registration system for recycling enterprises and groups.
- b) **Increase Supply of Recyclables:** Support a reliable supply chain for recycling through improved waste segregation, cleaning and packaging at the household level.
- i. Conduct basic supply and demand analysis to know which trash items are in demand, with regular follow-up market intelligence to ensure communities know how to get the best value of their products in the market;
 - ii. Organize and train enterprise groups to buy, collect, sort, grade, bundle and brand recyclables based on market requirements (see “Household Engagement”, Output 2.3 for more details);
 - iii. Work with local authorities to provide location/space for households that do not have space near their houses or shelters to place collection bins or waste transit points;
 - iv. Work with the authorities to adopt "reduce, re-use and recycle" practices through resolutions, covering bio- and non-biodegradable waste.



Output 2.2: LOCAL GOVERNMENT ENGAGEMENT AND CAPACITY BUILDING

This Project will facilitate the development of an efficient, demand-driven and government-owned solid waste management model, that will inform a long-term waste management master plan.

Current Situation in Cox’s Bazar: Waste management services faced significant challenges in the region, even before the recent refugee influx. In urban settings, waste management functions are officially allocated to urban local government institutions, such as Pouroshova (municipal governments) in small towns, and the City Corporation in larger towns and cities, but the provision and effectiveness of these services vary. In rural areas, improvements to sanitation, drainage systems and the water supply are officially the responsibilities of the Union Parishads (the lowest level of rural local government) and Upazila Parishads (sub-district level rural local governments). Both Union and Upazila Parishads have (Standing) Committees on ‘Public Health, Sanitation and Supply of Pure Drinking Water’ and on ‘Environment’ which are closely linked with waste management. In practice, however, these do not always transfer into visible actions on the ground. Most local bodies do not have the resources or capacity to implement regular or structured waste management systems, and urgently need assistance to develop this capacity.

Local Government Engagement and Capacity Building Approach: In much of the affected region, it will be necessary to set up entirely new systems and build new administrative capacities. This will be reflected in the development of a united solid waste management **model**, followed by a solid waste management **masterplan**. These are defined as follows:

Solid Waste Management Model: The first step to creating a functional and sustainable solid waste management system will be to develop and agree on a SWM model which reflects a division of local responsibilities (governance architecture). The solid waste management responsibilities of each tier of local government are currently informal and undefined – the proposed model will be developed in full consultation with all relevant local authorities, and will outline the role of various levels of government (Union, Upazila, City Corporation, etc.), as well as the private sector, in developing and maintaining solid waste infrastructure and services. Various options will be explored, to maximize the sustainability of services - where government capacity is particularly low, for example, the majority of activities might be outsourced to the private sector, leaving the Government to provide oversight and supervision. Different options will be explored in the consultations to develop a workable and effective waste management model.

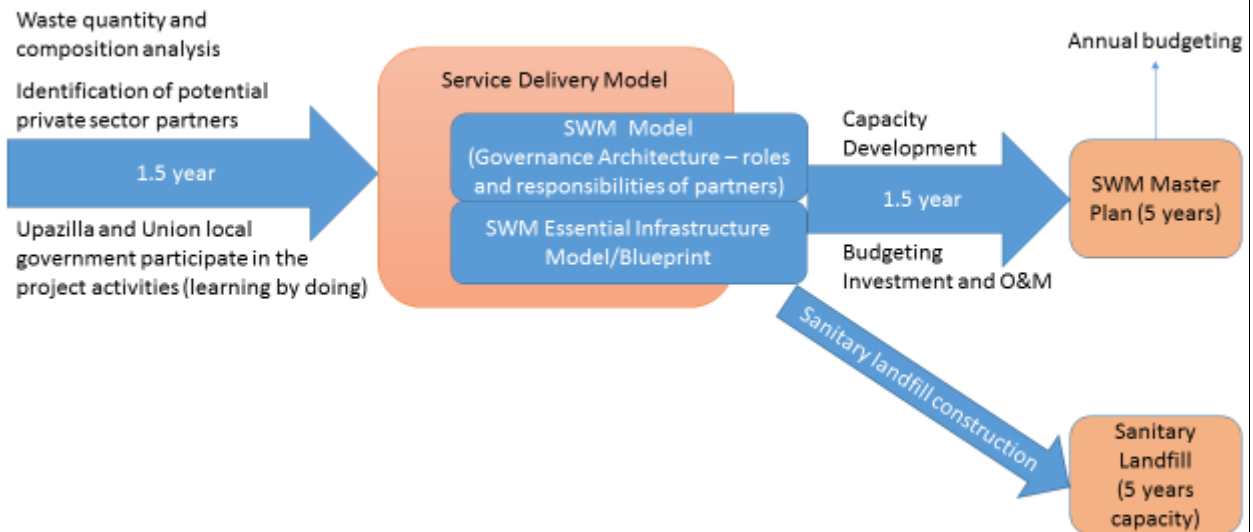
Solid Waste Management Masterplan: Following the development of the SWM model, and agreement on the medium and long-term responsibilities of the key players, a long term masterplan will be developed (to last 5 years, applicable beyond the range of this project). The SWM model will inform the costing of the masterplan, including capacity building requirement for all stakeholders. UNDP will help local government bodies to fully budget for future solid waste services and infrastructure, providing training and support to effective accounting and oversight functions as required. This masterplan will ideally be integrated into existing district development plans providing a clear and practical roadmap for meeting the region's future and present waste management needs, ensuring that waste is addressed in an effective, environmentally sustainable and health-conscious manner.

Though this will be a complex process, the development of a model and masterplan can be an opportunity to introduce new and effective waste management methods from the beginning, rather than having to unlearn old approaches. Partnerships with the private sector will need to be established and cultivated.

Detailed Considerations: From UNDP's side, the phasing and activities will likely proceed as follows:

- a) **Assessment Period:** Initial engagement with local government counterparts will assess current gaps in capacity, identify key local government stakeholders, and build partnerships essential for the project's successful implementation;
- b) **Mentoring for Government Administrators:** UNDP's early capacity building strategy will be to invite municipal representatives to work together with the project team on the ground, to observe and participate in project activities and benefit from UNDP's international experience;
- c) **Model Developed:** By the end of the first phase (approximately 1.5 year) a solid waste management model for service delivery will be developed, in full consultation with all relevant tiers of local government and private sector partners; and roles and responsibilities will be defined.
- d) **Plan Developed:** The model will inform capacity development plan to be implemented during the second phase of the project. The project will need to look at both the functional capacity of the key stakeholders (structures and process), as well as its financial capacity (securing sufficient funds);
- e) **Sustainability and Long-Term Handover:** During this phase more direct implementation responsibilities will be gradually handed over to the local government staff, as per the developed model.

- f) **Integration Across the District:** The project will then also facilitate the development of a solid waste management masterplan, which should become an integral part of the District Development Plan. This will require close cooperation with the District Commissioner's Office.



