



Rapid Environmental Assessment of the Rohingya Refugee Influx into Bangladesh Preliminary Key Findings and Recommendations (12th December 2017)

An estimated 626,000 refugees have fled violence across the border from Myanmar into Cox's Bazar and the Chittagong Hill Tracts since 25 August 2017. The Government of Bangladesh has triggered wide response across Ministries to deliver basic assistance and medical services, coordinate private donations, and register the refugees. Humanitarian partners, in close coordination with the Government, are delivering basic food assistance, shelter, water, emergency latrines, and informal education to Rohingya refugees. Nevertheless, the influx has overwhelmed existing response capacities, and has put immense strain on local livelihoods, ecosystems, and basic services in already deeply vulnerable communities.

In light of the above, UNDP and UN Women are supporting the Government and the humanitarian system to ensure that the crisis response is informed by recovery and development needs, and that economic, environmental and social risks are addressed and recovery actions are initiated. Based on a request for support from the Ministry of Disaster Management and Relief in mid-October, the agencies' global mandate and expertise, and the Humanitarian Country Team's call for augmented response capacity, the two agencies have carried out a **development impact and recovery needs assessment** to inform response actions, and to prepare for mid- to long-term interventions in the affected area. The assessment objectives were:

- i. To identify the impact the influx on the development situation of affected districts, including economic, social and environmental impacts;
- ii. To make recommendations for critical action, new programming and reprogramming projects and response to support early recovery.

The assessment began on 24 October 2017 and will result in three reports currently being finalized; a social impact assessment report, a rapid environmental assessment report, and a host community conditions report.

The present brief outlines the key findings and recommendations of the Rapid Environmental Impact Assessment. The Rapid Environmental Impact Assessment was jointly undertaken by UNDP, UN Women, and the Ministry of Environment and Forests. As the report has not yet been presented and verified with the Ministry of Environment and Forests leadership, they should be considered preliminary and circulation limited to the UN agencies.



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Key Findings and Recommendations

Physical Impacts

Issue	Impact Level ¹	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
1. Water scarcity	Critical Short term	Host communities and refugee's population 1.2 M	Establish facilities and options for supplying drinking water to the Rohingya camps and host communities	1.1 To carry forward the Hydrogeological and Geophysical investigation to identify the potential water aquifer	1.2 M	TBD
		Idem		1.2. Protection of all sources of water from excreta pollution	idem	TBD
		Idem		1.3. Develop treatment facilities for disinfecting pond water through flocculation and chlorination	idem	TBD
		Idem		1.4. Develop piped water supply network in view of the availability of water from deep aquifer and surface sources	850'000	TBD
2. Sanitation	Severe Short term	idem	Promotion of Pit latrines and augmentation of water supply.	2.1. Non functional latrines need to be decommissioned followed by desludging of sludges in appropriate sites	600'000	TBD
		idem		2.2. Water quality testing of all water points	1.2 M	TBD

¹ Severe means: Adverse impacts on people and/or environment of medium to large magnitude, spatial extent and duration more limited than critical (e.g. predictable, mostly temporary, reversible). The potential risk impacts of projects that may affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples are to be considered at a minimum potentially severe

Critical means: Significant adverse impacts on human populations and/or environment. Adverse impacts high in magnitude and/or spatial extent (e.g. large geographic area, large number of people, transboundary impacts, cumulative impacts) and duration (e.g. long-term, permanent and/or irreversible); areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); adverse impacts to rights, lands, resources and territories of indigenous peoples; involve significant displacement or resettlement; generates significant quantities of greenhouse gas emissions; impacts may give rise to significant social conflict

Moderate means: Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures

Minor means: Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) and duration (short), may be easily avoided, managed, mitigated

