Fact sheet

InnoWat

# IFAD and rural water investments

## Introduction

IFAD is currently engaged in over 230 loan operations in 85 countries. About two-thirds of that portfolio is related to community-based natural resource management. Poor rural people and their institutions are at the core of this approach. Water is critical to these men and women pastoralists, fishers, farmers, young and old, part- or full-time, urban or rural, indigenous, tribal or otherwise often marginalized people. It is the key entry point for improving their livelihoods.

Water-related interventions are often linked to the building up or restoring of the asset base – and involve many facets and uses. This holistic view is part of the characterization of IFAD's approach to water interventions in this fact sheet: rather than considering water solely as an input factor in the production chain, we have preferred to follow water throughout rural people's livelihoods. This approach, combined with a qualitative analysis of the ongoing 2007/08 loan portfolio, yielded a few surprising insights (table 1).

Almost half of all projects (45-50 per cent) involve aspects of water resource management at catchment or watershed levels, and hence beyond the immediate household or community level of use. Water resource management covers the full range of *all* aspects of the rural water sector, including institutional aspects. Its scope varies from transboundary flows, through parts of the river basin and the smaller watersheds, to schemes, fields and – admittedly on a limited scale – groundwater and drainage. On the institutional side, and paralleling the watershed dimensions, it follows international, national and lower-level administrative units, through federated or associative group forms, to communal and household levels.

IFAD

Enabling poor rural people to overcome poverty

**Table 1**
**Qualitative analysis of IFAD rural water activities**

| | | | Total projects (231) | % of total |
|---|---|---|---|---|
| Water resource management | Knowledge | | 57 | 25 |
| | Planning/mobilization | | 104 | 45 |
| | Management and allocation | | 115 | 50 |
| Water resource uses | Domestic | | 130 | 56 |
| | Agricultural | Rainfed | 124 | 54 |
| | | Irrigation | 147 | 64 |
| | | Livestock | 138 | 60 |
| | | Fisheries and aquaculture (inland) | 49 | 21 |
| | Industrial – in particular agricultural processing | | 117 | 51 |
| | Environmental and biodiversity | | 75 | 32 |
| | Leisure | | 11 | 5 |
| | Cultural | | 8 | 3 |

## Uses of water

IFAD's primary investments are in agriculture. Thus the incidence[1] of project water components for crop production (irrigation 64 per cent, rainfed 54 per cent), livestock (60 per cent) and inland fisheries (21 per cent) comes as no surprise.

However, IFAD projects do not focus simply on agricultural production, but on people-focused rural development. Within IFAD's demand-driven approach, poor rural people define their own needs. As a result, 56 per cent of projects include activities for *domestic* water supply. When IFAD partners, as much as possible, in this predominantly social domain of domestic supply, it can focus its own actions on *agricultural* water management (AWM) for poverty reduction and thus maintain its position as a leader in that field. Long-term partners in domestic supply include the Belgium Survival Fund and the regional development banks.

Agroprocessing (including value adding to production), which involves specific water investments, occurs in half the projects. This covers, for example, the washing of produce prior to packaging, treatment of dairy products, tanneries, and coffee bean processing. Awareness is growing of safe effluent management and disposal, yet hard facts are not easily available, especially on attitudinal and behavioural change or environmental impact.

Activities related to environmentally responsible use of water – for example, safeguarding of environmental flows, environmental services or flood protection – take place in about a third (32 per cent) of the current portfolio, mostly through IFAD's partnership with the Global Environment and Climate Change (GECC) Unit, housed at IFAD.

### Water in agriculture

IFAD's investment in AWM focuses on financing smallholder irrigation activities, but it also includes investments in soil and water conservation, swamp rehabilitation, watershed management, rainwater harvesting, water for livestock, and inland fisheries and aquaculture (IF/A) activities.[2]

IFAD adheres to the CGIAR/Comprehensive Assessment definition of 'agricultural water' as spanning the continuum from fully rainfall dependent *in situ* crop and soil husbandry practices to diverse traditional, indigenous or modern techniques for adding water (i.e. irrigation) in order to enhance crop, multiple-use, aquaculture and livestock production (IWMI 2007a, 18) (figure 1).

