Challenged Livelihoods in the Dry Areas: The Case of Khanasser Valley in Syria

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Abstract

Improving people's livelihoods, and the sustainable management of natural resources in the dry areas are challenges facing agricultural research systems. ICARDA is addressing these challenges through integrated natural resource management (INRM) research, using an interdisciplinary approach in benchmark sites. A rural rapid appraisal (RRA) was conducted in one such site, the Khanasser Valley, in Syria, as the first step towards understanding rural people's livelihoods, their strategies and constraints. A 'Livelihoods Framework' was the basic approach used. A Participatory Poverty Assessment (PPA) was incorporated into the RRA using key informants and group discussions. Community-perceived poverty was identified using PPA methods. Off-farm employment is an important livelihood option, involving about 86% of households. New enterprises (including sheep fattening, and olive and cumin production) have emerged as ways of diversifying income and seeking higher returns, whilst the more environmentally sustainable alley-cropping technology of growing drought-tolerant Atriplex shrubs with barley has not been readily accepted. Villages were classified into groups with dominant livelihoods using cluster analysis. Different options for improving rural livelihoods are presented. The variables used in the cluster analysis were overlaid using a GIS, in order to select representative case study villages in which the impacts of these options on the livelihoods of the people are now being investigated as the next step in this study. In addition, participatory evaluation of new technical options is part of on-going integrated natural resource management research.

Keywords: Rapid rural appraisal; Participatory Poverty Assessment; rural livelihoods; integrated natural resource management; cluster analysis.

1. Introduction

Rural communities in dry areas which have marginal and degraded land resources, and which face droughts and water scarcity, are among the poorest in the world. The inherent risks involved in dry-land farming affect their livelihoods; scant public services further affect their welfare. Agricultural research systems face the challenge of developing the livelihoods of these communities.

ICARDA recently selected the Khanasser Valley Integrated Research Site (KVIRS), which has such marginal conditions (200-250 mm annual rainfall), and used an integrated natural resource management (INRM) approach to improve the livelihoods of its rural communities and promote the sustainable use of natural resources. The objective of this study is to document perceived poverty and current livelihood strategies and to explore potential options for improving rural livelihoods.

The valley is located approximately 70 km southeast of Aleppo, North-Western Syria (Figure 1), in a transitional zone between steppe and agricultural areas. With a population of approximately 17,800 people (at a density of 93 persons/km^2) it contains 31 villages of different sizes and about 1,814 resident households.