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Issue	Impact Level ¹	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
		Idem		2.3. Promotion of Pit latrines in Care and Maintenance phase by replacing the emergency latrines	600'000	TBD
		100'000		2.4. Promotion of bio gas production from fecal sludge and using of the produced gas in cooking	100'000 17'000 installations	34 M
3. Indoor air pollution due to conventional cooking stove, kitchen design and fuelwood	Severe Short term	Host Communities and refugee's population 1.2 M	Awareness raising campaign	3.1. Shelter cluster should focus on proper ventilation while developing improved housing design for the Rohingya refugees. Also need to communicate the importance of and proper use of safe cooking stoves, e.g. ICS, LPG stoves. Community kitchen could be another option. These will benefit the health of women and children as indoor pollution will be substantially reduced and direct exposure of women and children to emissions will be significantly minimized. Finally, the likelihood of fire is high in dry season, so safety measures for cooking indoor should be well propagated.	1.2	150'000
4. Site improvement or alternatives	Critical (no comparative evaluation has been made in the site selection) Short term	Refugees in Kutupalong and Balukhali camps 500'000	Relocation from the overcrowded sites and measures against landslides	4.1. Preparation of a Contingency Plan for any emergency such as fire, landslide, cyclone and/ or non-availability of water	1.2 M	TBD
				4.2. Urgent needs to decongest the main site as life is not sustainable at the current concentrations.	400'000	TBD
				4.3. Urgent actions to stabilize the steep slopes of the hills to minimize risks of landslides (technical and biological reinstatement of soils and terrain). Replant deep root light trees, grass and bushes to stabilize slopes	50'000	TBD

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Issue	Impact Level ¹	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
				4.4. Arrangements for fire prevention and safety Human settlements should respect a 50m buffer zone around streams and wetland ecosystems.	250'000	TBD
5. Improvement of toilets and bathing facilities	Severe Short term	Women in Kutupalong and Balukhali makeshift camps 300'000	Improvement of toilets and bathing facilities for women in the makeshift camps	5.1 Set up make-shift bathrooms with tube-wells at convenient distances for the women to be able to regularly use the facility. 5.2. Set up separate toilet blocks for women only at convenient distances Adequate lighting at the toilets will be arranged for protection measures	300'000	TBD
6. Solid waste management	Moderate to Severe Medium term	Host Communities and refugee's population 1.2 M		6.1. Implementation of solid waste collection and disposition: composting, recycling and landfilling	Host Communities and refugee's 1.2 M	1 M/Y
7. Communi-cable disease	Moderate to Severe Short term	20% of Host Communities and refugee's population 250,000		7.1. Ensuring adequate water for bathing and sanitation services	Host Communities and refugee's 1.2 M	TBD
				7.2. Full vaccination coverage		TBD
				7.3. Relocation from the overcrowded places		TBD

Impacts on Ecosystems

Issue	Impact Level	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
8. Degradation of forests	Critical	Host Communities and refugee's population 1.2 M as of 26 Nov 2017 Potentially more than 50% (10,000-25,000 ha) of remaining forest degraded in the area.	Extension of forested areas. Increase wood productivity. Offsets.	8.1. Wood Supply and extraction / organizing controlled access to fuel wood from the natural forests and village forests.	350'000	13.2 M / Y
	Short term			8.2. Support fuel wood substitution actions through coordination of various aid organization (a process on move) and promote community cooking with briquettes and Liquefied Propane Gas;	Briq 85'000 LPG 315'000	3.82 M /Y 8.40 M/Y
	Short term			8.4. Set up tree plantations in wood lots on shrub and barren land (e.g. abandoned sites), along roads, pathways, rivers and fences)	650'000	1.5 M
	Medium Term			8.5. Approach social forestry plantation, community forestry and agroforestry	50'000	0.5 M
	Long Term			8.6. Designated areas for bamboo afforestation should be declared, and bamboo regeneration projects should be addressed.	1.2 M	2 M
				8.7. Afforestation along the coastal line with <i>casuarina equisetifolia</i> (<i>Jau tree</i>). mangrove spp.; a worldwide known tree species for fixation of sandy sites along coastal areas in tropical and subtropical zones; approach social forestry wood lots or community forestry (Host communities)	1.2 M 2400 ha	3 M
				8.8. Reforestation at Cox's Bazar South and North forest division for compensation of lost forest areas in the area where the refugees live. Approach: community	2.0 M 10'000 ha	12'5 M

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Issue	Impact Level	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
				forestry/social forestry/ in the natural forests areas and agroforestry in the village forests		
				8.9. Elaboration of a comprehensive forestation plan / plantation program for the next five years development.	1.2 M	0.5 M
				8.10. Develop and implement closure and reclamation plans for abandoned camps, including landscaping, drainage, soil restoration, stabilization and reforestation.	500'000	0.25 M
				8.11. Work with potential donor to gain synergy on forestation projects - World Bank' s SUFAL project plans to start such plan in the Chittagong Hill Tracks by mid 2018.	See project note	
9. Vegetation and wildlife diversity and abundancy losses in Protected Areas, and other forest land	Critical Medium Term	Host Communities 450'000	Conservation of protected area and its enhancement. Declaring protected areas and Enhancing the surveillance of the existing PA	9.1. Effectively protect the Teknaf Wildlife Sanctuary (TWS), Himchari National Park, and proposed Inani National Park with needed resources to enforce National legal requirement for resource use in the protected areas (e.g. strict ban on wood cutting, felling, vegetation destruction /clearance and fuel wood collection from natural and village forests).	Host Communities 450'000	0.5 M / Y
				9.2. Protected areas such as TWS should step up the surveillance of their geographical boundaries.		
	9.3. Support of Community Patrol Groups.					
	9.4. Establish an Environmental Coordination Unit together with humanitarian aid community for the area where refugees live; ask NGO's dealing with environmental management to recruit professional staff and activate co-					