Output 2.3: HOUSEHOLD ENGAGEMENT FOR IMPROVED SEGREGATION AND RECYCLING OF WASTE

The household level is the most important unit to consider when addressing solid waste management, as it is at this level that most waste is produced. Behavioural and attitudinal change will be most important at the household level, to sustainably change the ways by which local people interact with waste. This will be achieved through:

- a) **Household Organization and Training:** Households in small neighborhoods will be organized into small enterprise groups and trained to spearhead local action on proper waste recycling for plastic, metal, and glass waste, and composting and gardening for suitable kinds of organic waste. The Reduce, Reuse, and Recycle (3R) principles (see Output 2.4 below) will also be introduced in households, including waste segregation and sorting of recyclable waste;
- b) **Disposing and Segregating Organic and Non-Organic Waste:**
 - i. Waste bins for segregation will be provided for every 10 - 15 households for collection of solid waste;
 - ii. Household groups will be trained to classify and sort organic and inorganic waste;
 - iii. Training for households (mothers) on how to dispose of waste effectively and safely;
- c) **Organic Waste: Household and Community Composting:**
 - i. Composting units will be provided at household level in host communities, and in the camps one unit for a number of shelters due to limited space;
 - ii. Introduction of communal composting techniques, given that a large proportion of local waste is organic and can be repurposed;
 - iii. Organic waste for composting and that for backyard gardening will be handled separately.
- d) **Non-Organic Waste: Segregating and Recycling at Source:**
 - i. The household groups will collect, clean, sort and pack trash and sell the trash to the buyers at competitive prices;
 - ii. Household non-organic wastes will be segregated into 'saleable' and 'non-saleable'. 'Saleable' waste such as plastic will be cleaned, sorted and packed according to buyers' requirements and sold at competitive prices (groups will compare the prices of buyers in town), and the 'non-saleable' waste will be collected for the landfill.
 - iii. Members will decide on how to manage their groups and on how to use their income;

- e) **Links to Other Skills and Themes:** The project will encourage households to set aside funds to finance group operations, for saving and credit, or to buy inputs (e.g., seeds) for backyard gardening. This way, households will contribute to food production, while reducing waste going to landfills or waste sites. Training for households on recycling practices can also simultaneously incorporate elements on the importance of preventing child and forced labor, and to ensure proper management and disposal of household waste through economic incentives.
- f) **Additional incentives:** Contests and prizes for the most sustainable households, promising young recyclers. Women from the best recycling households can be rewarded with non-cash gifts including (for example) livestock or seeds, and may be selected to train other households as mentors.

Step by step “Establishment of self-reliant community enterprise groups for recycling livelihoods” is presented as Annex 3.

Output 2.4: “3 Rs” AWARENESS CAMPAIGN (Reduce, Reuse, Recycle)

Justification: The “3 Rs” effectively embody a sustainable approach to waste management challenges. An awareness-raising campaign based around these principles will aim to inform, educate and motivate by means of various communication tools, including radio and involving local religious and community leaders to spread the message.

Behavioural change is a gradual process, but can start in the family. A focus on women and children is likely to be particularly effective. This campaign can also be effectively integrated in schools.

Activities: Activities will include:

- a) **Education Campaigns:** For schools, including possible posters and teaching materials, to accompany the provision of garbage bins;
- b) **Bins in Public Places:** Placement of bins for segregated recyclables in public places, accompanied by posters with information on the 3Rs and instructions how to segregate and dispose garbage;
- c) **Radio Campaign:** This will be particularly important, given many refugees and members of host communities are illiterate;
- d) **Local Consultations:** Involve local community and religious leaders to help amplify the 3Rs message through their platforms.
- e) **Cooperate with Other Agencies:** Link sustainable waste management to other WASH campaigns in the area, and share experience and lessons learnt.

Output 2.5: CONTINGENCY PLANNING

Current Situation in Cox’s Bazar: Cox’s Bazar is a disaster-prone district, vulnerable to cyclones, landslides, flooding, and the possibility of earthquakes. Natural disasters can generate enormous quantities of waste that could further overwhelm the district’s under-developed waste management infrastructure. The region would be better prepared to cope with a disaster if local authorities and humanitarian agencies developed emergency waste management plans in line with other disaster preparedness activities. Such contingency planning should outline the purpose, location, accessibility and capacity of all existing solid waste facilities and services, as well as the practices and policies to be followed following a possible disaster.

Approach: A comprehensive contingency plan is unlikely to be possible early in the project period, but can begin with a series of constructive conversations to ensure key actors in the refugee crisis and local government are considering their options. A formal plan may be later developed with the authorities as part of a broader waste management master plan. The plan should identify possible emergency measures in advance, to reduce the potential impact of an unmanaged disaster and protect both people and the environment.

When planning for a disaster, this forum should also be used to coordinate better waste management among development partners on an on-going basis. Further coordination through the ISCG’s WASH working group can aim to mainstream basic waste-management principles to make the humanitarian response more sustainable, producing minimal waste.

Activities: Possible activities include:

- a) Support to the Rohingya Inter-Sectoral Coordination Group and partners to plan for solid waste management in daily operations and in the case of an emergency;

- b) Identify emergency dumpsites to accommodate possible disaster debris and hazardous/medical waste In cooperation with the Government counterparts,
- c) Encourage government and humanitarian partners to reserve minimal funds for 500 people to work for 20 days to clear debris in case of an emergency;
- d) Take note of the amount of safety equipment procured and stored for all cash-for-work projects, which could be used to remove debris in the case of an emergency.

Project Results: Key Numbers

Developing Waste Management Systems: Anticipated Results

Based on the experience of the pilot project, UNDP expects to achieve the following key results under Outcome 1 by the end of 2021:

1. 25 communities (both refugees and host communities) benefited from clearance of waste;
 - Estimated volume of waste cleared and recycled:
 - Waste cleared from cash-for-work activities: 33,000 m3 (output 1.1)
 - Waste collected/transported/disposed: 34,000 m3 (output 1.2)
 - Waste recycled: 6,000 m3 (output 2.1)
2. Approximately 200,000 labor days created for unskilled and skilled workers from both refugee and host communities;
3. Around 10,000 garbage bins distributed to benefit 80,000 households (one bin per 7-8 households), and in public places;
4. Estimated 750 tool and Personal Protection Equipment sets procured for local government institutions and partners responsible for waste management;
5. An interim landfill (capable of receiving waste for 4 – 5 years), and an emergency dumpsite for clearance of debris following a possible disaster designed and constructed;

Changing Behaviours and Attitudes: Anticipated Results

UNDP expects to achieve the following key results under Outcome 2 by 2020:

