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# Review on Humanitarian Foundations of Natural Resources Management

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## **Abstract**

*Natural disasters and conflicts have an impact that threatens the lives, health, livelihoods and security of populations. At the same time, the interventions of humanitarian organizations in response to these disasters can also cause as much damage to natural resources as the crises to which they are supposed to respond. Humanitarian activities consist of saving lives exposed to calamity, however natural resources and environment management involve the state to plan how to use these resources and seems to do not have something to do with humanitarian activities. Thus, the main objective of this work is to establish the humanitarian background of natural resources management. The methodology use in this work is the literature review and direct observation. This allow us to highlight the major importance that have to care about natural resources in humanitarian activities. The result of this work shows that humanitarian organizations have to take natural resources management in account in their interventions so that they cannot make worse the problem they want to solve.*

**Keywords— Humanitarian, natural resources, management.**

## **I. INTRODUCTION**

Natural disasters and conflicts have an impact that threatens the lives, health, livelihoods and security of populations. At the same time, the interventions of humanitarian organizations in response to these disasters can also cause as much damage to natural resources as the crises to which they are supposed to respond.

Ignoring them and not taking them into account in the design and implementation of relief programs can reduce the effectiveness of these interventions and cause more damage. These considerations of natural resource management in connection with humanitarian action are documented and commonly accepted in the humanitarian sphere.

The United Nations Environment Program (UNEP) as well as humanitarian organizations have started to work on

these issues with the objective that new “good” practices are developed and accessible to all NGOs. It is clear that the integration of all stakeholders in humanitarian intervention (humanitarian and early recovery actors, authorities, donors and populations concerned) is one of the keys to the success of this effort.

These worrying developments obviously raise questions for humanitarian actors, both in the interpretation of their mandate and in their methods of action. Several challenges emerge if we want humanitarian activities to best integrate better environmental practices:

- ✓ Relief and recovery actors must not underestimate the impact of their operations on the environment.
- ✓ During mass movements of people, humanitarian actors miss opportunities to minimize the impact

of refugee and internally displaced persons camps. The latter, built urgently, remain in place for many years and lead to competition for rare natural resources around the camps.

- ✓ The rapid and concentrated extraction of local natural resources in order to meet the immediate needs of populations is done in an unsustainable way, creating new risks and greater vulnerability.
- ✓ The common perception that immediate humanitarian needs are more pressing than natural resource management issues during crisis intervention is accentuated, thus marginalizing environmental considerations.

The interdependence between the quality of interventions, the sustainability and autonomy targeted, and the preservation of the natural environment has also gradually become proven obvious. It should be noted that the vulnerabilities that we combat in crisis areas only partly arise from our lifestyles and consumption patterns. What are the interactions between humanitarian work and natural resource management?

## II. LITERATURE REVIEW

### 1. Conceptual framework

#### 1.1. Natural resources :

We can define a natural resource as a raw material, whose properties are used, by humans or by other living species, to satisfy a need. Natural resources can be used in their raw state, however, through various processes that do not alter them (plants and animals, but also renewable energies that we draw from the air, wind, water, sun), or be transformed before being exploited (fossil energies such as coal, oil, natural gas or uranium).

#### 1.2. Environment :

The term environment designates the ecological component of man's living environment, bringing together natural resources (air, water, soil, fauna and flora, and the landscape). It is the set of natural and artificial elements within which human life takes place.

#### 1.3. Management :

Management is a process consisting of planning, organizing, directing and controlling activities aimed at determining and achieving defined objectives through the employment of human beings and the implementation of other resources.

### 1.4. Humanitarian:

Set of actions aimed at protecting and saving lives, preventing and alleviating human suffering and meeting the basic needs of populations with a view to reducing vulnerability and strengthening capacities.