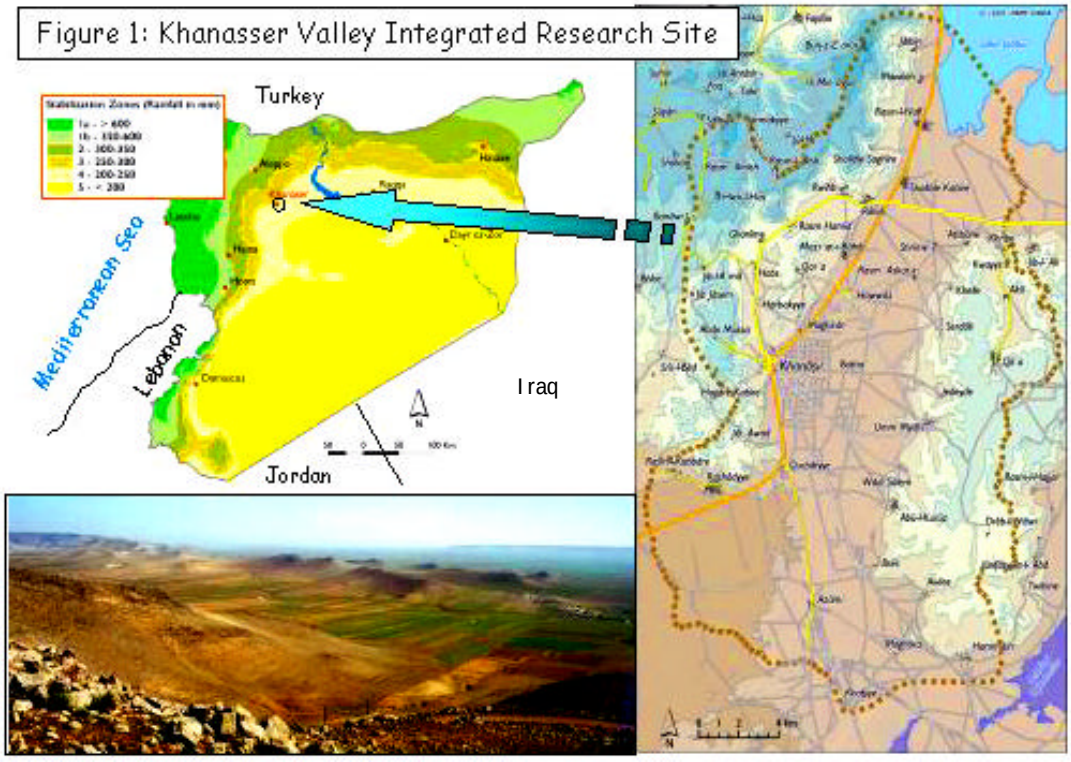


Figure 1: Khanasser Valley Integrated Research Site

2. Methodology

Following a livelihoods approach (Ellis 2000; Carney 1998), key issues at the watershed scale were characterized (Mazid and Aw-Hassan 2002), using Rapid Rural Appraisal (RRA), through semi-structured surveys and conversational interviewing (Salmen 1995) of key informants in each village in the summer of 2001.

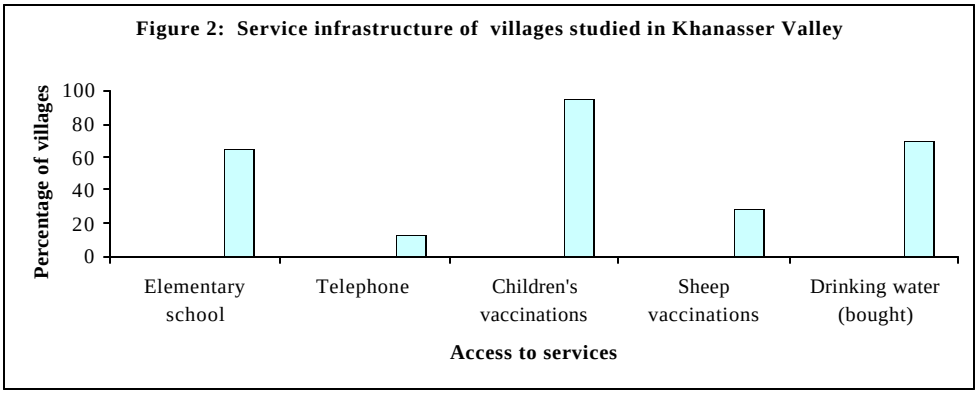
The RRA, supplemented by information collected through group discussions with community members, analyzed village characteristics and constraints, land use and property rights, and services and livelihood strategies. By incorporating the concept of participatory poverty assessment (PPA) (Salmen 1995) into the RRA, people's perceived poverty criteria and

categories were determined. Moreover, economic activities and social and institutional factors associated with different levels of perceived poverty were clarified. Cluster analysis was performed on village-level data, to classify communities into groups with a high degree of homogeneity in relation to the dominant livelihood strategies. The variables were then overlaid by using a GIS to select representative case study communities.

3. Well-being indicators

Rural well-being indicators, in broad terms, are listed below.

Access to services (Figure 2): Investment in education, in addition to agricultural research and roads, is an effective poverty reduction policy (Fan et al. 2000). Seasonal migration of households, for waged labor, during school terms is a major problem for schooling.



L*and Resources (Table 1):* Total cultivable land is 16,000 ha. Individual holdings are small and almost entirely rainfed. Communities have free access to rangelands, mainly on hills surrounding the valley. About 39% of their land is private property, 31% was acquired through a land reform program with incomplete land property rights, and 30% is state land comprising leased cultivated land and open access rangelands. About 15% of households own no land.

Table 1. Land use in Khanasser Valley

	Hectares	**Percent**
Cultivated	11,972	57
Fallow	4,181	20
Sub Total : Cultivable land	16,153	77
Range land	4,860	23
Total	21,013	100

People's well-being indicators: These include natural, physical, financial and human capital (Table 2). Using these indicators, about 13% of the households were classified as 'very poor', 48% 'poor', 33% 'moderately well-off' and 6% as 'well-off'.

