



**LIVELIHOOD SECTOR RESPONSE
COORDINATION**



LIVELIHOODS SECTOR

Environmental Mainstreaming

Ankara 20 March 2019



Agenda

- Welcome
- Introduction and presentation (UNDP)
- Mainstreaming Environment in the 3RP Inter-sector consultation process- template

Strengthening national capacity to address the environmental impacts of humanitarian responses to population displacement in Turkey



Objectives of the Guideline

- Providing **a framework for integration of environmental factors into humanitarian aid activities**, to increase the long term resilience of the socio-ecological systems,
- Providing **detailed information on the impacts of the economic sectors** in which relief and protection actions for refugees are taking place and their relation with the Sustainable Development Goals (SDGs),
- Identifying **the methodology, the data requirements and data sources** to evaluate the environmental impacts of refugee movements,
- Providing **multi-criteria decision making background** to handle social and economic issues within the framework of environmental impacts.

Environmental Impacts of Mass Population Flows Workshops

Sectoral working groups:

- Water and Waste Management
- Transportation and Energy
- Spatial Planning
- Agriculture, Forestry and Biodiversity



3RP and Economical Sectors

Humanitarian Aid Sectors	Activities Carried Out	Related Economic Sectors	Environmental Factors						
			Biodiversity	Flora	Fauna	Soil	Water	Air	Climatic Factors
Health	<ul style="list-style-type: none"> - Consultancies on health services - Increasing availability of health care centres - Trainings on health information services - Provision of health services (clinics, ambulances etc.) 	Waste Management Water Management Energy Transportation							
Basic Needs	<ul style="list-style-type: none"> - Creating adequate shelter conditions - Providing transportation services - Cash-based interventions - Hygiene awareness trainings - Provision of hygiene items - Supporting municipal services - Infrastructure construction 	Waste Management Transportation Energy Water Management Forestry Fisheries							
Livelihoods	<ul style="list-style-type: none"> - Trainings (e.g. vocational and language skills) and awareness raising (e.g. labour and employment laws) - Livelihoods support - Market research - Creating income opportunities such as cash for work - Expansion of small business opportunities - Establish database for all livelihoods trained beneficiaries 	Industry (including Waste Management, Transportation, Energy, Water Management) Forestry Fisheries							

Environmental Impacts of Waste Management

Biodiversity

- Destruction of habitats in the construction and operation phase of waste storage and wastewater treatment plants
- Construction of roads and other infrastructure required for transportation, warehousing and operation cause additional pressure and negative effects to biodiversity

Fauna

- Landfills can be used by a variety of wild and domestic animals, including exotic species, during or after their operation. This use poses a danger to the health of animals and the health of people in contact with domestic animals.
- Destruction of feeding areas of wildlife due to loss of vegetation during transportation, storage and operation phases
- During the construction and operation phases, facilities interrupt stages like reproduction, hibernation, migration of some species

Flora

- Vegetation loss during construction phase of facilities
- Negative effects on endemic and rare species living in the area, during construction and operation phase

Environmental Impacts of Waste Management

Soil

- Soil degradation during the construction of the plant (especially the mineral-rich upper soil) and soil erosion
- Soil contamination due to leakage from landfills
- Soil pollution during disposal of sludge from wastewater treatment plants
- Soil pollution in case the treated water does not have proper discharge values

Water

- Pollution of surface and groundwater of leachate from landfills
- Water quality deterioration and negative impacts on freshwater species by introducing wastewaters directly or without appropriate treatment into receiving media

Air and Climatic factors

- Gases from waste storage areas cause air pollution
- Wastewater treatment plants cause odour problems
- Global warming effects of methane (CH₄) and carbon dioxide (CO₂) gases resulting from failure to provide proper storage conditions in landfills
- Global warming effects of greenhouse gases generated during the generation of electricity consumed in wastewater treatment plants

Environmental Impacts of Agriculture

Biodiversity

- Reduction of biodiversity as a result of loss of habitats
- Damage to biodiversity due to chemicals (fertilizers, herbicides, insecticides, etc.)
- The effects of land use change and habitat fragmentation on natural life
- The effects of genetically modified crops on natural species and habitats.

Fauna

- Used chemicals destroy natural species and favourable insects that are not target species
- A small number of plants become the dominant species in monoculture farmland
- Growing non-local agricultural products cause invasive agricultural pests to arrive

Flora

- Destruction of vegetation cover of natural land for the purpose of opening for agriculture
- Invasive plant varieties arrive with agricultural production
- Herbicides used in agricultural production damage local plants, which are not target species

Soil

- Soil degradation due to soil treatments
- Soil pollution caused by chemicals used
- Salinization by excessive irrigation

Environmental Impacts of Agriculture

Water

- Agricultural chemicals contaminate water resources and cause eutrophication
- Exhaustion of water resources due to excessive irrigation

Air

- Decline in air quality caused by pollutants from energy consumed during agricultural production

Climatic Factors

- The conversion of soil carbon to CO₂ by treatment of soil
- Emissions from energy consumed for agricultural production