## III. LINK BETWEEN ENVIRONMENT AND HUMANITARIAN ACTIVITIES

Climate change, pollution, water crisis, progressive exhaustion of fossil fuels, deforestation, conflicts over resources, and etc., humanitarian actors are increasingly affected and questioned by environmental issues. First of all, it turns out that humanitarian missions can generate negative impacts on the natural environment: production of sometimes dangerous waste (used oils, medical waste, electronic waste, etc.), increased pressure on natural resources in certain areas of intervention (such as water or wood around the camps), but also greenhouse gas emissions from the international transport of people and materials. By virtue of their mission, organizations are also at the forefront of observing and witnessing the consequences of environmental degradation which further undermine the resilience of already weakened populations. The prospect of the increasing cost of hydrocarbons necessary for vehicles, electricity generators or the cold chain forces us to question the dependence of missions on this fossil resource in progress of exhaustion, otherwise energy will become an increasingly important item of expenditure to the detriment of aid. More generally and indirectly, the scarcity of natural resources, including metals, affects the cost of materials used and questions consumption. Finally, the incentives to be concerned about the management of natural resources are also external: national regulations of the headquarters countries but also of the countries of intervention; evolution of the requirements of certain donors; increasing sensitivity of donors and partners; development of sectorial standards for more environmentally friendly practices, among others.

However, humanitarian organizations are often reluctant to integrate a natural resource management approach at the institutional level, for several reasons. Some cite, for example, the fact that environmental concerns are not part of their mandate and that the management of natural resources is a problem for rich countries. Others sometimes have difficulty combining their imperatives of efficiency and effectiveness with cross-cutting

requirements such as natural resource management. This subject also appears to be an area of technical and specific expertise, which they do not know how to approach. Finally, they often do not feel ready to be accountable or communicate on these subjects. Training on the integration of natural resource management in the humanitarian sector, led by URD Group and UNEP since 2010, has made it possible, beyond the transfer of knowledge, to share the questions of stakeholders in the sector and to position this subject as an integral part of a quality approach. It was during these training sessions, held in the West (France, Canada) and in various countries of intervention (Chad, Afghanistan, Zimbabwe, and South Africa), that the actors expressed the need to create a think tank on the subject. To respond to these apprehensions and move forward collectively on these issues, several humanitarian actors therefore decided to come together and create the Humanitarian Environment Network in April 2012. This aims to advance the integration of natural resource management within the humanitarian sector, by promoting collective learning and healthy emulation through the sharing of experiences, reflections and the search for solutions to common problems.

On the other hand, the state of an ecosystem can influence the frequency and intensity of natural risks by playing, if it is sufficiently preserved, the role of a natural barrier. For example, the existence of well-developed mangroves in coastal areas reduces the “cyclone” surge effect and the entry of tsunami waves into the land. The reduction in mangrove areas to develop shrimp production leads to a weakening of marine ecosystems (fish breeding areas), and thus their capacity to play their “buffer” role. Wetlands, forests or coral reefs are other examples of ecosystems capable of absorbing all or part of a shock by playing this “buffer” role. Natural hazards thus constitute sources of environmental degradation through the loss of specific habitats, the mortality of endemic species and the destruction of natural elements (wood, reefs, etc.) acting as barriers. Thus, ecosystems will be all the more resilient in the face of such events if they are preserved, diversified and functional. Furthermore, the waste generated by such climatic disturbances (chemical pollution from an industrial zone cracked during an earthquake or debris of all kinds, for example) is likely to reduce the resilience capacities of the environment in question. Furthermore, a preserved ecosystem helps reduce the vulnerability of

communities<sup>10</sup> to natural risks, especially if they derive their means of subsistence from this surrounding environment. If a storm or cyclone occurs, affecting for example local construction in a context where construction materials (wood, sand) are already locally exhausted.

#### **IV. NATURAL RESOURCES, A FUNDAMENTAL PILLAR FOR THE RESILIENCE OF POPULATIONS AFFECTED BY CRISES**

There is a close link between a preserved ecosystem, its resilience and that of the populations who depend on it. It is urgent to place natural resource management at the heart of resilience strategies, relying more on existing solutions, imbued with endogenous knowledge and innovations. This must be accompanied by a strong commitment from governments, donors, stakeholders and populations, to reverse the process of degradation of the natural environment and strengthen the resilience of populations.