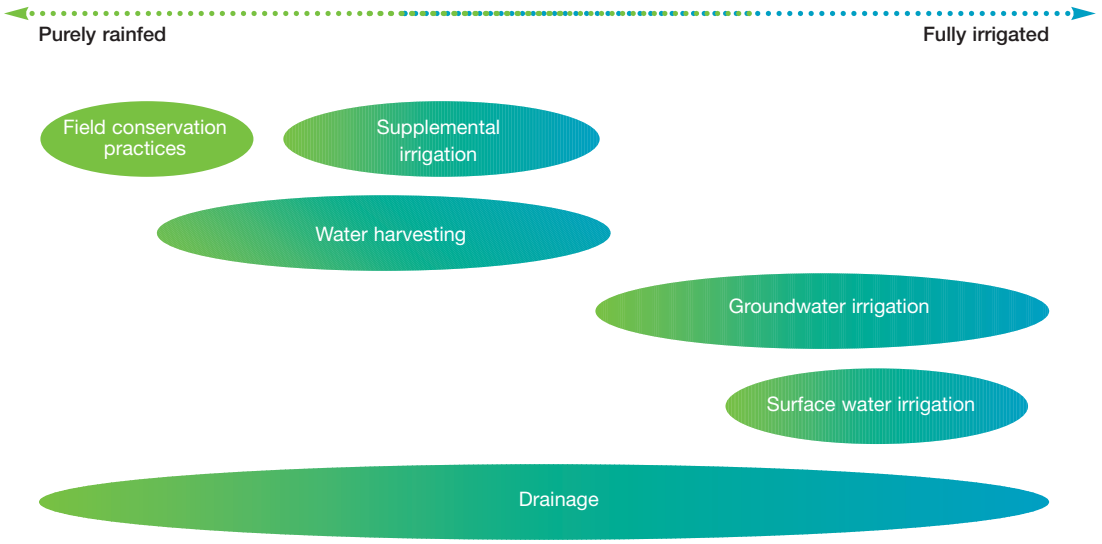
Although the principal beneficiaries are poor rural smallholders, the main intervention level concerns communal or otherwise constituted group interests (e.g. usage). These refer to investments in both public domain infrastructure and institutional development. Usually, private domain asset-building investments are left to individual household members. However, the grey area in which targeted smaller groups or individual households are supported with tailor-made subsidies is vast.

There is no upper limit to the size of a poor smallholder's farm, as this varies in accordance with site specificity. It may range

1 A high incidence of water investments, over 50 per cent for example, does not mean that such a project qualifies as a 'dedicated project' because IFAD does not use this term.

2 The current portfolio has contributed to improving about 4 million hectares (ha) of land, constructing irrigation systems that cover some 240,000 ha, and setting up 242,000 structures for rainwater harvesting schemes. About 2.8 million people have been trained in crop production practices and 0.9 million in livestock production. More than half of these were women. Over 850,000 people now have access to technical advisory services (Report on IFAD's Development Effectiveness, December 2008).

**Figure 1**
**Spectrum of agricultural water management from rainfed to irrigated**




from 20 $m^2$ in continuous and reliably irrigated multiple-cropping backyard gardening to holdings well over 200 ha in risk-prone, fully rainfed-dependent rangeland for transhumant livestock production. Similarly, there is no lower or upper limit to the number and location of different plots within one household, or groups of households, either throughout the seasons within a year or even over the span of several years (e.g. as in crop rotation and stocking routes for pastoralism).