Landscape

- Converting natural land into agricultural land, fragmentation of habitats
- Converting degraded forest lands into agricultural lands

Environmental Sustainability Criteria

- Soil tillage destroys the structure of the top soil and makes it vulnerable to wind and water erosion. Conservation agriculture techniques, which reduce tillage and conserve soil moisture, should be used to prevent land degradation and erosion.
- Irrigation is a key factor to increase crop yield and resistance to climatic extremes such as drought. A significant amount of water resources is used for agricultural irrigation. However, water resources are limited and climate change increases the stress on these limited resources. In case of a sudden population increase, agriculture is a key sector for food security and as an income generation tool for the refugees. While carrying out humanitarian activities in this sector, sustainability of available water resources should be carefully evaluated and monitored, considering the needs of other sectors. Irrigated agriculture should be proposed only if water resources are adequately available for all sectors and the environment.

Environmental Sustainability Criteria

- Intensive agricultural activities, especially usage of chemicals, result in degradation of soil and water resources. Integrated pest management techniques should be used to reduce the amount of pesticides and herbicides used. Furthermore, fertilization should be optimized considering the requirements of the crop cultivated and the soil condition.
- Monoculture increases pests and diseases and reduces soil quality, thus crop pattern should be diversified. Crop diversification is also a method to increase resilience of agricultural production against losses due to climatic changes and extremes. Climate smart agriculture techniques should be used to improve resistance of agriculture. These techniques aim at improving the livelihood conditions of the farmers, increase climate change resilience and reduce greenhouse gases from agricultural production.
- Usage of exotic crops might have adverse impacts on the local varieties by acting as invasive species. Thus, introduction of new crops should be well evaluated in terms of the impacts on the local plants and ecosystems.

Multi-Criteria Decision Making

Socio-ecological systems have complicated relations, thus multiple criteria should be considered in planning human activities for the sustainability of natural ecosystems.

Conservation-utilization balance: A major part of biodiversity is located in the areas used by human beings such as agricultural lands, grasslands, forests etc.

Objective, scientific, comprehensive and reproducible studies and participatory management of natural resources based on these studies.



Data Resources

Global Data	
Species Distribution Data	Observado.org, Global Biodiversity Information Facility (GBIF), IUCN Red List
Species Threat Status (threat categories, endemism, vb.)	IUCN Red List
Ecological Communities Map	Remote sensing/ other land cover studies (Corine etc.)
Protected Areas	World Database on Protected Areas (WDPA)
Land Cover and Land Use Data	Land Cover Data (Corine etc.)
Soil data	ArcGIS Online Database Harmonized World Soil Database
Data on surface and underground water resources	ArcGIS Online Database FAOSTAT WWF Hydrosheds European Catchments and Rivers Network System
Anthropogenic activities and structures (settlements, roads, agricultural lands etc.)	ArcGIS Online Database
Geographical data such as topography, and slope	ArcGIS Online Database Elevation Data: Space Shuttle Radar Topography Mission(SRTM), ASTER Global Digital Elevation Map
Geological Data (1/25.000)	General Geologic Map of the World

Data Resources

Local Data
Ecological and evolutionary processes (pristine forests, migration routes, climatic changes, changes in species distribution, speciation centres, distribution corridors and barriers, ecosystem products and services etc.)
Population and population trends data (including the refugee population)
Pollution resources (industrial zones, mining areas, thermal power plants etc.)
Existing landfill sites, waste water treatment plants and their capacities
Income sources and average income
Education level
Number of livestock
Threats (industrial and urban pollution, over grazing, poaching, land degradation etc.)



Mainstreaming Environment in the 3RP

Inter-sector consultation process

1- Did partners observe any kind of environmental effect/impact related to the Syria crisis in Turkey?

- *This can be related to air / water quality, natural resources (land, agriculture, bio-diversity), or quality of services (solid waste, waste water, medical waste, electricity). Ideally this should be specific to each sector but can also be general to start the conversation*



2- How are partners already integrating environment in their programming? Can be mainstreaming (into training, type of equipment/procurement), awareness raising, or specific activities (solid waste, recycling, shelter, green technology for institutions/businesses, etc...).

- *This part of the discussion needs to be sector specific*



3- How do we build on the above - what else can / needs to be done to mitigate the environmental impact of the crisis and better include environment consideration in the 3RP?

Please look both at policy actions needed at central level and at implementation modalities at local level? Please also distinguish recommendations by type of actors: (GoT, Local Institutions, Partners, etc...).

Actor	National Level	Local Level
Government	<ul style="list-style-type: none">	<ul style="list-style-type: none">
Partners	<ul style="list-style-type: none">	<ul style="list-style-type: none">
Local Institutions	<ul style="list-style-type: none">	<ul style="list-style-type: none">
Other:		



4- What support would partners need to better include environment in their programming?

- *This can be training, guidance, dedicated coordination meeting, etc...*

5- What challenges do the partners predict (or expect) in country-level Environmental Mainstreaming?

- *This to know the barriers on the sector and organization level, then we can link it to the needed support.*



Thank you!