For several decades, the management of natural resources and the protection of the environment have been the subject of global concern. This is the consequence of overexploitation of natural resources, poorly controlled urbanization, but also industrialization and a mode of agricultural production that is often a source of pollution (chemical, greenhouse gases). Aid actors are not exempt from these concerns since these phenomena have direct consequences on certain intervention contexts and affect the populations who live there. Furthermore, the need to intervene multiple times in the same crisis context questions actors about their capacity to strengthen the autonomy of authorities and communities in the face of such situations. These findings push for a paradigm shift and place resilience at the heart of the strategy of many key players and at the interface of several types of interventions, between emergency and development. Resilience is defined as the capacity of a system, a community or a society exposed to danger to resist the effects of this danger, to absorb them and to adapt to them quickly and effectively, in particular by the preservation and restoration of its essential structures and basic functions. Preserving the environment and strengthening resilience are two concepts that provide an answer to the question of disaster risk, while ensuring that the existing potential of the context in question is preserved and that the medium and long-term capacities of exposed

populations are strengthened. The interactions between these two concepts are all the more important as the populations most affected by international aid are also the most weakened by a degraded surrounding environment. Hence the importance of raising awareness among aid actors to take greater account of the environment in interventions aimed at strengthening resilience.

In several regions of the world such as the Sahel, the Horn of Africa, the Amazon, the foothills of the Himalayas, processes of degradation of the natural environment are observed (desertification, deforestation, soil impoverishment, degradation of pastures, reduction biodiversity, reduction in water availability, etc.) and are accelerating. The causes are both climatic (increasing frequency and amplitude of natural hazards) and anthropogenic (strong population growth and inappropriate management of natural resources). The result is a deterioration of the ecosystem and the ecosystem services on which the populations living there depend to meet their basic needs (food, water, medicine, fuel, shelter and income). Poor populations in rural areas are particularly affected because these resources are often their only means of subsistence. To adapt to this evolution, populations are modifying their survival strategies. However, if certain strategies contribute to restoring the balance between human activities and the preservation of the natural environment (e.g. transhumance, migrations, etc.), others, on the other hand, accentuate its long-term degradation by providing short-term solutions (such as reducing fallow time, exploiting fragile areas such as hillsides with unsuitable techniques, excessive felling of wood, etc.). "Harmful" survival strategies that favor the short term over the long term then create a spiral that causes populations to be both actors and victims of the degradation of their natural environment. Furthermore, certain recent developments, particularly in terms of food production, have had harmful consequences on the natural environment, reducing production capacities in the longer term. The intensification of agriculture, for example, characterized by the introduction of improved seeds, GMOs, highly erosive tillage practices, inorganic fertilizers and intense irrigation (especially in South Asia) certainly allowed an increase in yields but contributed to depleting resources and degrading the structure and fertility of the soil, dispossessing future generations of their productive heritage. Interventions aimed at strengthening resilience therefore require integrating the