Table 2. People's perceived indicators of well-being in Khanasser

Capital	Very poor	Poor	Moderately poor	Well-of
Natural	No sheep Landless or small land area (1-3 ha)	Few sheep (1-5 head) Small land area (2-5 ha)	Medium sheep flock (20-50 head) Medium land area (15-25 ha)	Large sheep flock Large land area Own well and have irrigation.
Human	No off-farm work Sick Unable to work	Only one laborer	More laborers Members working outside Syria	Government employment
Financial	In debt	No cash	No debt Enough cash to run business Own sheep fattening Work in straw trade	No debt Have fattening sheep work Sell drinking water
Physical				Own lorry and/or tractor

4.2 Extensive sheep production

With 28,000 sheep and about 1,300 goats reported in the valley, and about 70% of households owning livestock, sheep production has an important livelihood function.

4.3 Sheep fattening

Sheep fattening is an important economic activity for 15% of households. In this highly specialized intensive livestock production system, producers buy lambs from extensive systems, and fatten and sell them for a high price after a relatively short time.

4.4 Straw trade

Straw trade is an important economic activity for some households that move to irrigated or wetter areas after harvesting their crops. They rent wheat fields with crop residues, collect straw for their animals and sell the surplus to straw traders.

4.5 Off-farm employment

Off-farm employment (in agriculture in more favorable areas, in cities, and outside the country) is an important livelihood strategy. About 53% of households had members who worked as off-farm waged laborers, 20% as laborers in cities, and 13% outside Syria.

4.6 Classification of communities using cluster analysis

Three clusters of villages with broadly similar livelihoods were identified (Table 3). Within these clusters, specific villages were selected (representing different livelihood categories), for detailed investigation of the diverse livelihoods of different types of households and the pathways that would improve their well-being.

Table 3. Cluster of villages with similar livelihoods in Khanasser

Cluster of villages	No. of villages	Main characteristics	Dominant livelihood strategies
Group I	4	Relatively large land areas; large rangelands for grazing; good asphalt road; few households with members working as off -farm labor	Agricultural production
Group II	15	Small land area; small rangelands; fewer public services (electricity, school, etc.)	Off-farm work; sheep fattening
Group III	12	High population density; smaller land area; better infrastructure	Off-farm work

5. Options for improving the livelihoods of the poor

This study highlighted the following options for development.

5.1 Improving the barley/livestock system

- Drought tolerant barley varieties, suited to Khanasser's conditions, could reduce risk and increase income. For this, a participatory breeding program with farmers has been initiated.
- Alley-cropping of drought-resistant Atriplex shrubs with barley can increase availability of highly nutritious feed, particularly during drought years. Most villages (70%), however, have negative views of this technology. The reasons for this are being investigated.
- Improved flock management for dairy sheep, and small-scale village facilities for handling and processing quality milk products can have a high pay-off, depending on factors such as suitable flock size, feeding cost and milk prices.

5.2 Improving practices with new crops

- Improved water-harvesting techniques can enhance the productivity and profitability of olive trees, particularly if they reduce irrigation costs during the harsh summer months. Given the expected increase in olive production in Syria, an effective export strategy, is required.
- Improved production of cash crops (like the expanding cumin enterprise) can bring high returns, but is risky due to low and variable rainfall and market uncertainty.

5.3 Value added enterprises

- Sheep fattening is profitable, but financial capital is the main barrier to entry. Institutional innovations, like micro–credit, could enable the poor to access necessary capital, which is currently financed by informal credit arrangements at interest rates of up to 30%.
- Small-scale added value enterprises (i.e. medicinal plants and mushrooms) have some possibilities.
- The landscape of the valley allows the establishment of micro-dams for limited irrigation. However, the participation of all stakeholders in planning, development and management is critical for sustainable dam use.

5.4 Eco-tourism

- The villages of the valley, with their spectacular, traditional beehive houses, the ancient subsurface water channels (*qanats)* and a neighboring salty lake with its wildlife and unique ecosystem, could provide eco-tourism opportunities.

However, this would require knowledge and organizational skills that the local communities presently lack.

6. Conclusion

The livelihood strategies of rural people in the dry areas, like those in Khanasser, are dynamic. People find new ways to augment their income. Farmers' acceptance of practices with long-term environmental and economic benefits is uncertain. The challenge INRM research faces is the development of options that will bring about tangible improvements in both people's livelihoods and the environment.

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