

Spotlight on Agriculture

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RURAL WATER SUPPLY IN NAMIBIA: EFFECTS ON NATURAL RESOURCE MANAGEMENT AND LIVELIHOODS

Water will always play a central role in natural resource management in Namibia. In the past, the provision of water supply to communal areas was taken care of by the Government. It provided for basic infrastructure development as well as the running and maintenance of facilities.

The currently implemented Rural Water Supply Reform is based on three fundamental principles: (a) maximum involvement of users, (b) delegation of responsibility to the lowest possible level and (c) an environmentally sound utilisation of water resources. Communal farmers are supposed to own and operate their water installations. Users' payments should cover operation and maintenance costs (Republic of Namibia, 1993, 2000).

At community level, an important part of the reform is the establishment of water point user associations (WPA). These consist of community members who permanently use a water point. They are supposed to operate and maintain the particular water point on a cost-recovery basis in order to foster a sense of ownership. The associations are tasked with managing water supplies, maintaining water points and protecting them against damages. Water point user associations may decide about water use regulations. They permit and forbid water access according to the rules of the constitution (Republic of Namibia, 2001, 2004).

The impact of the rural water supply has been analysed in the frame of the BIOTA project in three communal areas around the following settlements: Mutompo/Kavango region



(18°18' S, 19°15' E), Okamboro/Ovitoto (22°01' S, 17°03' E), and Tiervlei/Berseba (26°23' S, 17°59' E). In all three cases, a water point user association has been established and a water committee for the operational management elected. The impact of the committee varies. In the Kavango and Ovitoto settlements, the water management is done mainly by traditional authorities, according to decision-making structures established by customary law. In Tiervlei, the committee has become a trusted community organisation, which can be considered a very positive side effect of the reform.

At all research sites, the reform has led to higher awareness of the need for sustainable water management. Rules have been introduced to avoid the waste and pollution of water, to steer water consumption towards the most efficient activities and to encourage water users to participate in the maintenance of water infrastructure.

Concerns were raised by the Namibian Government and its development partners as to whether the objective of cost-recovery in rural water supply burdens water users too heavily (Republic of Namibia, 2000). For this reason, we researched the impact of the reform on rural livelihoods. We assumed that the impact would vary depending on the wealth of the water users. Respondents were classified into three groups by means of cluster analysis. The classification was based on the following variables: annual non-farming income per capita; annual farming income per capita; value of livestock ownership per capita.

The analyses show that committed farmers who own significant livestock numbers pay the largest total amounts for water supply but the lowest per livestock unit (LSU). Their livestock consumes most of the water (Bock & Kirk, 2006). Poor farmers who have a minimal income and own very few livestock pay the lowest water fees but make the highest payments relative to consumption. At the current stage of the water reform, the Government still maintains most water infrastructure. As a result, the water payments do not yet constitute a significant share of household budgets. Nonetheless, one third of 120 respondents have daily incomes below the poverty line and own livestock worth less than

N\$ 1000. Is it acceptable to impose additional water charges on them? In future water users will finance infrastructure maintenance independently and the burden will increase. For instance, at Mutompo in the Kavango, 14 % of the total income of all households is needed to cover the water supply costs.

Our research showed that the progressive implementation of the reform should take into account negative poverty impacts, at least with regard to those farmers who would be most severely affected. Care should be taken that the adaptations due to be implemented do not negate the positive impacts of the rural water supply reform on natural resource management.

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Table 1. Characteristics of farmers' groups (source: own research; n = 120)

	Committed farmers	Income diversifiers	The poor
Average age of household heads in years	59	48	40
Average value of livestock per capita in N\$	10 674	831	53
Average total daily income per capita including subsistence in N\$	7	10	2
Share of households with total income (including subsistence) below the poverty line (N\$ 8.63 per day)	68,5 %	60,6 %	100 %
Average annual water payments per household in N\$	169	134	113
Household spending on water payments as percentage of total income	1,7 %	0,8 %	3,5 %

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