rehabilitation and preservation of natural resources at the heart of activities. Agricultural production methods must above all preserve natural potential in a sustainable and energy-efficient manner. Practices such as agroforestry, permaculture, agro ecology, etc., are a good example in this area and aim to create an ecosystem productive of food as well as other useful resources (firewood, shade, etc.). Likewise, techniques specific to degraded lands in arid or semi-arid zones have been developed, tested and have given convincing results in terms of rehabilitating soil fertility and increasing agricultural production. The dissemination of these techniques therefore deserves to be more ambitious, by investing in training farmers and supporting them more in their implementation. Other more specific natural resource management techniques are also put into practice and give encouraging results (e.g. FMNR6, community management of natural resources such as forests, wood-free construction techniques to reduce deforestation, etc.). Finally, support for innovation to bring out new solutions adapted to areas threatened by the degradation of the natural environment is necessary, taking care to combine scientific knowledge and local endogenous knowledge. In order to guarantee good ownership by the populations, a guarantee of success, this will notably involve improving their knowledge of their natural environment, its changes and the risks to which it is exposed, and involving them in the search for solutions. Environmental degradation and vulnerability to natural disasters In addition to "provisioning services" such as water, food and fuel wood and "cultural services" such as religion or recreation, ecosystems can provide "regulatory services" vis-à-vis natural disasters in different ways. As the International Strategy for Disaster Reduction points out, "the environment and disasters are intrinsically linked", to the extent that preserving the environment contributes to strengthening the resilience of communities in the face of disasters by reducing their risk of occurrence as well as their impact in terms of human lives, health conditions, goods and services or even means of subsistence. On the one hand, well-managed ecosystems can considerably reduce the impact of many natural hazards such as floods, avalanches or landslides. The capacity of an ecosystem to play this role of natural regulator will depend on the intensity of the natural hazard and the "state of health" of the ecosystem.

This implies a preserved and functional ecosystem, and use of resources or demand for ecosystem services not

exceeding production capacity with a view to sustainable regulation over time. Degraded ecosystems can still reduce the impact of such events, but to a much lesser extent compared to functional ecosystems. On the other hand, the state of an ecosystem can influence the frequency and intensity of natural risks by playing, if it is sufficiently preserved, the role of a natural barrier. For example, the existence of well-developed mangroves in coastal areas reduces the “cyclone surge” effect and the entry of tsunami waves inland. The reduction in mangrove areas to develop shrimp production leads to a weakening of marine ecosystems (fish breeding areas), and thus their capacity to play their “buffer” role. Wetlands, forests or coral reefs are other examples of ecosystems capable of absorbing all or part of a shock by playing this “buffer” role. Natural hazards thus constitute sources of environmental degradation through the loss of specific habitats, the mortality of endemic species and the destruction of natural elements (wood, reefs, etc.) acting as barriers. Thus, ecosystems will be all the more resilient in the face of such events if they are preserved, diversified and functional. Furthermore, the waste generated by such climatic disturbances (chemical pollution from an industrial zone cracked during an earthquake or debris of all kinds, for example) is likely to reduce the resilience capacities of the environment in question. Furthermore, a preserved ecosystem helps reduce the vulnerability of communities<sup>10</sup> to natural risks, especially if they derive their means of subsistence from this surrounding environment. If a storm or cyclone occurs, affecting for example local construction in a context where construction materials (wood, sand) are already locally exhausted, then the cost and time of reconstruction will be much greater, or will even require exterior assistance. Being active in the process of preserving the natural environment provides vulnerable groups with the prerequisites for sustainable development, and increases their dignity and respect by providing them with the means to identify risks and limit them, rather than simply waiting for disaster to strike. Investing in the management of healthy and sustainable ecosystems thus provides solutions at lower cost, and helps reduce the vulnerability of communities to crises. According to the World Bank, investing in preventative measures, such as preserving healthy ecosystems, saves seven times the amount spent on responding to a crisis in an unpreserved ecosystem. . According to UNEP, natural disasters hamper development goals, and few governments, donors and

development aid organizations take a sufficiently precautionary approach when designing and managing their projects, or even recognize the importance of good ecosystem management to reduce the risk of disaster.

When analyzing and designing programs to reduce disaster risks and build community resilience, environmental integration is therefore an essential element to take into account at different stages of the project cycle. Understanding the underlying causes of risks, particularly those linked to the state and management of the natural environment, must enable sustainable action to be taken accordingly. The vulnerability analysis must integrate the extent of degradation of natural resources in the area, the possible loss of resilience of the environment occurring during the hazard and the level of exposure to dangerous pollutants. It will also be necessary to study the opportunities present at the different scales of governance in the area to know what physical, institutional, social or economic means to put in place. Various tools exist to do this, including the CEDRA12 method developed by Tearfund. Finally, risk mitigation actions based on management of the natural environment can be implemented.

