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GREEN RECOVERY AND RECONSTRUCTION

Mainstreaming environmental issues into rehabilitation practices

Abstract

Building back better - an imperative for creating a resilient and sustainable community after disaster. Good recovery must leave communities safer by reducing risks and building resilience. Recovery must promote fairness and equity. A good recovery planning depends on good information.

Taking into consideration climate change and the reduction of available natural resources, Building Back Better comprises eco-friendly and climate sound practices. Integrating environmental aspects in rehabilitation efforts represent a key factor for attaining long term development objectives. Failing to consider the links between environment and people during planning processes might lead to an incomplete and incorrect understanding of problems, and can result in a number of significant negative outcomes for the target groups.

Taking into consideration the LRRD concept, this document highlights the key aspects of the Green Recovery and Reconstruction (GRR) approach as a strategy to create the basis for sustainable development. It explores advantages and constraints expecting to stimulate the debate on the potential benefits of considering environmental and climate issues. Finally, relevant tools and guidelines are mentioned.

The GRR approach

The term Green Recovery and Reconstruction was adopted by WWF and American Red Cross, two leading institutions in the fields of environmental conservation and humanitarian aid, intending to ensure that recovery efforts did not have unintended negative effects on the environment.

The “recovery” phase begins soon after the emergency phase has ended and refers to the restoration and improvement where appropriate, of facilities, livelihoods, and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors and enhance resilience. “Reconstruction” follows the recovery phase and refers to the repair of material damage, in particular infrastructure.

The Green Recovery and Reconstruction approach provides guidelines for balancing environmental protection with the need to support reconstruction leading to sustainable development. It is an integrated approach that follows three main objectives:

- To identify and avoid any potential harmful direct or/and indirect environmental impacts of a proposed cooperation which can undermine sustainability and counteract achieving development objectives.
- To identify opportunities and use chances for enhancing environmental conditions and natural resource management, thereby ensuring reconstructed infrastructures are built back safer, reducing risk and vulnerability to future disasters and adapting to the effects of a changing climate.
- To minimize negative impacts of the operation on climate and support mitigation efforts, for example, by

reducing greenhouse gas emissions resulting from land use change.

Taking into consideration the LRRD approach and focusing on sustainable development, GRR is based on four fundamental cross-cutting policies for the successful implementation of any post-disaster rehabilitation activity:

- Mainstreaming environment: Environmental concerns should be integrated into all aspects of rehabilitation activities and strategies aiming to improve the quality of life for communities and affected individuals while minimizing the negative impacts of reconstruction on the environment and conserving the long-term biological diversity and productivity of natural systems.
- Preparing the basis for strong and legitimated local institutions: Recovery from the socio-economic, cultural and livelihood impacts will be strengthened by initiating the formation of strong local institutions making them self-reliant in carrying out sustainable development programs to enhance their well-being and ensure environment sustainability and climate smart development.
- Following a spatial plan: An overall spatial plan should ensure that reconstruction efforts have minimum negative environmental and climate impact and promote positive choices that optimize environmental goods and services as well as development and livelihood opportunities.
- Enhancing good governance: The governance of the reconstruction process (including planning, implementation and evaluation) should be transparent, accountable and includes the effective participation of local communities.

Advantages

Taking into consideration environmental aspects has several advantages in order to avoid negative effects and to achieve sustainable impacts.
Post disaster situations increase the demand on local natural resources and produce a high pressure on the environment, usually making communities vulnerable to further natural hazards. Deforestation or land use change, for instance, can lead to soil erosion increasing landslides risks. By integrating environment-based Disaster Risk Reduction into post disaster reconstruction actions, ecosystems and their services (water, food, timber, CO_2 sequestration, barriers against extreme natural events) can be restored, rebuilding more resilient systems.
Understanding people as part of and dependent on ecosystems and their services, in the face of climate change, Ecosystem-based Adaptation (EbA) integrates biodiversity and ecosystems services into an overall strategy to help people adapt to the adverse impacts of climate change. EbA could help identify opportunities to link with reconstruction initiatives.
Any decline in the productivity of natural resources makes people´s lives more vulnerable. GRR contributes to poverty reduction, helping disaster-affected societies achieve sustainable economic growth.
Preventing disasters costs less than restoring the damage they cause. A long-term approach can reduce the overall costs of disasters, as humanitarian assistance links more effectively into the development process.
Competing demands on scarce natural resources may lead to tensions, instability, and violent conflicts. Furthermore, migration is a consequence of environmental stress. Improved environmental resource management after disaster situations can avoid conflict and further displacements.