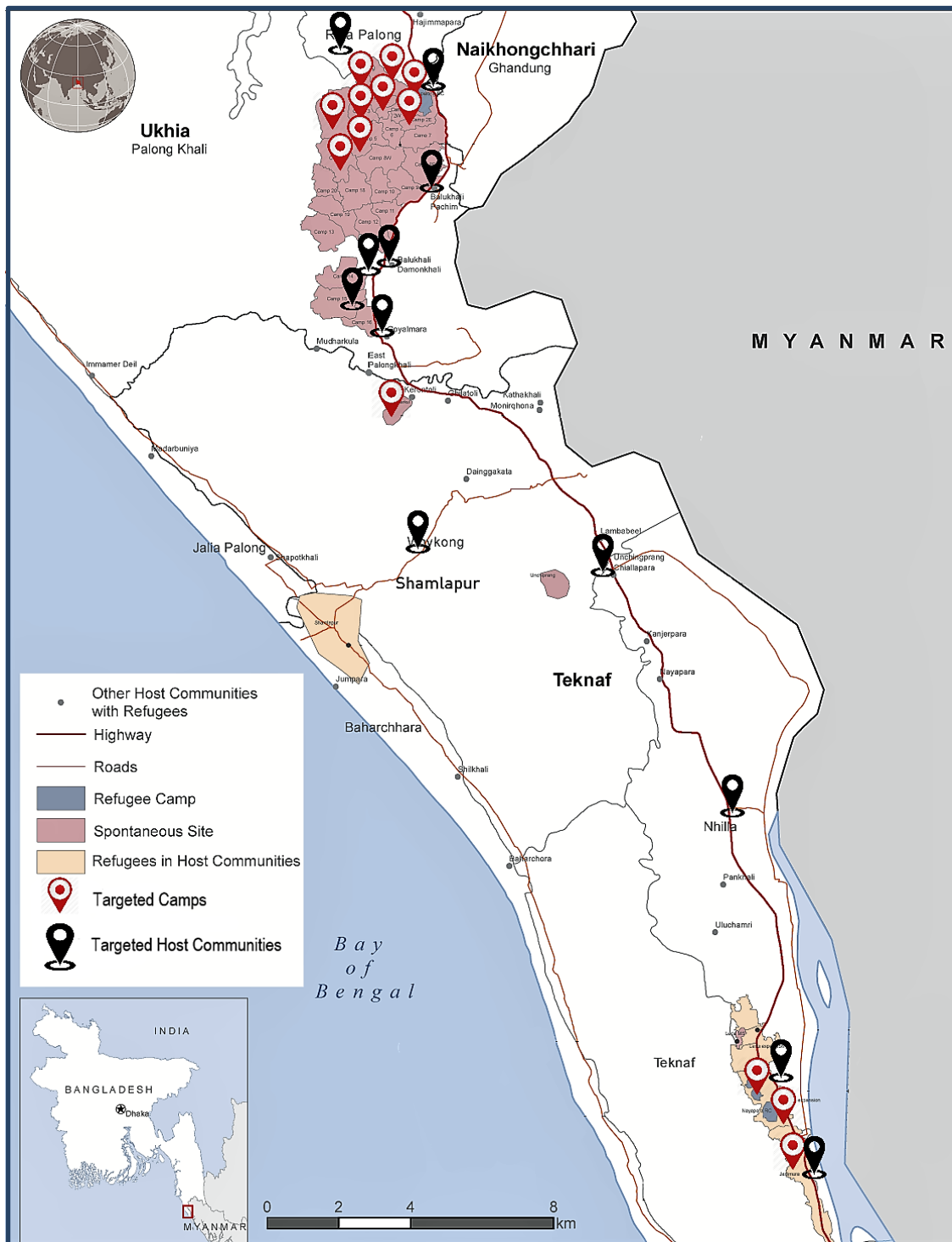
1. A waste recycling value chain is re-established and strengthened through market analysis and building partnerships with NGOs, local government and private sector;
2. 20 small recycling enterprises (including those in female-led households) are provided start-up grants and technical assistance;
3. 5 training workshops are conducted for small recycling enterprises, followed by on-going mentoring;
4. 40 Local Government representatives from 2 Upazillas benefited from a comprehensive capacity-building programme, including training and mentorship during the Project's implementation;
5. Partnerships for Solid Waste Management established and governance model developed for the two Upazillas;
6. A Solid Waste Management master plan for the two Upazillas incorporated into the District Plan,
7. Direct training on waste segregation and recycling for 1000 people from households covered by the awareness campaign; and sensitization for 80,000 people (one person per household)
8. Incentive activities created to engage households given garbage bins (under Outcome 1);
9. Recycling education campaigns in 100 schools and learning places launched, including training materials for teachers;
10. 100 special bins for recyclables and 100 garbage banks placed in schools and learning places;
11. 1500 posters placed in schools and public places;
12. Radio and social media campaigns targeting Youth launched;
13. Solid waste management disaster contingency plan drafted by UN (ISCG) and local government partners.

IV. PROJECT MANAGEMENT

Project Implementation Area and Beneficiaries:

Implementation will directly impact approximately 500,000 people (340,000 refugees, 160,000 host communities) as beneficiaries of a cleaner environment arising from improved waste management infrastructure and services. Primary activities will be conducted in Cox’s Bazar District, with possible overlap activities in Bandarban District (Chittagong Hill Tracts). Within Cox’s Bazar district, the project will focus on two Upazilas (Ukhia and Teknaf), and the five most affected Unions: Raja Palong, Palong Khali, Nhillia, Whykong, and Baherchara.

UNDP will focus on refugee camps currently receiving assistance from UNHCR. These include: Kutupalong-Balukhali mega-camp [including Camp 1 (east), Camp 1 (west), Camp 2 (east), Camp 2 (west), Camp 3, Camp 4, Camp 5, and Camp 17], as well as Chakmarkul, Nayapara RC, Nayapara Expansion and Jadimura, as shown in the map below:



Partnerships & Stakeholders:

UNDP is committed to working with other UN agencies to provide a comprehensive and complimentary response to the waste concerns facing both host communities and refugees. UNDP will consult and involve to the extent possible UN HABITAT on technical issues related to solid waste in established settlements, and will work within UNHCR's section of the Rohingya camps, as per an established arrangement. UNDP's proposed interventions relate to areas where UNDP already has significant experience and expertise both nationally and in Cox's Bazar. UNDP will regularly partner with external initiatives so as not to duplicate efforts and resources. UNDP will leverage the NGO roster established under its Early Recovery Facility project to collaborate with local NGOs. The roster identifies established partners capable of being quickly hired to provide timely and high-quality assistance to affected communities.

Coordination with the Government Counterparts will be done at 3 levels;

Oversight – District Level: This will be done through the regular ISCG coordination mechanism. UNDP will keep the Cox's Bazar Deputy Commissioner's Office informed throughout the project, as well as the Additional Deputy Commissioner's Office (ADC - responsible for coordinating support to host communities), and the Refugee Relief and Repatriation Commissioner (RRRC - responsible for coordination of activities in refugee camps).

Strategic – Sub-District Level (Upazilla): This will proceed through the regular existing ISCG coordination mechanism during bi-weekly meetings held with Upazilla Nirbahi Officers (UNOs) and Unions' representatives.

Technical – Sub-District and Union Level: The project will establish working level cooperation with technical staff of UNO: a) Projects Implementation Officer (PIO), b) Chief Engineer, c) Education Officer. They will be invited to participate in project activities on regular basis and work hand in hand with the project staff and implementing partners.

UNDP Added Value and Cost Effectiveness:

The proposed approach has been designed based on lessons learned from previous interventions, and has already been effective in two camps and one host community in Cox's Bazar during the pilot project. The hope is that the project's expansion will be even more efficient than the pilot, due to improved economies of scale.

UNDP has both the experience and the profile to act as a catalyst in promoting sustainable change to wasteful behaviours in Cox's Bazar. UNDP's status as a trusted international actor has already been critical to securing agreements with government agencies, private donors, and educational institutions, as its neutrality and intentions are well-respected. UNDP's legacy is of great use when bringing partners from different sectors, backgrounds, and countries together, and has previously been critical to securing agreements with local and international research partners, and civil society partners of all sizes. UNDP Bangladesh also already has a range of development interventions and partnerships that can be used to bolster the proposed activities. These include partnerships with networks of urban and rural youth, and a major urban development initiative which works closely with both poor and middle-class women, and local religious, and community leaders. UNDP's commitment to localization and sustainable institutions helps UNDP to focus on building the capacity of others, in preparation for a time when UNDP support will no longer be required.

V. RESULTS FRAMEWORK

Rohingya Joint Response Plan: Objective 2: Ensure well-being and dignity of Rohingya refugees and affected host communities.									
Bangladesh UNDAF Outcome No 2: Planet: Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups.									
Country Project Document: Outcome 3: Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups.									
Project title and Atlas Project Number: Sustainable Solutions to Solid Waste: A Local Response to the Rohingya Crisis in Bangladesh									
EXPECTED OUTCOMES & OUTPUTS	OUTCOME & OUTPUT INDICATORS ²³	DATA SOURCE	BASELINE		TARGETS (by frequency of data collection)				DATA COLLECTION METHODS & RISKS
			Value ²⁴	Year	Year 1	Year 2	Year 3	FINAL	
Outcome 1: Developing Waste Management Systems									
1.1 Ratio of waste generated to waste cleared / moved to the landfill (baseline 0, target 90% of not recyclable waste)									
1.2 Perception of general improvement in life conditions due to the functioning waste management systems (to be measured upon commencement of the project)									
Output 1.1 QUICK IMPACT WASTE REMOVAL PROJECTS	1.1.1 Number of camps/host communities where uncontrolled piles of solid waste have been cleared;	UNDP	0	2018	25				<i>Data from project MIS; 100% Spot-checks to verify</i>
	1.1.2 Number of women and men benefitting from waste clearance	UNDP	0	2018	480,000	0	0	480,000	<i>Project MIS</i>
	1.1.3 Cubic meters of waste cleared	UNDP	0	2018	33,000 m3	0	0	33,000 m3	<i>Measurements to be recorded monthly; verification of 30% sample by supervisors weekly</i>
	1.1.4 Total number of labour days created under quick income schemes	UNDP	0	2018	100,000	50,000	50,000	200,000	<i>Project MIS – muster roll record of beneficiaries, man-days worked, cash disbursed; 100% verification weekly.</i>

