

FROM REPEAT HANDOUTS TO REPEAT HARVESTS: ASSESSING THE AGRICULTURAL COMPONENT OF DISASTER MITIGATION STRATEGIES FOR LONG TERM SUSTAINABILITY AND RESILIENCE

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Abstract

Of the increasing proportion of public funding spent on humanitarian aid, the most significant sector is emergency food aid. In recent years intergovernmental policy and aid agencies have recognised the need for improved sustainability of post-disaster interventions and have moved on from prolonged handouts of food and agricultural inputs to more nuanced schemes, notably food for work and the revitalisation of local seed supply systems, these aimed at promoting longer-term agricultural rehabilitation and reducing aid dependency. Impact evaluations of humanitarian agricultural aid has verified that the distribution of externally sourced agricultural inputs has often been unsuccessful in this respect. Yet most such evaluations have focussed on seed distributions, and because of this, there have been improved approaches to post-disaster seed access programmes. Whilst some aid agencies are now integrating longer-term strategies into their post-disaster relief and rehabilitation programmes, there has been little integrated analysis of approaches, nor guidelines for the development of 'best practice' strategies to link short-term agricultural aid with longer term rehabilitation. A new research collaboration between HDRA and the Coventry Centre for Disaster Management aims to investigate this topic, focussing on soil amelioration as a vehicle for analysis of sustainability of intervention approaches.

Agricultural aid; resilience; sustainable and ecological-agriculture; soil amelioration; local coping strategies, post-disaster rehabilitation

INTRODUCTION

Food insecurity is one of the gravest problems affecting rural and urban populations in both natural and complex post-disaster situations. According to the latest Report on the State of Food Insecurity in the World (FAO, 2003), the number of hungry people increased by over 18 million between 1995 and 1997, with all of the 36 countries facing serious food emergencies experiencing such for at least 2 consecutive years and many for a decade or longer. Of the increasing proportion of public funding spent on humanitarian aid, the most significant sector is emergency food aid (Development Initiatives, 2003). Funding for development programmes

continues to shrink, whilst humanitarian aid is poured repeatedly into the same regions, with little understanding of ways to move into longer-term vulnerability reduction or capacity building for local agricultural production and improvement of food security.

This paper identifies an analysis gap on the issue of agricultural rehabilitation in post-emergency situations, and outlines a new research collaboration between HDRA and Coventry University's Centre for Disaster Management.

IMPROVING SUSTAINABILITY OF INTERVENTIONS

Moving on from food handouts

While the distribution of humanitarian relief food and medical aid is undoubtedly essential for the preservation of life in post-emergency situations, the dependency generated by ongoing handouts, resulting in a protracted recovery phase, has been well documented in terms of food security. Many nations, such as Ethiopia, Sudan, Bangladesh and Zambia, have been dependent on food aid for many consecutive years, and the ongoing presence of food handouts has acted as a disincentive to agricultural rehabilitation or to community participation in such (Dorosh *et al.*, 2002, Robinson, 2003, Shaw, 2001).

Intergovernmental policy has identified the need to improve the sustainability of humanitarian aid interventions (WFP, 1998, FAO, 1998). However practical strategies for the implementation of this policy in post-disaster agricultural rehabilitation are still in early stages of research and development.

Aid agencies have since the 1980's moved on from prolonged food handouts to employ other schemes to promote longer term rehabilitation such as food-for-work (rebuilding agricultural infrastructure) and the provision of agricultural inputs. This can include the supply of seeds, tools, fertilisers, pesticides and credit. Such aid enables the planting of food crops in the immediate season. However, in terms of creating a lasting restoration and regeneration of agricultural production, these interventions fall short of developing a form of agriculture, which is sustainable in terms of location, available local resources, and capacities of the communities involved.

Regionally relevant interventions

On the one hand, research has found that in the absence of external aid, some communities demonstrate greater resilience to disaster and recover to their previous state of food security more rapidly than similar communities in receipt of relief aid. Over generations of experience in unpredictable, dynamic environments, such farmers have built up coping and adaptation strategies which employ local resources and innovative approaches to the using of biodiversity and land management

strategies, affording them resistance and resilience to even extreme natural events (Mogina, 2000, Mortimore & Adams, 2001).

On the other hand, environmental changes and the influence of globalisation and development, resulting in the loss of traditional practices, changing and shifting communities and intensified environmental and complex disasters, means that traditional coping mechanisms are not always sufficient or appropriate. Yet a shift to high input approaches is arguably an inappropriate replacement. Agricultural inputs such as pesticides, fertilisers and improved seeds are costly to buy and to transport; and as agricultural aid is withdrawn, farmers, and particularly the poorest are limited in their ability to continue using such inputs, both through their lack of availability and of resources with which to purchase them. In addition, environmental and health problems from the use and misuse of agricultural inputs are well documented, and these are particularly acute in lower income countries where there is limited regulation and training on their sparing usage. Further, the continuous application of such inputs is also argued as agronomically inappropriate for fragile, tropical ecological conditions, with continuous application of mineral fertilisers directly contributing to a decline in soil biological life and degrading soil structure and water holding capacity (DFID, 2002, ILEIA, 1997). Impact evaluations on humanitarian agricultural aid has verified that the distribution of agricultural inputs has often been inappropriate or has undermined the local economy, although this research has been largely limited to seed distribution. If the role for agricultural interventions in the form of inputs is time and place dependent, proactive planning is required in order to lead into agricultural approaches that are environmentally, socially and economically sustainable for communities when the aid is removed.