Constraints

Project designers are usually not fully aware of the environmental impacts of the proposed interventions. Under the framework conditions of humanitarian operations, considering environmental issues is often seen as a cumbersome, time consuming, and costly process. Usually the available tools are perceived as “too complicated”. Nevertheless, different tools have been adapted for the particular situation of reconstruction after disasters and can even be implemented by non specialists. Difficult access to data can represent a limitation to establish environmental baselines, norms, and thresholds in post-disaster situations. Environmental impacts and change often occur beyond a specific project area or may be due to factors outside the project area; furthermore, it is not always possible to determine definitive “cause and effect” relationships.
Successful GRR requires a strong participation of local and regional government officials, disaster affected people, local NGOs and other stakeholders. As a consequence of the disaster, many institutional structures might have been destroyed or might be overloaded, making difficult their involvement in the planning and design processes. The weakness of institutions in fragile states affects the implementation of any sustainable development process.

Embedding GRR into the project cycle

Even when the project cycle offers different entry points to consider and integrate environmental aspect, the initial assessment and preliminary project design represent the decisive steps. Key decisions concerning the overall implementation process are made in these phases that might be difficult to adjust in later ones. It is convenient to integrate an environmental impact assessment to the initial assessment. The information gathered should be used as input for the development of the logical framework, adapting the outputs to reflect environmental priorities, planning environmentally sound activities and to consider the role of the environment in assumptions and risks. The following steps give some ideas of how environmental issues could be integrated into the project cycle:

Initial assessment
Step 1: Environmental Impact Assessment (EIA) in post disaster situations
Step 2: Problem analysis
Step 3: Stakeholder analysis

Project Planning
Step 4: Defining the overall goal, project purposes and outputs including environmental issues

Step 5: Integrating environmental issues into project activities
Step 6: Considering environmental assumptions and risks
Step 7: Defining environmental indicators

Operation
Step 8: Implementation
Step 9: Impact monitoring and evaluation
Step 10: Sharing lessons learnt

Tools and Guidelines

Together with development organizations, WWF and American Red Cross developed the Green Recovery and Reconstruction Toolkit (GRRT), a practical guideline for ecosystem based reconstruction. Part of the GRRT is the Environmental Stewardship Review for Humanitarian Aid (ESR), designed especially for recovery and reconstruction projects, to assess environmental impacts. It also helps users identify measures to prevent or minimize environmental impacts of the proposed intervention. ESR includes a field visit to the proposed project area and consultation with project planners and other experts.
http://green-recovery.org/

The Environmental Needs Assessment in Post-Disaster Situations (ENA) is designed to address the many environmental issues that should be considered during early recovery and as part of the broader post-disaster needs assessment. The ENA guide has been written with the expectation that it will be used primarily by a core group of people who might constitute an Environmental Needs Assessment Team (ENAT), with particular use by the ENA Team Leader.
http://postconflict.unep.ch/humanitarianaction/04_07.html

The Rapid Environmental Impact Assessment in Disasters (REA) is designed for reconstruction projects (first 120 days after a disaster) to identify environmental issues that have resulted form a disaster. It includes an Organizational Level Assessment that is conducted by the organization leading the REA as well as a Community Level Assessment to capture the environmental issues from the perspective of the communities affected by a disaster.
http://reliefweb.int/node/21464

The IUCN developed the Ecosystem Approach (Ecosystem based Management in Disaster Risk Reduction and Ecosystem based Climate Change Adaptation), focused on integrating ecosystems, livelihoods and disasters. The Ecosystem Approach is an effective strategy to manage or restore ecosystems and their services while focusing on human livelihood needs.
http://www.iucn.org/about/union/commissions/cem/cem_work/cem_ea/
http://data.iucn.org/dbtw-wpd/edocs/CEM-008.pdf
http://www.iucn.org/what/tpas/climate/key_topics/eba/