## **V. IMPACT OF HUMANITARIAN CRISES ON NATURAL RESOURCES**

Whether they take place following a natural disaster or a war, the interventions of humanitarian NGOs are organized in a fragile environment whose capacity to withstand the crisis, to return to normal functioning and normal development is more than weakened. The consequences of the crises (pollution of drinking water by a chemical factory; areas riddled with mines, polluted by defoliants, irradiated by uranium munitions impoverished) can become the causes of a future crisis.

Humanitarian crises destroy natural resources every time. The world is in a so-called state of permanent vulnerability.

## **VI. NATURAL RESOURCES AND PEACE BUILDING**

Natural resources are now seen as a major opportunity in the face of persistent problems of development and economic growth. Recent studies of natural resources such as oil, gas, copper, iron, precious stones and others indicate that they can contribute to sustainable growth to

overcome development and insecurity challenges. The natural resources of land, water, forests and mineral deposits are essential to building a peaceful and prosperous future. Creating structures and rules for managing and sharing them effectively is a form of conflict prevention: it brings order, predictability and trust to situations where there would otherwise be as competition and conflicting interests. Recent studies of natural resources such as oil, gas, copper, iron, precious stones and others indicate that they can contribute to viable economic growth to overcome development and insecurity challenges. . Many large-scale development projects implemented in recent years have proven to be unsustainable or very costly, because they often did not integrate environmental considerations. Finally, a lack of appropriate attention to water, forests, land, drugs and mineral resources could threaten the already fragile economic and security situation. We will present five major natural resources capable of consolidating peace or, on the contrary, leading to conflicts:

### 6.1. LAND

According to different sources, between 70 and 85% of the population is involved in agricultural activities. However, the last three decades of war and current insecurity have disrupted land rights, creating land insecurity which has also been a barrier to major investments in the development sector. The mix of formal and traditional institutions often gives rise to land disputes and disputes between internally displaced persons, refugees and people newly settled in an area, or between farmers and nomadic groups, for ethnic, geographical or political reasons, or because of titles. overlapping property.

### 6.2. THE WATER

After land, the most contested issue is water management and distribution. Similarly, decades of war, underinvestment and mismanagement have contributed to the degradation of the world's irrigation network and caused conflict in some parts of the world.

### 6.3. RESOURCES

The Geological Surveys of the United States, United Kingdom and Afghanistan collaborated to assess oil, gas, minerals, coal and water resources, as well as seismic risks and the development of geospatial infrastructure. The map and report on geological and mineral resources that was produced by several hundred Soviet geologists during the Cold War has been updated. In 2006, the United

States Geological Survey identified previously unknown oil reserves 18 times larger than previously thought possible and prospects for natural gas three times larger ( Shroder , 2007). The main underground resources are gemstones, uranium, base metals, rare earths and precious metals, such as gold and silver. However, experiences from other countries show that the extractive industries sector can be a double-edged sword. On the one hand, it can create jobs, generate income and finance infrastructure, but on the other, the presence of rich mineral resources can be a 'curse' that encourages corruption and bad governance, hampering economic growth, and creates new environmental, political and social problems.

In a recent report by the United Nations country team on natural resource management and peace building, specific recommendations were made for each resource, including five rules for the international community. The latter is in fact actively encouraged to support efficient and transparent natural resource management by the following means:

- ✓ Promote good practices, ensuring that environmental impact assessments and conflict-sensitive approaches are the standard for appropriate development interventions.
- ✓ Support capacity building for the implementation of good practices within structures, processes and laws related to natural resource management; facilitate and encourage the participation of populations in decision-making, planning and long-term implementation.
- ✓ Encourage better data collection and alert when risks are detected. This can help identify existing and potential disputes over these resources, and integrate natural resource risks into conflict early warning systems and long-term development planning.
- ✓ Support third-party mediation to resolve natural resource disputes at the regional and national level.
- ✓ Attract international attention and catalyze funding to prevent emerging conflicts over natural resources.