In principle, this array also applies to the size and scope of interventions. They may vary from a single well or rainwater harvesting system for various household backyards spanning a few hundred square metres through a series of small groundwater or surface irrigation schemes of 5 ha, swamp or bas-fonds of several hundred hectares, smallholder development in large spate irrigation schemes of tens of thousands of hectares, or catchment and watershed improvement of several square kilometres to soil and water conservation measures covering several thousand square kilometres. And, usually, development involves more than just one of these options.

IFAD's AWM actions to date focus above all on building, rehabilitating or modernizing small-scale irrigation or multiple-use water infrastructure, in tandem with improving rural people's institutional capacities to obtain, allocate, use and manage water sustainably and productively.

Despite the importance of the sector to poor rural people, livestock production has failed to achieve sustainable returns due to several key constraints. Chief among these are water scarcity and the failure of policymakers to recognize the importance of livestock to poor rural people, or to support them with appropriate policies and interventions. IFAD seeks to reduce the poverty of livestock raisers through targeted interventions that increase opportunities to maximize returns from water and livestock. IFAD aims to achieve this through pro-poor tools and support for the development of conducive institutional and policy frameworks across both these sectors that promote food security and equitable access to resources. In this way, it seeks in turn to increase economic opportunities for livestock raisers and to enhance natural resource management.

Inland fisheries and aquaculture contributes to increased resilience and reduced household vulnerability to natural hazards and economic uncertainty, and improves coping strategies by providing direct and indirect employment opportunities (in particular for women), income and nutrition. Some authors even refer to the fishery as a 'bank in the water' (IWMI 2007a), because it provides saleable products with relatively low dependence on harvesting seasons compared with farming. Advocacy to include water-IF/A interface management in international and national development policy tools – such as poverty reduction strategy programmes – will contribute to an

intersectoral coherence that recognizes the embedding of IF/A within the rural economy.

Given the prevalence of weak national land and water governance systems in those countries in which IFAD invests most, joint capacity-building/AWM usually addresses the blending of traditional knowledge and local institutions with modern, state-level considerations on water use. IFAD also focuses on empowering water users by strengthening their local institutions, or where these are absent, by supporting the creation of water user groups. When and where feasible, it promotes delegation or turnover of the management of AWM schemes, or of the schemes themselves, to the groups – with attention to gender equality issues in management and O&M responsibilities. Given its mandate to reduce rural poverty, IFAD does not subscribe to a dogmatic position on cost recovery or water fees from end users until the reliability and sustainability of value-adding services for asset-building and system performance have been secured.

Total financial investment in AWM interventions has increased by 50 per cent from the period 1990-1994 to 2000-2004 (table 2). IFAD's relative contribution to projected expenditure has decreased somewhat, while its leverage effect on cofinanciers has increased from US$1.23 mobilized for every dollar spent by IFAD in the period 1990-1994 to US$1.54 for every dollar spent in 2000-2004. Regional disparities in AWM investments (table 3) reflect the importance of water to poor rural people's livelihoods.

**Water for domestic use and sanitation**

IFAD invests in water and sanitation development (WatSan)[3] in response to the identified needs of poor rural communities, and in line with national strategies for poverty reduction and the Millennium Development Goals. Improved water and sanitation systems often provide a suitable social platform (i.e. trust and rapid impact) on which productive investments can build. They are considered mutually reinforcing, and it is people's preferences and development potentials that decide where the accent is placed. Thus no time is lost on 'health before wealth' arguments (or vice versa). Although no hard facts are available from IFAD's portfolio performance, it appears that when WatSan is combined with other productive investments, overall economic impact increases or beneficiaries' livelihoods become more resilient to shocks.

