

Mainstreaming Natural Resource Management (NRM) approaches in rural India

Desertification and degradation of natural resources are the main causes of increasing poverty in rural areas of India. Forecasts on the impacts of climate change imply an aggravation of droughts and food shortage. However, experiences in the watershed development sector provide sufficient evidence that community-based approaches not only combat poverty but also prepare communities to adapt to the impacts of climate change.

The Indian Ministry of Agriculture estimates that out of India's total land-mass (328 million ha), more than half (about 175 million ha) is undergoing some form of degradation, and therefore needs preventive and rehabilitation measures to enhance and maintain agricultural productivity. Over 70 percent of India's 1.2 billion population live in rural areas, with approximately 350 million people below the poverty line (with an income of less than one US dollar a day). Agriculture is still the main source of rural livelihoods, and the vast majority of rural poor depend on subsistence farming on drylands which are either already degraded or very prone to degradation.

The standard reference for most of the adaptation planning in India is a country-wide, large-scale vulnerability to climate change assessment dated 2003. This assessment will be

updated in the framework of the Second National Communication to the *United Nations Framework Convention on Climate Change* (UNFCCC) by mid-2009. Until then, the general findings of all relevant studies remain valid, highlighting that people in resource-poor, drought-prone or cyclone-affected regions are the most vulnerable group.

The impacts of climate change exacerbate the still significant poverty in the rural areas in India due to the massive deterioration of natural resources that they entail. However, innovative approaches implemented

in the last decade in the Natural Resources Management (NRM) Sector generated far-reaching experiences in how to cope with extreme dry conditions and a deteriorated natural resource base. In the following case study, the experiences with watershed programmes are highlighted, showing that increased productivity through watershed-based treatment of land opens up new income-generating opportunities for households.

Farmers harvesting a second time a year due to improved irrigation.

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INTERNATIONAL PLATFORM

Increased productivity of natural resources through watershed development

The rural development programmes of the Government of India implemented before the 1980s focused on the treatment of degraded lands through soil and water conservation. But they neglected an integrated approach to land management and were highly limited due to the negligible management role of the beneficiaries.

By the late 1990s, with increasing positive project experiences, the growing importance of watershed development was reflected both in terms of policy focus and funds flow. Officially recognised as one of the main anti-poverty strategies for rural areas, three nodal ministries – Agriculture, Rural Development and Environment and Forests – implemented the development of watersheds under common guidelines. The Government has also set up a National Authority on Rain-fed Areas which looks into the policy development for the Watershed Development sector. As a result of these initiatives, the investment into the development of degraded lands shot up to 970 million euro in the 46 years between 1950 and 1996; shifting to 916 million euro only for the four years between 1997–2000 (Five

Year Plan, 2002–2005, Gol, exchange rate: 1 euro = 50 euro). Hence, during the last 15 years, watershed development has been acknowledged by the government as one of the main anti-poverty programmes for rural areas. Watershed policies are dynamic, and are improved every two to three years – a considerable achievement, which is in no small part due to the combined efforts and experiments by various NGOs, government institutions, international donors and many individuals.

The Indo-German Watershed Development Programme (IGWDP), implemented by the National Bank for Agriculture and Rural Development (NABARD) and leading Indian NGOs like WOTR, and supported by the German Government through KfW/GTZ, began on a small scale in 1992. The Programme now covers over 120,000 hectares of drylands through 150 projects in over 300 villages spread across almost the entire state of Maharashtra. Additionally, the Programme concept and approaches are being replicated in three states, Andhra Pradesh, Gujarat, and Rajasthan, with an investment of over 77 million euro. More importantly, the Watershed Development Fund (WDF), created jointly by the Government of India and NABARD in 1999 to replicate the IGWDP model of Water-

shed Development, has now grown to over 100 million euro. Eleven union states and 352 projects at different levels of implementation are covered by the Fund.

Major impacts of IGWDP on the micro-level (villages and households) include the substantial (not seldom more than double) increase in people's income, the improvement of the resource base and enhanced community confidence. Based on the study of IGWDP, the "Report on World Resources 2005" concludes that "restoration can revitalise watersheds and communities" (UNDP/ UNEP/World Bank/ WRI, see www.wri.org). According to a World Bank study, IGWDP has the highest efficiency of all analysed programmes in Maharashtra; the costs per hectare are well within the range of governmental and other programmes (Kerr et al: *Watershed Development Projects in India*, IFPRI Research Rep. 127, 2002, p.46).

In addition, local decision-making and governance structures are improved. This is being achieved through the establishment of village committees co-ordinating with Panchayati Raj Systems, through project implementation and fund management within a transparent and reliable framework, through forging links with district and state government systems, and more importantly, through consensus and empowerment of poor communities.