The complex nature of humanitarian action, as well as the urgency of providing basic assistance such as food, shelter and water to those affected by the crisis, often results in a lack of consideration environmental issues. This gap can

lead to serious environmental degradation and the reduction of natural resources that support life and livelihoods. The increase in the number and duration of protracted crises in recent years has exacerbated problems of mismanagement of natural resources and environmental damage, making them more apparent.

The effectiveness of humanitarian aid fundamentally depends on the quality and availability of natural resources; however, humanitarian aid often neglects to address environmental problems, whether they arise from anthropogenic actions or climatic phenomena. But caring for the environment can help protect lives, livelihoods and future generations.

## VII. CONCLUSION

The idea of taking the environment into account in humanitarian assistance may seem illogical because, at the time of a humanitarian crisis, it does not really seem appropriate to hug the trees: in fact, combining environmental action and humanitarian aid can put both at risk. However, failing to take the environment into account during a humanitarian crisis can also have harmful effects. The environment<sup>5</sup> is an important factor in crises and to neglect the link between the two would be to admit that humanitarian aid is based on an incomplete and incorrect understanding of crises. The intervention of humanitarian actors therefore risks producing negative effects on the environment.

Despite the importance of good management of natural resources for the resilience of populations, the mobilization of international aid actors, and especially of the countries concerned, is still too hesitant. However, the importance of preserving the natural environment has been recognized for many years in key institutional frameworks. Thus, the Code of Conduct for the International Red Cross and Red Crescent Movement and for NGOs during disaster relief operations (1994) stipulates in principle no. 8 that "relief must aim as much at limit future vulnerabilities than to satisfy essential needs", specifying that "we will pay particular attention to environmental concerns in the design and management of relief programs". The Sphere project now includes the environment as a cross-cutting theme and mentions that "it provides the natural resources that allow people to meet their vital needs and determines the quality of their living environment. It needs to be protected if these

essential functions are to be maintained. The minimum standards address the need to prevent overexploitation, pollution and degradation of environmental conditions." Finally, and to name just a few, the post-2015 MDGs<sup>17</sup> will be called "Sustainable Development Goals" following the proposals made by the Secretary General of the United Nations during the Rio+20 conference, specifying that these objectives must quickly be put in place in order to "slow the alarming rate of climate change and environmental deterioration, which pose an unprecedented threat to humanity". Resource management and the protection of the natural environment therefore deserve a central place in interventions, not from a "conservationist" angle but because they contribute to strengthening the resilience of populations and societies. An environmental impact diagnosis is crucial for such a targeted strategy because, although the challenges are global, the appropriate responses can only be contextualized, integrating endogenous knowledge and adapted survival strategies. Building resilience also requires political will, coordination, technical knowledge, innovation and accountability from countries, local authorities, communities, civil society, the private sector and the international community. shared in terms of risk reduction and crisis management. The Millennium Ecosystem Assessment (led by UNEP) demonstrates that with appropriate actions, the degradation of many ecosystem functions can be reversed over the next fifty years, although the changes in policy and practice required are considerable and their application still to be demonstrated. We conclude our work by formulating some recommendations to highlight:

- Incorporating natural resource management issues into the project cycle helps improve program quality as it makes projects more relevant, more efficient, and more effective.
- Integrating the environment into all aspects of the humanitarian program cycle, from the very earliest stages of the process, has the potential to reduce the vulnerability and challenges faced by populations as a result of natural resource degradation.
- Environmental integration throughout the project cycle should be carried out systematically using existing tools to improve the quality of

projects and make them more relevant, efficient and sustainable

- An environmental expert should be deployed as part of the initial UNDAC team to provide a general assessment of how environmental issues could further impact human health, livelihoods and security
- Project selection should be linked to consideration of environmental impact and should prioritize projects that propose mitigation measures.
- The identification of environmental risks should be used as a mechanism to reconcile humanitarian planning and
- development programming

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