**Table 2**
**IFAD and cofinancier investment in agricultural water**

| | 1990-1994 | 2000-2004 |
|---|---|---|
| Total Investment | US$118 million/year | US$176 million/year |
| IFAD | 45% | 39% |
| Cofinanciers | 55% | 61% |

**Table 3**
**Increase in agricultural water financing commitment, from 1990-1994 to 2000-2004** (%)

| Division | Western and Central Africa | Eastern and Southern Africa | Asia and the Pacific | Latin America and the Caribbean | Near East and North Africa | Total |
|---|---|---|---|---|---|---|
| Absolute | 89 | 150 | 51 | -20 | 34 | 50 |
| Relative to total divisional portfolio | 55 | 16 | -1 | -28 | 13 | n.a. |

3 The current portfolio has constructed over 120,000 drinking water systems

IFAD investments in domestic WatSan are mainly focused on domestic water provision for communities and, where possible, households. This includes rehabilitation of old systems and construction of new water infrastructure (e.g. boreholes, shallow wells, water harvesting and ponds, pipes and tanks), along with training of local beneficiaries in operation and maintenance and the formation of water user associations. The promotion of good sanitation and hygiene practices has received increasing attention.

IFAD funding of WatSan is often underestimated. During the period 2000-2004, IFAD funded US$45 million annually (40 per cent), leveraging about US$70 million (60 per cent) for a total of US$112 million (13 per cent of the IFAD portfolio). This quadrupled the 1990-1994 investments – a dramatic increase.

With one notable exception in which social investment funds may have covered the most pressing needs, the financing of WatSan increased across all IFAD geographical divisions, both in absolute and relative (to total divisional portfolio) terms (table 4).

**Water for industry and agroprocessing**

There is a growing awareness among project planners and implementers – possibly triggered by the value-chain approach – of the importance of considering the industrial and agroprocessing uses of water (i.e. at local or watershed levels). Hydropower investments are

**Table 4**
**Increase in water and sanitation financing commitment, from 1990-1994 to 2000-2004** (%)

| Division | Western and Central Africa | Eastern and Southern Africa | Asia and the Pacific | Latin America and the Caribbean | Near East and North Africa |
|---|---|---|---|---|---|
| Absolute | 634 | 232 | 633 | 18 | 211 |
| Relative to total divisional portfolio | 503 | 53 | 384 | 6 | 162 |

made on an ad hoc basis. IFAD data are being developed on the scope and impact of investments in this category.

**Water and the environment**

Paid environmental or watershed services are increasingly recognized as a potential source of additional income for poor rural people. IFAD has granted funds to international research centres to test and scale up mechanisms that reward the upland poor in rendering such services under ever more-challenging climate change conditions. Its Global Environment and Climate Change (GECC) Unit, which contributes to the environmental agenda by implementing projects funded by the Global Environment Facility (GEF), has a current portfolio of US$85 million. Exploitation of water resources and the environment is regulated by IFAD's Environmental and Social Assessment Procedures, which include operational statements, for example on irrigation, range resources, inland fisheries and wetlands.

## Cross-cutting issues

**Multiple-use service (MUS) approach**

In a recent joint study, FAO and IFAD investigated the linkage between water and rural poverty in sub-Saharan Africa (FAO and IFAD 2008). The study argues that there are ample opportunities to invest in water in support of rural livelihoods in the region, but that interventions must be targeted adequately. The key phrase is 'context specificity', and the main challenge is to understand where and how to invest. A comprehensive approach is needed in which investments in infrastructure are matched with interventions in institutions, knowledge and finance in ways that offer the best return in poverty reduction – and that take into account the extreme heterogeneity of the situations faced by rural people in the region. The MUS approach is important in this context, as multisectoral infrastructure systems address people's needs better than sectoral water development programmes. The potential impact of MUS looks promising, with first estimates at 5 per cent of the total US$82 billion required water investment for wholesale poverty reduction in sub-Saharan Africa in order to reach 80 per cent of the poor rural population.

