MENARID

Strengthening and scaling up Integrated Natural Resource Management across MENA

IFAD

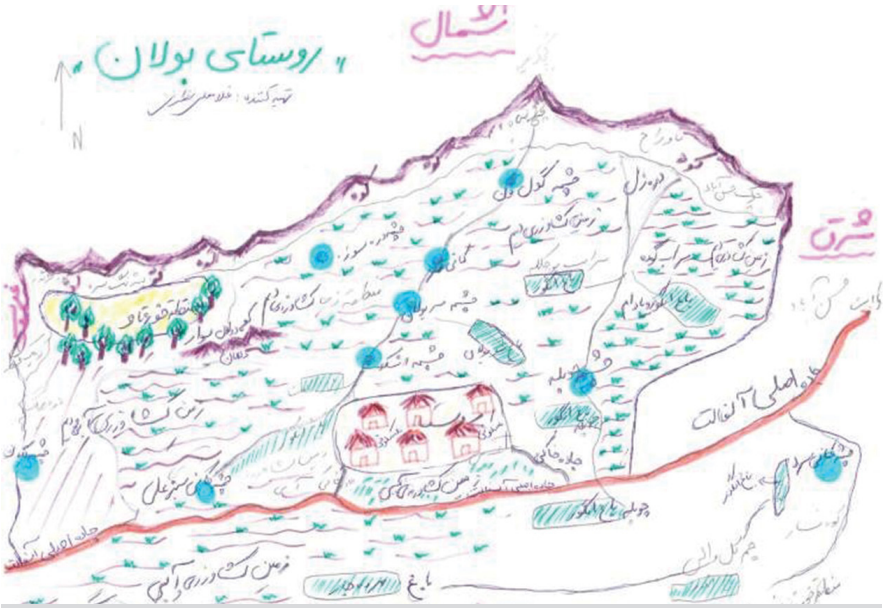
Investing in rural people

This MENARID project is a knowledge sharing and learning partnership for improved natural resource management, with Morocco, Algeria, Tunisia, Yemen, Jordan, and Iran.

'PARTICIPATORY MAPPING' FOR LAND AND WATER MANAGEMENT (IRAN)

Implementation of a participatory Geographic Information System

The project "Participatory mapping for land and water management" has introduced an innovation in the Kamkueyeh village, Yazd province in Iran that consists of using a "Participatory Mapping" approach in order to organize farmers towards better decisions for improved management of their natural resources.



Preparing of the map in the field

Source: Project "Participatory GIS a tool for land and water management".

Points to Consider

- Indigenous knowledge and new technologies can be used in an integrated manner.
- Natural Resource Management activities need correct information, and should be prepared with local communities.
- A monitoring system can be provided to local communities using maps and GIS.
- It is very important that local people are willing to adopt this new technology as a way to monitor and to better manage their resources. Support from partners and integration of local people in implementing GIS is crucial.

Purpose

This summary informs decision makers and planners at regional levels about participatory mapping as a tool to help communities in planning for better management of natural resources.

Suitability

The tool could be disseminated to communities that have the will to coordinate efforts for faster and better local development. Yet, the project still needs to evaluate how these maps can prompt to more agricultural efficienny in the community, which in turn should lead to higher income.

The project in numbers

- Mapping 359 farm parces.
- 32ha irrigation farm.
- Cost mapping contracting with local expert and rural people.
- inkind snairing (contribition)

Partners

- Ministry of Jihad
- Forests Rangand watershed managmenl org (FRWO).
- UNDP/GEF
- Rural people, society (MEPS).
- NGO Mountain Enviroment Protection

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The project is located in total area of 32 hectares that belong to about 70 farmers. Land tenure in this village is very low (less than 0.5 ha/farmer), and therefore careful planning of land, water and other resources is needed. The project consists of using participatory mapping approach to work out with farmers the location and size of their parcels. Based on maps, problems and main constrains as identified individually and collectively were overlap in order to visualize common issues and priority to undertake in both private and communal actions.

Undertaking participatory mapping

Source: Project "Participatory GIS a tool for land and water management"

Maps and overlaps

Participatory mapping worked out very well in the project as it managed to capture the main problems the community has been facing over mid and long term period. The tool allowed ranking the problems and undertaking measures based on a priority list of problems. The map below is the result of famer's work. Participatory mapping has the capability of integrating indigenous and modern knowledge in relation to resource management. For example, indigenous knowledge was captured by the mapping in terms of identifying bordering parcels that can be used for joint plantation among neighboring farmers. As modern knowledge, the maps helped in identifying the most efficient locations to build water stream channels that benefit most of the farmers with more efficient irrigation systems and based on parcel size and water crop demand. Thus, participatory mapping enabled community planning for improved irrigation and household water consumption.

The participatory mapping even helped in identifying and solving disputes over land ownership. The village has experienced for many years disputes with the government over ownership of certain parcels marked in red in the below map. The government claimed that these parcels were state lands, whereas farmers claimed that those were lands belonging to them since many years back. The maps as drawn by the community, and grounded on historical basis, helped to convince government and community officials that the boundaries as set were the right ones.

Project in results

• The participatory mapping provided members of the village the possibility of visualizing the location of their parcels within the overall village, which helped to overlap the different layers of problems and opportunities to the community. In turn, participatory mapping allowed discussing alternative solutions in a holistic and integrated manner;

• The participatory mapping tool helped in raising support from NGOs and government authorities as problems identified by the community were clearly presented and prioritized;

• The tool helped in introducing community issues into the agenda of the local governorate. For example, the boundary problem with the government was introduced into the government agenda thanks to the participatory mapping that showed the overlapping in disputed lands;

• The maps have provide a sense of 'ownership' and 'belongings' to the community members that visualized themselves as part of an integrated system where the resources, such water, are needed to be managed collectively, efficiently and with equity considerations;

• Pattern of cultivation within the community has improved due to participatory mapping. Now the community allocates water in a more organized way, and based on crop requirements and parcel size;

• The participatory mapping has created database for the community and other stakeholders, which later will be used as basis for monitoring and evaluation;

• The tool created common grounds for government and local community discussions on land tenure, and community development. For example, the community is able to better plan the location for constructing of wells to pull water and benefit as much community members as possible. The tool prompts to more organized management of the wells.

Undertaking participatory mapping

Source: Project "Participatory GIS a tool for land and water management"