On a macro-level (state, national) the Programme has resulted in the following policy impacts:

- Setting up of the National Water Development Fund (WDF) at NABARD in 1999 (see above).
- Integration of innovative elements of IGWDP into National Watershed Development Programmes (e.g. capacity building concepts).

The overall tomato yield has doubled thanks to a second harvest.



Photo: Gisela Kallenbach

Empowerment of communities – From watershed to biogas and sanitation

One example of successful Natural Resource Management (NRM) and community empowerment is the Kalamkarwadi watershed project, which has been supported by the Social Centre under the IGWDP. The project focussed on watershed management and capacity development for community organisations. Six years after the completion of the project, the structures are still intact and villagers continue to reap the benefits of successful rehabilitation of natural resources. Significant increases in irrigated crop land, crop production, and milk production (+ 500 %!) are just a few of the positive impacts.

Due to the improved conditions of natural resources, there is a significant change in livelihood systems of households from crop to animal production. Besides, there are very positive indications for successful empowerment of community organisations. Upon completion of the project, the community leaders managed to solicit government funds for sanitation programmes, the introduction of biogas digesters, the establishment of fruit orchards, etc. Agreed rules for resource management (grazing ban, controlled grazing) are strictly adhered to.

- Additionally, the IGWDP substantially influenced the common approach adopted by central ministries in 2002 for watershed development.

The IGWDP holds the unique distinction of not only providing policy recommendations but also highlighting the need for policy dialogue as a vehicle for structural change.

Moving out of the culture of subsidies: upscaling approaches

The promotion of the famous wadi model developed by the NGO BAIF, in which a tribal household is supported for six years to convert an acre of wasteland into a productive orchard of mango and cashew, may be another example of poverty alleviation on a sustainable basis. However, most donor programmes and initiatives are still reliant on grants.

Against this background, the Planning Commission Working Group of the Indian Government has emphasised for the NRM sector to gradually move out of the culture of grants and subsidies by increasing people's contribution to up to 50 percent of the total costs by 2017. This implies the development of new models for the financing and sustainable management of natural resources. To achieve this goal, NABARD developed a new NRM policy which focuses on the

development of a suitable policy environment for increased investments in NRM activities, combined with capacity building activities.

The establishment of an "Umbrella Programme for NRM" (UPNRM) within NABARD is conceived in the context of these emerging needs. It is designed as a policy-based programme under which NABARD selects and promotes projects which employ innovative methodologies and approaches that could be mainstreamed into the traditional NRM approach. The Programme combines the up-scaling of successful approaches (participation, implementation through qualified NGOs, integration of sustainable resource use) with innovation and pilot measures in new sectors (e.g. forestry, bio-energies, dry land farming, climate change) and with diverse and new channelling partners (e.g. state governments, banks, corporates, NGOs). At the same time financing conditions are adjusted as loan components and contributions from the Indian government are being increased. The core elements of the UPNRM include the designing and testing of economically viable models, while combining loan and grant components: Through loans, productive investments along the production chain of natural resources will be supported; complementary capacity development activities will be funded by grants. The funding under

Zusammenfassung

Klimawandel und ländliche Armut sind essenzielle Herausforderungen im Ressourcenschutzsektor Indiens. Zur Unterstützung des ländlichen Raums werden von staatlicher indischer Seite zwar in erheblichem Umfang finanzielle Mittel zur Verfügung gestellt, diese erreichen aber selten die tatsächlich Bedürftigen und führen nicht immer zu nachhaltigen Wirkungen. Das „upscaling“ bereits erfolgreich umgesetzter Ansätze weist einen Weg in Richtung einer nachhaltigeren Nutzung der Naturressourcen im ländlichen Raum Indiens – insbesondere solcher Ansätze, die auf Partizipation der Landbevölkerung setzen und dabei durch Erosionsschutz, Aufforstungen und Bewässerung nicht nur die Produktivität der ländlichen Naturressourcen erhöhen, sondern die Verletzlichkeit der ländlichen Bevölkerung gegenüber den Folgen des Klimawandels verringern.

Resumen

El cambio climático y la pobreza rural son desafíos esenciales en el sector de protección de los recursos naturales en la India. El Estado indio pone a disposición fondos considerables para apoyar a las regiones rurales. Sin embargo, estos dineros rara vez llegan a manos de los necesitados y no siempre logran efectos sostenibles. La ampliación de escala de enfoques ya implementados con éxito señala el camino hacia el uso más sostenible de los recursos naturales en las zonas rurales de la India. Los más prometedores son aquellos enfoques que apuestan por la participación de la población rural y recurren a la protección contra la erosión, la reforestación y la irrigación, no sólo para incrementar la productividad de los recursos naturales del campo, sino también para reducir la vulnerabilidad de la población rural frente a las consecuencias del cambio climático.

the Programme will be supported with 22.4 million euro via KfW/GTZ. This Programme could help to demonstrate successful NRM approaches to widespread and different stakeholders.