**Land and water governance**

"It takes pro-poor land and water rights that are feasible and at the same time significant in impact" (IWMI 2007b). The importance of land and water have been recognized as separate factors contributing to increased agricultural production, income, health and sustainable land use – and, as such, to reducing poverty and food insecurity.[4] However, little is understood of how the two interface. Grant-funded research commissioned by IFAD on land and water governance (LWG) is scant, as few, if any, CGIAR or similar international centres or initiatives focus on the issue. Nevertheless, there is a growing recognition of the need to link them. LWG will vary according to the scope of administration and scale of watersheds, as well as according to diverse uses and users throughout the year or production cycles. Moreover, LWG is highly context specific and dynamic. IFAD has been addressing this topic, particularly over the last five years.

Land and water are key elements in rural people's livelihoods. IFAD has learned that there is no 'one size fits all' approach to improving livelihoods. Different contexts and needs require different types of investment and management to guide the choice of specific interventions. How can land and water governance can be used to truly empower beneficiaries in different settings and to translate this knowledge into the design, implementation and evaluation of projects and programmes? The answer to this question will strengthen IFAD's comparative advantage and leverage and, more importantly, its impact.

**Gender**

Women constitute two-thirds of the 1.2 billion poor people in the world. The great majority of poor people live in rural areas of sub-Saharan Africa and southern Asia, regions which are also home to most of the world's 'water poor' – those with limited access to reliable and safe supplies of water for productive and domestic uses. Women play a primary role in reducing food insecurity and poverty through their knowledge of multiple uses of water, crop production, local biodiversity, soils and local water resources. However, despite international recognition of this role, they often continue to be excluded from decision-making processes in new water management approaches and other natural resource allocation-related projects and initiatives.

The 'feminization of agriculture' is a fact, and not only in sub-Saharan Africa. Now more than ever, women's secure access to water for both productive and domestic uses is critical to reducing poverty and achieving improved rural livelihoods.

IFAD seeks to ensure that rural men and women participate in project activities and reap project benefits on an equitable basis by creating the necessary enabling environment and using appropriate tools. However, few gender-disaggregrated data are available.

## The new rurality and challenges for rural water

Globalization is transforming the marketplace; new patterns of poverty are emerging as livelihoods adjust; reforms in governance and rural service systems are changing the nature of institutions; and climate change will adversely impact natural resources. What impact will these changes have on the poor? Will they again be the losers in the struggle for declining water resources?

The poor normally lack assets and resources: accordingly, their strategies are usually risk averse. As a consequence, rural livelihood systems in most parts of the developing world have become highly diversified, multilocation livelihood systems: farming is just one part of the system, often left to the women of the household.

Yet all rural dwellers and landscape users need water – water which is increasingly contested in its multiple uses, especially by urbanization. The current phenomenon of newly emerging economies, sovereign funds and large private-sector investors leasing huge tracts of land to produce commodities for home country consumption (e.g. biofuels and cereals) will affect water balances and availability on an unprecedented scale. How poor rural people will access land and water under such conditions poses a challenge to all. New global finance products such as weather-based index insurance are increasingly penetrating the market, including in the least developed countries. Predictable rainfall is what most farmers, rich or poor, are interested in: will these products cater to their needs?

4 See for example: www.watergovernance.org; www.undp.org/water/; www.fao.org/NR/lman/lman_en.htm; www.undp.org/drylands/; and http://go.worldbank.org/2S3OYC6NS0.

The current balance in feeding the world tilts towards rainfed cereal production in temperate climates and commercial irrigation in drier areas. Irrigation of basic staples is not a smallholder activity, and irrigated, high-value and perishable crops need to reach attractive markets in order that a poor smallholder will be compensated for his or her risks. These scenarios still leave scope for improving rainfed farming and small-scale, irrigated dry-season horticulture even in remote areas. There are promising strategic options for making more effective use of scarce water resources – options that can provide poor households and small farmers with the ability to cope better with unreliable and variable water supplies and to exploit new market opportunities.

Overall, IFAD will continue to advocate pro-poor water management based on the empowerment of organized users, in order to enable them to effectively articulate and safeguard their right to access and sustainably use scarce physical or economic water-related resources.

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