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Issue	Impact Level	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
				management committee/community conservation group		
				9.5. Develop a biodiversity conservation plan, including enhancement of natural and critical habitat in CXB district		
				9.6. Legalize Inani National Park as quickly as possible and ensure availability of funds and resources for its operation.		See above
10. Habitat fragmentation for elephants	Severe Short term	Host Communities and refugee's population	Improving the habitat Protection of refuges from elephant's intrusions.	10.1. Planting fodder plants in the forest to ensure food for elephants.	25 Elephants and 850'000 Refugees	0.15 M / Y
				10.2. Ensure protection of refuges from elephant intrusions with combined fences (trees, bamboo and electrical fences (solar driven) near the camp areas in Ukhia and Teknaf	Idem 25 km of fence	1.25 M
11. Mortality risks for wildlife	Severe Short term		Mitigation and protection.	11.1. Monitor wildlife movement, conduct an awareness campaign to avoid animal/human conflicts over resources and areas. Enforcement of Wildlife protection act		
12. Impact on fresh and marine water ecosystems	Moderate Medium Term			12.1. Enforce compliance with fishing requirements. Ensure water flow in streams.		
13. Livelihood	Moderate Medium Term	Host Communities and refugee's population		13.1. Support livelihood improvement in host communities and in areas where refugees live	450'000	1 M /Y

Impacts on Gender Issues and Health (all addressed in the above tables)

Issue	Impact Level	Mitigation Measures	Recommendations/Action Plan	Comment
14. Women and children having respiratory problem due to inhaling smoke from cooking inside ventilation-less shelters	Severe Short term	Introduce improved cooking stove; alternative fuel; community kitchen	14.1. Distribute improved cooking stoves to the Rohingya women as per the recommendations in the joint assessment carried out by the Shelter and NFI sector of ISCG. 14.2. Provide orientation training to the refugee women on the safe and efficient use of the stoves. 14.3. Distribute alternative fuel (CRH, LPG, etc.) to the refugee women. 14.4. Set up community kitchen for women and children to avoid cooking inside shelters where possible (given the cultural barrier of women going outside)	Addressed in line #3 above
15. Due to excessive felling of trees and excessive demand fuel wood has become scarce and costly for local women	Severe Short term	Introduce improved cooking stove and alternative fuel	15.1. Distribute improved cooking stoves to the local households. 15.2. Distribute alternative fuel (CRH, LPG, etc.) to the local women. 15.3. Support host communities to set up shops on alternative fuel in the vicinity of the shelters to cater to the needs of the Rohingya refugees.	Addressed in line #8 above
16. Rohingya women are hesitant to use common toilets and to take bath outside/on tubewell platform; and so use a corner in the shelter as their toilet and bathing space making the shelter unhygienic	Severe Short term	Set up bathing spaces and separate toilets	16.1. Set up make-shift bathrooms with tube-wells at convenient distances for the women to be able to regularly use the facility. 16.2. Set up separate toilet blocks for women only at convenient distances 16.3. Adequate lighting at the toilets will be arranged for protection measures	Addressed in line #5 above

Education and training activities

Issue	Impact Level	People concerned	Mitigation Measures	Recommended Actions	Beneficiaries	Estimation of costs (US\$)
17. Sanitation	Severe Short term	Host communities and refugee's population 1.2 M	Promotion of Pit latrines and augmentation of water supply.	2.5. Undertaking the Environmental education and awareness programs	1.2 M	150'000
18. Degradation of forests	Critical Short term	idem	Extension of forested areas. Increase wood productivity.	Develop training programs to teach and sensitize local and refugee communities about the impact of forest extraction und improved cooking methods.	850'000	150'000
19. Respiratory problem due to inhaling smoke from cooking indoor	Severe Short term	idem	Introduce improved cooking stove; alternative fuel; community kitchen	Provide orientation training to the refugee women on the safe and efficient use of the stoves.	850'000	150'000