Output 1.2: BASIC WASTE MANAGEMENT SYSTEM	1.2.1 Number of camps/villages with functioning SWM system	UNDP	0	2018	0	25	25	25	Data from project MIS
	1.2.2 Total population benefiting from the established and functioning systems	UNDP	0	2018	0	480,000	480,000	480,000	Data from project MIS
	1.2.3 Number of waste bins distributed at the community level	UNDP	0	2018	0	10,000	0	10,000	Data from project MIS
	1.2.4 Cubic meters of solid waste collected and disposed of through maintenance systems	UNDP	0	2018	0	17,000 m3	17,000 m3	34,000 m3	Measurements to be recorded monthly; verification of 30% sample by supervisors weekly
	1.2.5 Reduction in water contamination	UNDP	83%	2018	70%	60%	50%	50%	Environmental Assessment
Output 1.3: NEW WASTE MANAGEMENT INFRASTRUCTURE	1.3.1 Total number of locations / communities served by a new landfill	UNDP	0	2018	0	0	25	25	Data from project MIS.
	1.3.2 New landfill constructed according to standards	UNDP	No	2018			1	1	Data from project MIS
	1.3.3 Cubic meters of waste disposed at the new landfill	UNDP	0	2018		0	40,000 m3	40,000 m3	Measurements to be recorded monthly; verification of 30% sample by supervisors weekly
Outcome 2: Changing Behaviours and Attitudes									
2.1 Ratio of waste generated to waste segregated / recycled (baseline to be measured by project team upon commencement of clearance activities)									
2.2 Awareness level of 3R (baseline 0, target 75%)									
Output 2.1 RECYCLING AND LIVELIHOODS DEVELOPMENT	2.1.1 Cubic meters of waste segregated/recycled by local entrepreneurs/ businesses supported by the project	UNDP	tbd	2018		6000 m3	6000 m3	12,000 m3	Measurements to be recorded monthly; verification of 30% sample by supervisors weekly
	2.1.3 Number of small waste recycling business schemes established, inc. in-kind grants (equipment) provided	UNDP	0	2018	0	20	20	20	Data from project MIS

	2.1.3 Cubic meters of waste segregated/recycled by community self-reliance enterprse groups	<i>UNDP</i>	0	2018		6,000 0 m3	6,000 m3	12,000 0 m3	<i>Measurements to be recorded monthly; verification of 30% sample by supervisors weekly</i>
	2.1.4 Total income generated through waste-related businesses	<i>UNDP</i>	0	2018	0	0	tbd	tbd	<i>Data from project MIS, from interviews</i>
Output 2.2 LOCAL GOVERNMENT ENGAGEMENT AND CAPACITY BUILDING	2.2.1 Number of local government staff trained on SWM	<i>UNDP</i>	0	2018	0	40	40	40	<i>Data from project MIS</i>
	2.2.2 Number of local government staff actively participating in the project implementation in a short term (learning by doing)	<i>UNDP</i>	0	2018	0	10	20	40	<i>Data from project MIS</i>
	2.2.3 Solid Waste Management model developed and owned by the Government	<i>UNDP</i>	<i>No</i>	2018	0		1	1	<i>Key Informant Interviews with government counterparts</i>
	2.2.4 SWM master plan developed and incorporated in the revised District Development Plan	<i>UNDP</i>	<i>No</i>	2018	0		1	1	<i>Key Informant Interviews with government</i>
	2.2.5 Government budget allocated for SWM in the last year of project implementation	<i>UNDP</i>	<i>No</i>	2018	0	0	0	tbd	<i>Review of budget documents; Key Informant Interviews with government</i>
Output 2.3 HOUSEHOLD ENGAGEMENT FOR IMPROVED SEGREGATION AND RECYCLING OF WASTE	2.3.1 Number of households served by waste bins distributed to the household level	<i>UNDP</i>	0	2018	0	80,000	80,000	80,000	<i>Data from project MIS; 20% verification through spot-checks</i>
	2.3.2 Number of household members sensitized to waste management practices (one person per household)	<i>UNDP</i>	0	2018	0	80,000	0	80,000	<i>Data from project MIS</i>

	2.3.3 % of households composting their organic waste	<i>UNDP</i>	0	2018	0	10 %	30%	50%	<i>Data from project MIS; 20% verification through spot-checks</i>
Output 2.4 THREE AWARENESS CAMPAIGN (Reduce, Reuse, Recycle)	2.4.1 Number of public facilities equipped with bins and campaign materials/posters	<i>UNDP</i>	0	2018	0	100	0	100	<i>Data from project MIS</i>
	2.4.2 Cubic meters of waste segregated in public places	<i>UNDP</i>	0	2018	0	6,000 m3	6,000 m3	12,000 m3	<i>Measurements to be recorded monthly; verification of 30% sample by supervisors weekly</i>
	2.4.3 Number of people who demonstrate basic knowledge about RRR (Reduce, Reuse, Recycle) (one per household)	<i>UNDP</i>	0	2018	0	0	0	80,000	<i>Sample from 'people' affected by intervention; face-to-face interviews to record changes in Knowledge, Awareness and practice</i>
	2.4.4 Number of listeners exposed to radio campaigns (two per household)	<i>UNDP</i>	0	2018	0	0	160,000	160,000	<i>Confirm with radio stations</i>
Output 2.5 CONTINGENCY PLANNING	2.5.1 Number of camps and villages covered by contingency plans	<i>UNDP</i>	0	2018	0	0	25	25	<i>Data from project MIS</i>
	2.5.2 Emergency scenarios identified	<i>UNDP</i>	No	2018	0	0	1	1	<i>Data from project MIS</i>

VI. MONITORING AND EVALUATION

In accordance with UNDP's programming policies and procedures, the project will be monitored through the following monitoring and evaluation plans. Donor representatives are encouraged to participate in the monitoring of both implementation of activities in the field and monitoring of key results.

Monitoring Plan

Monitoring Activity	Purpose	Frequency	Expected Action	Partners (if joint)	Cost (if any)
Track results progress	Progress data against the results indicators in the RRF will be collected and analysed to assess the progress of the project in achieving the agreed outputs.	Quarterly, or in the frequency required for each indicator.	Slower than expected progress will be addressed by project management.		
Monitor and Manage Risk	Identify specific risks that may threaten achievement of intended results. Identify 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.	Quarterly	Risks are identified by project management and actions are taken to manage risk. The risk log is actively maintained to keep track of identified risks and actions taken.		
Learn	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.	At least annually	Relevant lessons are captured by the project team and used to inform management decisions.		
Annual Project Quality Assurance	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 used to inform decisions to improve project performance.		
Review and Make Course Corrections	Internal review of data and evidence from all monitoring actions to inform decision making.	At least annually	Performance data, risks, lessons and quality will be discussed by the project board and used to make course corrections.		

Project Report	A progress report will be presented to the Project Board 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)			
Project Review (Project Board)	The project's governance mechanism (i.e., project board) will hold regular project reviews to assess the performance of the project and review the Multi-Year Work Plan to ensure realistic budgeting over the life of the project. In the project's final year, the Project Board 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.	At least annually)	Any quality concerns or slower than expected progress should be discussed by the project board and management actions agreed to address the issues identified.		