The World Bank together with the Global Facility for Disaster Reduction and Recovery (GFDRR) developed the handbook for reconstruction after disaster. This handbook is emphatic about the importance of establishing a strategy to guide reconstruction and gives environmental aspects special attention.
http://www.gfdrr.org/gfdrr/

UN-Habitat developed the conceptual framework for "Sustainable Relief and Reconstruction" in order to integrate a longer term development strategy into post disaster projects, which has an environmental component.
http://www.unhabitat.org/downloads/docs/5501_34505_SRR%20II.pdf

Guiding questions

For the initial assessment and the planning of any recovery and reconstruction project, the following guiding questions (next page) might be helpful for taking into consideration environmental aspects.

Sources

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- EuropeAid (2006): Environmental Integration Handbook for EC Development Co-operation
- green-recovery.org/: Green Recovery and Reconstruction: Training Toolkit for Humanitarian Aid
- IUCN ((2006): Ecosystems, Livelihoods and Disasters. An integrated approach to disaster risk management
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Guiding Questions for initial assessment and planning

Locating buildings outside of hazardous and environmentally fragile areas

- ✔ Capacity: How many people can be resettled in the new site without unsustainable exploiting locally available natural resources?
- ✔ Density: How was the density of habitation before the disaster? Would the new settlement exceed it?
- ✔ Climate: What are the current local climatic conditions in the area? Is there a high potential for negative local climate changes? Would the project generate impacts on GHG emissions?
- ✔ Slope: Does the land slope exceed the 5°?
- ✔ Culture: Does the site have a cultural, historical, political, or social significance that could inhibit its use as a settlement area?
- ✔ Vegetation: Which practices can be implemented to maximized retention of vegetation? Is there a high rate of deforestation necessary for construction in the selected site? What is the significance of local vegetation for communities' livelihood?
- ✔ Hazards: Which natural hazards present the selected site? Which measures can be implemented in order to mitigate them? Is there a hazard assessment study available?
- ✔ Drainage: Does the drainage plan take in consideration local conditions and future climate impacts (maximum daily precipitation, soil permeability, etc.)?
- ✔ Livelihoods: Does the new location enable residents to pursue their livelihood activities without significant additional costs?
- ✔ Site access: Is the site close to networks, towns and markets?
- ✔ Assess related cultural and gender aspects

Encouraging the use of building materials that are from renewable natural resources

- ✔ Does the intense demand for materials put unsustainable demand on the environment*?*
- ✔ Which are the available materials in the region? Which are the most abundant?
- ✔ What building materials are being used by the community?
- ✔ Can be debris used as a resource?
- ✔ What are the traditional methods? Are they sustainable?
- ✔ Is it wise / possible to introduce new technologies that improve sustainability?
- ✔ Which are the factors that will ensure that the building will be used and not wasted? Could they be related with environmental issues?
- ✔ How can the sustainability of the project be improved through material choice?
- ✔ Are high amounts of energy required for transporting materials?
- ✔ Are high rates of GHG emissions associated to the selected material?
- ✔ Do materials emit pollutants?
- ✔ Does material processing have any negative environmental effect?
- ✔ Reuse and recycling potential of construction materials allows saving raw materials and energy. Are materials replaceable, separable and recyclable?
- ✔ Do construction materials have any social, cultural, economic significance for the community?

Construction

- ✔ Which are the environmental issues related to construction?
- ✔ What are the environmental implications?
- ✔ Which traditional sustainable construction techniques do exist?
- ✔ Which construction technics are confortable for the local climatic conditions?
- ✔ Do building designs reduce energy requirements for heating or cooling?
- ✔ Are locally available skills sufficient to implement eco-friendly construction techniques?
- ✔ Do the new introduced or traditional methods reduce disaster risk?
- ✔ Does the construction design adapt to social and cultural aspects?

Water and sanitation

- ✔ Where do communities are currently getting their water?
- ✔ Are the existing water sources sustainable?
- ✔ Are there sources of water pollution in the area?
- ✔ Which are the water and sanitation technologies currently in use by communities?
- ✔ Where is livestock being raised? Can water sources be affected by livestock raising?
- ✔ Where do communities currently dispose their waste?