The next section of this paper will discuss some of the current evaluation literature available on agricultural aid interventions, and the strategies that have come out of it, along with further questions arising which indicate the need for additional research.

‘BEYOND SEEDS AND TOOLS’: NEW APPROACHES TO AGRICULTURAL REHABILITATION

Much of the research conducted on the impacts of humanitarian aid has focused on seed distribution. After over a decade of provision of ‘seed aid’, the results for many interventions are far less significant than should be expected given their high costs and logistical effort (Longley *et al.*, 2002, Eberdt, 2003). Research from different agencies has found that this is attributable to the reliance of humanitarian agencies on the formal seed sector for their supply of seeds. There are several reasons for this, including: the insistence of donors on the provision of certified seed; the assumption that farmer-saved seed is of low quality; the misdiagnosis of the availability of local seed; the underestimation of the importance of local varietal diversity; and underestimation of the value of the seed sector in the local economy (Remington *et al.*, 2002, Sperling, 2002).

Sperling (2002), for example, found that the traditional seeds-and-tools approach has resulted in a step away from dependence on food aid, toward a dependence on seed aid. Amongst farmers questioned in her study, most were initially satisfied with the content of formal seed aid. However, over ten seasons, many farmers had received seed aid repeatedly and expected seasonal seed distributions to continue as the norm. Most of the farmers sampled continued to suffer acute or chronic drought stress, and their inability to produce or procure seed elsewhere was exacerbated by more profound factors than those addressed by the aid intervention, such as lack of water, suitably adapted crop varieties, soil erosion and access to markets.

Based on this and other studies, new strategies, recommendations and needs assessment tools have been developed to improve the effectiveness and long-term impact of seed aid and to ensure that specific needs are met without undermining existing capacities. Insufficient access to seed has been addressed in some instances by the provision of vouchers which farmers can exchange for locally produced seed and by the support of income generating activities. The support of local seed production and the organisation of seed fairs with multiple traders can be used to improve the availability of diverse and locally adapted seed. In some circumstances it is relevant to promote suitably adapted varieties or alternative crops and in particular through participatory varietal testing and breeding (Longley *et al.*, 2002, Remington *et al.*, 2002, Sperling, 2002).

This change in strategy towards seed aid demonstrates a merger of humanitarian rehabilitation aid with longer-term development objectives, and takes consideration of approaches that can realistically be rapidly implemented in a post-disaster rehabilitation situation. Seeds work in this context because they are a tangible input or commodity whether sourced locally or external to the community. However, other production constraints - soil fertility or pest control - have been less the focus of critical analysis, and the question remains as how to encourage longer term, sustainable agricultural strategies. Some aid agencies have introduced longer-term approaches, including land rehabilitation and training, as part of their post-disaster rehabilitation operations (E.g. WFP Ethiopia, World Vision), however there seems to be little integrated research on this issue or clear recommendations for the development of strategies to link short and long-term agricultural rehabilitation programmes.

The proposed research collaboration between HDRA and Coventry University Centre for Disaster Management aims to investigate NGO strategies for post-disaster agricultural interventions, their assessment methodologies and their prioritisation of and approaches to sustainability and regionally appropriate intervention. So far the literature has focused on seed aid, perhaps because this is a tangible and extractable product. This research will take soil amelioration as a mechanism to analyse more sustainable agricultural approaches. Soil quality is fundamental to agriculture, but soil improvement and management practices have been seen as long-term processes and thus regarded as the domain of development organisations and not broached by humanitarian agencies.

Although basic soil productivity may be improved rapidly by the application of mineral fertilisers, or more recently in aid packages through the distribution of green manure seeds, longer-term soil amelioration comprises a diverse range of soil management strategies that contribute to soil conservation, soil structure improvement and water retention in addition to fertility improvement. Further, many of these strategies are held in local knowledge and tradition and may require community mobilisation to operationalise. Therefore studying soil amelioration may serve not only to improve long term soil fertility but also as a mechanism to identify the deeper social challenges and opportunities that aid agencies face with their programmes.

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DISASTER Vulnerability and aims of disaster management MITIGATION Nodal Agencies for Disaster Management The National Disaster Management Authority (NDMA): in INDIA : Role and Plan WORLD METEOROLOGICAL ORGANIZATION: Role and plan Mitigation Methods Future Directions for Disaster Management in India Areas of concern/Drawbacks.Â Adopted mitigation and prevention as components of their development strategy. essential. The Tenth Five Year Plan document has a detailed chapter on Disaster Management. The plan emphasizes the fact that development cannot be sustainable without mitigation being built into developmental process.Â WMOs Agricultural Meteorology Programme Guidance on the development of suppt Mitigation- assessing the risk posed by a hazard or potential disaster and attempting to reduce the risk; Preparedness- developing a response plan based upon the risk assessment, training response personnel, arranging for necessary resources, making arrangements with other jurisdictions for sharing of resources, clarifying jurisdictional responsibilities, and so onÂ [F]ix the cycle of disaster damage, reconstruction, and repeated damage. These activities or actionsâ€ will have a long-term sustained effect. Summary.Â Before discussing how Hazard Mitigation Plans are completed within the government, it is worth briefly considering: what exactly is a Hazard Mitigation Plan?