Evaluation Plan²⁵

Evaluation Title	Partners (if joint)	Related Strategic Plan Output	UNDAF/CPD Outcome	Planned Completion Date	Key Evaluation Stakeholders	Cost and Source of Funding
e.g., Mid-Term Evaluation						

²⁵ Optional, if needed

VII. MULTI-YEAR WORK PLAN

Bangladesh UNDAF Outcome No 2: Planet: Enhance effective management of the natural and man-made environment focusing on improved sustainability and increased resilience of vulnerable individuals and groups.							
Rohingya Joint Response Plan: Objective 2: Ensure well-being and dignity of Rohingya refugees and affected host communities.				UNDP Strategic Plan: Output 3.4.1: Innovative nature-based and gender-responsive solutions developed, financed and applied for sustainable recovery			
Project Title: Rohingya Response Solid Waste Management Programme in Bangladesh							
Outcomes	Outputs	Proposed budget			Total (USD)	Responsible Party	Funding Source
		Year 1 (USD)	Year (USD)	Year (USD)			
Outcome 1: Developing Waste Management System	1.1 Quick Impact Waste Removal Projects	268,350	298,350	0	536,700	UNDP	
	1.2 Basic Waste Management Systems	217,900	217,900	68,400	504,200	UNDP	
	1.3 New Waste Management Infrastructure	42,600	520,200	1,091,600	1,654,400	UNDP	
	Total: Outcome 1: Developing Waste Management System	528,850	1,006,450	1,160,000	2,695,300	UNDP	
Outcome 2: Changing Behaviours and Attitudes	2.1 Recycling and Livelihoods Development	150,000	252,000	0	402,000	UNDP	
	2.2 Local Government Engagement and Capacity Building	41,000	41,000	41,000	123,000	UNDP	
	2.3 Household Engagement for Improved Segregation and Recycling of Waste	104,400	104,400	12,700	221,500	UNDP	
	2.3 "Three Rs" Awareness Campaign (Reduce, Reuse, Recycle)	30,000	60,000	30,000	120,000	UNDP	
	2.4 Contingency Planning	37,000	43,000	32,000	112,000	UNDP	
	Total: Outcome 2: Changing Behaviours and Attitudes	362,400	500,400	115,700	978,500	UNDP	
Project Management (Staff and Admin Cost)	International Technical Advisers and Specialists (IC)	100,833	100,833	100,833	302,500	UNDP	
	Project Manager/ National Waste Management Specialist (SB-4)	25,020	50,040	50,040	125,100	UNDP	
	National Infrastructure & Livelihoods Support (SB-3)	12,080	24,160	24,160	60,400	UNDP	
	National Community Mobilization Officer (SB3)	11,000	22,000	11,000	44,000	UNDP	
	Monitoring & Evaluation Officer	17,300	34,600	34,600	86,500	UNDP	
	Vehicle purchase	80,000	0	0	80,000	UNDP	
	Local travel	21,600	25,200	25,200	72,000	UNDP	
	Office support cost	22,200	25,900	25,900	74,000	UNDP	
	Total: Project Management (Staff and Admin Cost)	290,033	282,733	271,733	844,500	UNDP	
Global Management Service (GMS): 8%		94,503	143,167	123,795	361,464	UNDP	
Grand Total		1,275,786	1,932,750	1,671,228	USD 4,879,764		

*NOTE THAT UNDP CALCULATES ITS COSTS IN USD

VIII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

4.1 Management Arrangements

To ensure a fast and flexible implementation of activities, UNDP will use the existing Direct Implementation Modality (DIM) provided under its Early Recovery Facility (ERF). This initiative will be administered by UNDP Bangladesh under the leadership of Country Director and Deputy Country Director via the head of UNDP's sub-office in Cox's Bazar. The project's technical implementation will be led by a Project Manager, supported by a project team consisting of national and international experts and staff.

4.2 Coordination at National Level - Project Board:

At project initiation, UNDP will convene a Project Board.

The board will provide high-level policy direction and oversight to the Project. The overarching responsibility of the Project Board is to assist the UNDP Country Office to carry-out their oversight responsibilities, especially with regards to annual plans, strategic planning, overall quality assurance and risk management requirements as related to project outcomes and to influence the course of the project. The PB will be chaired by the UNDP Country Director, and participants will include representatives of relevant government agencies and development partners, as well as UN agencies. Donor's representatives will be invited to join the Project Board.

The Project Board will meet at least once in every six months. It will be a high-level policy formation body that will:

- Review progress of the project and discuss policy implications;
- Recommend actions to reflect new policy directions in national planning documents
- Provide proper policy guidelines to overcome the problems of the project and assist UNDP to implement development solutions, priorities and emerging challenges
- Advise regarding opportunities for inter-departmental/ministerial cooperation and coordination;

4.3 Coordination at Cox's Bazar Level

UNDP will also engage regularly with other UN agencies, and local and international NGOs operating on the ground in Cox's Bazar through the ISCG coordination mechanism. UNDP will also coordinate bilaterally if required, to ensure active cooperation towards shared objectives.

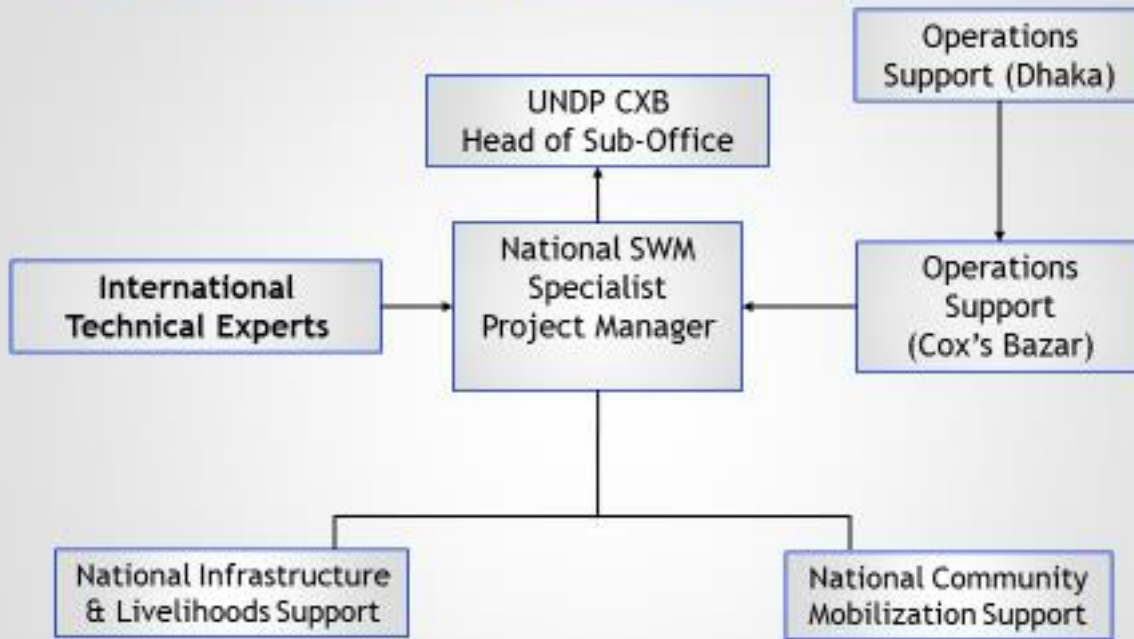
4.4 Project Team

The Project Team will be based in the UNDP Sub-Office in Cox's Bazar. A senior national waste management specialist will take over the role of the Project Manager. He/she will report to the head of the Sub-office in Cox's Bazar. In addition, two national technical specialists will help UNDP implement the project on the ground in Cox's Bazar on full time basis, focusing on a) Infrastructure & Livelihood, and b) Community Mobilisation. International technical experts will provide assistance on short term basis and as required by the Project Team for:

- solid waste management, systems and master planning,
- recycling value chains, enterprises and technologies
- governance and capacity building
- engineering for supervision of feasibility study, design and construction of the landfill
- environment for supervision of feasibility study, risk assessment and quality assurance

The Project Team will also be supported by operations personnel in the Sub-office and in Dhaka.

Team Structure - Implementation



4.5 Selection of Responsible Parties/ Implementing Partners:

UNDP will follow established guidelines for selecting of local NGO partners and standard procurement procedures for commercial firms for services and construction. UNDP will leverage the NGO roster established under its Early Recovery Facility project to collaborate with local NGOs, with a final decision to be taken in consultation with the Project Board.

4.6 Reporting

UNDP Bureau of Management/Office of Finance and Administration will issue an annual (system generated) certified financial statement as of 31 December every year and submit no later than 30 June of the following year. In addition, UNDP Bangladesh Country Office will submit every 6 months for the duration of the project, a narrative progress report which shall be analytical in approach and include a presentation of progress made in the implementation of the project towards the achievement of results and a manually prepared uncertified financial report in the agreed format.

4.7 Substantial and budget revisions

Any substantial revisions to the project scope, as well as any budget revisions resulting in more than 5% reallocation between the budget lines, will require a pre-approval from Sida. UNDP will provide justification in writing.

IX. LEGAL CONTEXT AND RISK MANAGEMENT

LEGAL CONTEXT STANDARD CLAUSES

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Bangladesh and UNDP, signed on 12 December 1986. All references in the SBAA to “Executing Agency” shall be deemed to refer to “Implementing Partner.”

RISK MANAGEMENT STANDARD CLAUSES

UNDP (DIM)

1. UNDP as the Implementing Partner shall comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)
2. UNDP agrees to undertake all reasonable efforts to ensure that none of the [project funds]²⁶ [UNDP funds received pursuant to the Project Document]²⁷ 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. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.
3. Consistent with UNDP’s Programme and Operations Policies and Procedures, 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. The Implementing Partner shall: (a) conduct project and programme-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 programme 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.

²⁶ To be used where UNDP is the Implementing Partner

²⁷ To be used where the UN, a UN fund/programme or a specialized agency is the Implementing Partner

X. ANNEXES

1. Risk Analysis.

Annex 1: Risk Analysis

Risk (category and type)	Probability / Impact		Mitigation
	(L = Low, M = Medium, H = High)		
Strategic			
Local Government does not extend their support to the Project	L	H	UNDP will carefully tailor its government engagement strategy to make the most of its relationship with key government agencies, expand its connections in other areas to develop strong partnerships built on mutual trust .
Security			
Security in and around the camps deteriorates, access to the project sites is limited	L	H	The Project will work through a network of local implementing partners, and use a low-key approach . As much as possible, local government counterparts will be involved and present on the ground. The process of selecting beneficiaries will be transparent, participatory, and conflict sensitive . In addition, UNDP will follow advice provided by the UN security experts at UNDSS, and consult them regularly to ensure the project is not attracting negative attention from dangerous actors, and that UN staff and implementing partners are not put at risk.
Safety of project staff and implementers during monsoon and cyclone seasons.	H	M	UNDP has clear standard operating procedures for suspension of operations before and during extreme events, and trains its staff for safety in post-disaster locations. Conditions would need to be reassessed and deemed to be safe before resumption of project activities.
Political			
Elections alters the implementation environment. Possibility of using the Project for political gain by external actors	M	M	The project will operate through at least two elections: The national parliamentary election is due in late 2018, and local Upazila elections will be held in 2019. UNDP respects the Bangladeshi political process, and intends for the Project's activities to remain explicitly apolitical . UNDP will promote a tolerant, inclusive message that should be amenable to all parties. If necessary, UNDP may need to consider shifting some of its activities to the post-election period.
Lack of co-ordination and/or significant differences within and between Local Government Partners	M	M	Since the responsibility for waste management is not clearly defined or allocated to one institution within the local government, some differences in views and approaches may appear. UNDP will engage with all relevant stakeholders, facilitate inclusive consultation and cooperation and ensure that all actors are included into the process to overcome roadblocks.
Possible political uncertainty post elections	H	M	Many of the proposed activities are designed to be responsive to shifting political conditions, and can address new themes and realities as required. Additional partnerships and complementarity with other actors in this field might also help to address ways of keeping the project moving regardless of circumstances.
Financial			

Risk (category and type)	Probability / Impact		Mitigation
	(L = Low, M = Medium, H = High)		
Fraud, corruption and misuse/misdirection of funds	L	M	<p>Strong financial systems and internal audits will be held regularly, and reinforced through quarterly financial reporting. All relevant staff will receive appropriate financial training.</p> <p>The proposed project intends to transfer funds to reputable partners via dedicated accounts and auditable procedures. Financial transparency is to be maintained at all levels.</p> <p>Rigorous attention to quality assurance will ensure that funding goes to appropriate causes and will contribute to the stated objectives.</p>
FOREX losses create a shortage of funds due to fluctuating exchange rates	L	L	UNDP will actively revise its budget and activities based on any changes to international exchange rates.
Operational			
Duplication of efforts and missed-opportunities for synergy	L	M	<p>UNDP will coordinate very closely with actors at 3 levels:</p> <ul style="list-style-type: none"> - Community/camp level through CICs in the camps and Union Parishad representatives in host communities; - District Level through Additional Deputy Commissioner's Office (ADC) for host communities, and RRRD for the camps; - The Inter-Sectoral Coordination Group within the UN.
Difficulty finding local implementing partners and technical experts	M	L	<p>As more development partners come on the ground there will be increasing demand for skilled, experienced and capable local personnel and implementing partners.</p> <p>A pilot project was implemented recently using local implementing partners, and these positive relationships have already been established. In addition, UNDP has a broad network of implementing partners countrywide. In case of difficulty UNDP can consider bringing in local implementing partners from other locations within Bangladesh.</p>
Natural disasters (floods, cyclones, earthquakes)	H	H	<p>The project will aim to build resilience to disasters by adding a solid waste component to the local government's disaster planning. UNDP will monitor weather forecasts and work to prepare a contingency plan (including protection of project staff, equipment storage, radio communication system. etc) in case of emergencies. Should a natural disaster occur, some of the Project's activities might be delayed as a result, and project staff might also be diverted to the emergency response. The presence of solid waste management experts on the ground will likely be of particular value at such a moment, and UNDP would be ready to offer its services to a humanitarian response.</p>
Difficulty with land allocation for the landfill	M	H	<p>Difficulty with allocation of a suitable site for the landfill may increase the leadtime to construction. Mitigation measure is early engagement and agreeing more than one possible location for a landfill. The local government will be asked to present 2 – 3 options if possible. The possibility of constructing a landfill has already been discussed with the local government representatives at the Upazilla level. Buiding on this initial engagement, the process of land selection and environmental and health risk assessment of locations will start as soon as the project commences.</p>

Risk (category and type)	Probability / Impact		Mitigation
	(L = Low, M = Medium, H = High)		
Social			
Gender restrictions limit women and girls from accessing the project's benefits	H	M	<p>Commitment to gender equality is written into the proposed project and will be consistently monitored with reference to target indicators. However, given the nature of the project, UNDP expects that it may not be culturally sensitive to employ women in all activities, particularly as involve clearance of waste or heavy labour.</p> <p>Therefore, women will be targeted for segregation and recycling livelihoods activities.</p>
Child Labour, Forced Labour, or other forms of illegal employment is used by local partners, particularly in the collection or transport of waste;	M	H	<p>As described in detail on pages 7-8, UNDP has developed a 2-pronged approach to ensuring that the project does not support in illicit or immoral activities. These include:</p> <p>Zero-Tolerance Contracting Practices: UNDP shall ensure that all contracts with local partners contain a zero-tolerance clause in reference to child labour or forced labour.</p> <p>Close Monitoring of Work Sites: UNDP will appoint Monitoring & Evaluation Officer who will monitor closely beneficiaries selection and registration, work on sites and payment sites. Community members will also be involved and participate in monitoring visits with UNDP team, and perform law-key spot checks on their own.</p>
Some community members feel excluded from the Project	L	M	<p>Selection of beneficiaries will be done in a transparent and inclusive way. Community representatives will be informed about project activities and invited to monitor project sites.</p> <p>The number of beneficiaries from host and refugee communities for Cash for Work activities will be proportional to the actual population figures.</p>

Annex 2: UNDP's Commitment to SIDA's Priority Themes:

*The following are a list of key themes provided by SIDA, which the proposed project will address. Much of the text below is also stated separately above, but is repeated here and reorganized for SIDA's convenience:

1. Conflict Prevention / Social Cohesion

The proposed project will contribute to social cohesion by providing host communities with employment and both a tangible and visible increase in living conditions. Proper solid waste management systems offer employment to a range of otherwise vulnerable people, and efforts to clean and maintain waste-free areas are highly visible signals to the host community that they are not being ignored by the crisis response. Solid waste components will be integrated into UNDP's broader social cohesion and do-no-harm approach, wherever possible.

Though short-term humanitarian concerns, like the supply of food and shelter, are direct and obvious threats to safety and survival, risks of inter-communal, intra-communal and/or extremist violence in Cox's Bazar also pose serious threats to local stability and development. Tensions in the camps and the surrounding areas are rising, and action needs to be taken quickly. UNDP's broader social cohesion strategy in Cox's Bazar proposes to reduce violence by addressing and reducing perceptions of inequality, both real and imagined, between host communities and refugees, but also among sub-communities within both groups.

UNDP makes no claim that perceived inequality between groups is the only necessary or sufficient cause of violence, but available evidence indicates that activities addressing this concern are likely to have a net-positive impact and fill an important gap in the current international response. It is in the Bangladeshi, regional and global interest that young men in particular feel they have alternatives to violence, recognizing that instability and conflict will shrink their livelihood options, and those of their families, rather than expand them.

Solid waste management activities will be integrated effectively into other anticipated UNDP social cohesion initiatives, particularly those which address possible economic drivers of tensions and violence.

Through its social cohesion initiatives, UNDP is working with a wide range of actors to promote tolerance on the ground through existing networks, but to also support expanding and consolidating these networks wherever possible. These include groups focused on promoting peace, inter-religious dialogue, and women's groups working to end violence against women and girls.

2. Human Rights

When engaging households, government bodies, and employers for the recycling and segregation of waste, UNDP will take the opportunity to also discuss critical and relevant rights-based themes. Training for households on recycling practices, for example, will also simultaneously incorporate components on preventing child and forced labor, gender equality, environmental protection, and other key concerns. UNDP has outlined precautions to ensure a do-no-harm approach in relation to child labour²⁸ and forced labour in particular (see pages 7-8), and intends to have a thoughtful and supportive social impact.

After decades of oppression and a harrowing flight from Myanmar to Bangladesh, Rohingya refugees have already lost most, if not all, of their physical possessions. But extreme poverty need not automatically confer a lack of dignity. Though a concern for human rights and dignity is reflected throughout the Rohingya Joint Response Plan, human dignity was not singled out as a discrete activity area for emergency relief. Regardless, UNDP's proposed activities will aim to help restore a sense of human dignity to vulnerable people across the region, recognizing that an improvement in community self-esteem is likely to be every bit as transformative and valuable as improved sanitation and a healthier environment. Dirty, unhealthy and unsanitary conditions are a serious drain on local morale – creating a clean and well-organized environment is a critical first step to restoring a community's sense of value.

²⁸ See UNDP's Official Social and Environmental Guidelines (2015) at: <http://www.undp.org/content/dam/undp/library/corporate/Social-and-Environmental-Policies-and-Procedures/UNDPs-Social-and-Environmental-Standards-ENGLISH.pdf>

Steps need to be taken to support the national and local authorities to prepare for a protracted situation that respects the rights of the Rohingya refugees and host communities to a clean, healthy, and well-managed living environment.

3. Gender

Women will be involved as equal if not priority recipients of opportunities wherever possible, through consultation with local partners. Women will be encouraged to participate and benefit from all project activities, though it should be noted that Cox's Bazar is considered within Bangladesh to be a religiously and socially conservative region. This poses a very serious dilemma for programming, as UNDP would not want to train women for roles where they would potentially face serious repercussions, especially when the justice system and means of legal recourse across the region are already over-stressed. As such, UNDP's gender engagement will be tailored to the local cultural context – waste sorting businesses, for example, are highly profitable ventures that allow women to stay with their children, meeting their familial obligations while also earning an income.

Gender is an essential and core component to all UNDP projects, and this is especially true when working with populations which are already particularly poor and disadvantaged. Reports from all UN agencies active in the Rohingya response have consistently highlighted the heightened risks of gender-based violence in the region, often linked to drug consumption, human trafficking, and the economic exploitation of vulnerable Rohingya women and girls.

Though all UN agencies employ gender sensitive approaches, the scale of the crisis and the enormous number of vulnerable women and girls means that the UN's current range of interventions are simply not enough. UNDP has made the challenge of improving conditions for the poorest and most vulnerable women in Cox's Bazar a central priority in all proposed programming in the region, in line with the vision outlined in the Rohingya Joint Response Plan.

All relevant data shall also be disaggregated by gender, as per UNDP best practices.

4. Environment

The proposed solid waste management project will help to rehabilitate areas of the local environment which have been damaged by improvised and unplanned waste disposal, improving the local water quality and restoring key natural areas.

The two Upazilas most prominently affected by the crisis, Ukhia and Teknaf, produce over 10,000 tonnes (22,000 cubic meters) of waste per month. Neither have a functioning waste management system, meaning that much of this waste (and likely more than the current estimate) has been left in public areas, on the sides of roads, under bridges, and in any of the few remaining open spaces, including in the local water supply. Waste contributes to the damming of waterways, contributing to the formation of stagnant pools which hinder movement, increase flood risk, and contribute to the erosion of fragile grounds. Clearing waste and providing basic waste management systems will have a critical impact on the daily lives of the vulnerable people who must navigate these areas daily.

Cox's Bazar is a dry district, and was already facing water shortages and salination problems related to improvised overuse of water resources prior to August 2017. A 2018 UNDP Environmental Report, published by the Bangladesh Ministry of Environment and Forests, notes that the crisis has since had a further dramatic impact on the quality and availability of water in the district. Tube-wells are the only potable water source in the region, yet this water was found to have elevated levels of arsenic and salinity. The quality of drinking water was found to be of particular concern, as 83% of samples tested at source and household level were found to be biologically or otherwise contaminated.²⁹ Large amounts of untreated and unmanaged waste in the affected areas is one possible cause for such alarming levels of contamination.

Cox's Bazar district is rich in biodiversity, known domestically for its numerous environmental assets and scenic beauty. It has various tourist attractions, most notably the longest uninterrupted sand beach in the world, at 120km. The sea beach also supports five species of

²⁹ Report on Environmental Impact of Rohingya Influx, 2018, pg. 16. Report available at: <https://reliefweb.int/report/bangladesh/report-environmental-impact-rohingya-influx-executive-summary>

sea turtles, while nearby forests are habitat for Asian elephants and an array of birds. 50% of all of Bangladesh's wildlife species are living in small patches of forest across Ukhia, Teknaf, Inani and Himchari Upazilas within Cox's Bazar District. It is for this reason that the Teknaf Wildlife Sanctuary is described by biologists as "the most important ecosystem in Bangladesh",³⁰ though expansion of host communities and refugee settlements threatens to alter this delicate balance. Migratory routes for Asian elephants, for example, now run directly through refugee areas, with significant consequences for both people and wildlife. Improved waste management systems are critical investments towards protecting the few remaining forests and biodiverse areas in the district.

5. Poverty

Livelihoods development, through recycling and repurposing of waste, is a critical component of UNDP's solid waste management strategy and is reflected in all of the proposed activities. The project's recycling and livelihoods development approach aims to improve both demand and the supply of recyclable waste. On the demand side, this will increase the capacity of new and existing enterprises to absorb, recycle and process more waste. On the supply side, the project will support a reliable supply chain for recycling through improved waste segregation, cleaning and packaging at the household level. For specific details, see the Livelihoods section (Output 2.1) on page 15.

Recycling, repurposing and reselling waste can be a lucrative industry, with transformative potential for vulnerable people and communities. To maximize the reuse of recovered materials and improve waste management in the longer term, UNDP and its partners are considering several livelihood restoration and support projects that can alter the local incentives when managing and disposing of waste. These sorts of "trash-to-cash" activities encourage local people in both host communities and refugee camps to view solid waste as a potential resource when managed properly, with the potential to shape how entire communities manage the waste they produce.

Prior to the crisis, Cox's Bazar was already struggling to address levels of poverty 40% higher than the national average. That figure is since estimated to have risen to 50%, given price inflation and lower daily wages. The security situation in Cox's Bazar has always been a challenge, with porous borders and illicit activity, including trafficking in drugs and people (notably women for the sex trade, and men as forced labour). Government services for host communities and refugees are stretched very thin. The influx has further increased pressures on local infrastructure, and tensions are rising.

The fastest and most visible means of improving the goodwill of the host community towards the international response, and by extension, towards the Rohingya themselves, is to provide them with concrete and highly-visible improvements to their communities. UNDP proposes to run a series of waste removal cash-for-work projects in host communities that have been particularly negatively affected by the Rohingya influx, to provide employment opportunities and demonstrate that the Rohingya response has the capacity to benefit everyone. In doing so, UNDP is responding to the Joint-Response Plan's call for host communities to be "supported directly through structured interventions across the sectors at District, community and household level, and [to] include appropriate quick impact projects to alleviate immediate pressure".³¹

Where possible, UNDP would like to provide similar opportunities to youth from both Rohingya and host communities, possibly together. However, UNDP is respectful of the current position of the Government of Bangladesh, and its stated concerns regarding the provision of marketable skills to the Rohingya and how this could escalate possible tensions with host communities. UNDP must focus on building livelihoods and resilience with these conditions in mind, but will be flexible should conditions change.

6. Health (Included, on SIDA's request, as an informal 6th priority area)

Health considerations shall be prominently and comprehensively addressed throughout the project.

³⁰ Ibid, pg.37.

³¹ Joint Response Plan, pg. 32.

In much of the affected region, the sheer volume of waste has created large breeding grounds for vermin and insects, which act as vectors for a range of diseases. Stagnant water trapped in waste can contribute to outbreaks of waterborne diseases such as cholera, typhoid fever, and diarrhoea, and can breed mosquitos that spread malaria, dengue and chikungunya. Rats and vermin can be responsible for the transmission of haemorrhagic fevers and diseases such as meningitis and leptospirosis. Should conditions in the region deteriorate further during the cyclone and monsoon season, these diseases can spread even more rapidly, as waste can be further distributed in floods, landslides and high wind. In the case of heavy rains or flooding, waste can be carried by rain or water out to agricultural areas, where it risks contaminating agricultural land and produce.

Glass, needles, medical waste, or toxic materials present in the camps and near host communities pose a direct and real threat to health and security. Children often play near local rubbish piles (often the only available open spaces to do so), and are particularly vulnerable to being injured. Serious cuts or exposure to waste can lead to infections, blood poisoning, or lasting scars and complications.

All workers shall be provided with appropriate equipment and training, including personal protective equipment (PPE - gloves, boots, masks), working tools (shovels, brooms, collection bins, wheelbarrows), a standard emergency kit for each team of workers, and training in standard working/safety procedures. (Specific estimates for the amount of equipment to be provided are listed under the "Project Results" section on page 14).

Waste shall be relocated to safe locations set aside by local government, in line (as best as possible, in particularly congested areas) with international standards for calculating safe distance from dwellings and local water sources. WHO guidelines suggest that waste pits should be a minimum of 90m from water sources, for example, and constructed using established methods to prevent toxic leeching. Landfills, by contrast, should be located a minimum of 1km from the nearest village or community. All landfills should be maintained as sanitary landfills, which means that waste will be covered daily. No matter the distance to surrounding communities, if authorities manage to cover the waste daily, then the risk to public health in areas surrounding the landfill is very minor. If a landfill is treated as an open dumping ground, however, then sanitation and health will be a concern. UNDP will push local government to ensure that all landfills will be both built and operated as sanitary landfills, regardless of whether they are built for the intermediate or long term.

Annex 3: Establishment of self-reliant community enterprise groups for recycling livelihoods

Steps	Activities	Responsibility	Assumptions/ Risks
1. Social preparation	<ul style="list-style-type: none"> Engagement with local government and communities. Capacity building (preliminary). Awareness raising on the prevention of child and force labor. Awareness raising on the objective of SWM project, introduction of the 3R approach, group formation objectives, composting and backyard food production, and develop group-based ToR. 	UNDP/ partner	Community welcomes the project.
2. Organizing Self-Reliant Groups	<ul style="list-style-type: none"> Mapping household neighborhoods for the formation of Self-Reliant Groups. Formation and training of Self-Reliant Groups (SRG) size can be 15-20 hh, or as decided after mapping). Facilitate the establishment of (by SRG): <ul style="list-style-type: none"> collection mechanism, operation and management, savings and credit, monitoring and reporting. Provide training on basic leadership and group management skills including recordkeeping. 	UNDP/ partner SRG	Community is receptive of group formation and group-based activities.
3. Composting and recycling	<ul style="list-style-type: none"> Training on organic composting and home-scale and backyard food production- some of the plastic waste will be used for crop growing medium. Distribution of waste bins to group (for solid organic and inorganic waste).³² 	UNDP/ partner Households/ SRG	Members identified suitable location for gardening with the support of SRG.
4. Waste segregation	<p>Household</p> <p>Households:</p> <ul style="list-style-type: none"> Separate organic from inorganic waste. Utilizes organic waste for composting and backyard food production. Sort, clean (if needed) solid waste. Delivers segregated and cleaned trash to group bin (see 'group level' action). Delivers inorganic waste to designated landfill collection location (operation and management of landfill to be established) <p>Self-Reliant Group</p> <p>Self-Reliant groups:</p> <ul style="list-style-type: none"> Sort, clean (if needed), and pack/bundle solid waste. Decide on suitable arrangement for selling (pick-up by buyer or delivery by group). Record business transaction. 	Households SRG SRG	Loyalty incentives based on sales proceeds developed by each Group.
5. Marketing	<ul style="list-style-type: none"> Contact buyers to get competitive prices. 	SRG	Same as for item #4.

³² Self-reliant groups will buy their waste bins and other operational cost from their proceeds from selling.

	<ul style="list-style-type: none"> Organize product based on buyer specification. 		
6. Monitoring	<ul style="list-style-type: none"> SRGs conduct household level on-the-spot monitoring of compliance to group policies including waste segregation, protection, and 	SRG UNDP/ partner	SRG monitors compliance to group norms on waste segregation and recycling.
7. Inter-SRG review and learning.	<ul style="list-style-type: none"> Sharing lessons across groups, identifying strategic options for competitive marketing of recyclables with possible scaling and engagement into the full value chain. 	SRG UNDP/ partner	