

ET16

Trends in Irrigation Management

Key Points:

- 1** Irrigation developed largely as a result of external interventions
- 2** The context of famine promoted irrigation development for food security
- 3** Irrigation has become increasingly institutionalised during the twentieth century
- 4** Conflicts over irrigation management have become exacerbated with expansion and increase in numbers of users

This Briefing is one of a series produced jointly by the Forum for Social Studies (Ethiopia), Centro de Experimentação Florestal (Mozambique) and the University of Sussex (UK). Each is designed to summarise research findings and encourage feedback. The Briefing is part of the 'Marena' research project, funded by the UK's Department for International Development.

Institutionalisation of Irrigation in South Wello

Water sources with potential for irrigation in South Wello have attracted external interest for at least a century. State intervention and market influences have played key roles in the expansion of irrigation schemes, the development of a wider range of crops, and the institutionalisation of irrigation management. Local institutional arrangements and their relations with outside forces in the administration of irrigation have become more complex in the past few decades. There has also been increasing demographic pressure on water resources, and the context of drought and famine has promoted the view among officials and peasants alike that irrigation is vital for achieving food security.

Imperial times

In some areas of both northern and southern Ethiopia, irrigation dates back several centuries if not millennia. However, in south Wello, irrigation seems to be relatively recent, mainly a twentieth century phenomenon. In the Gerado valley it was the 1888-92 famine that stimulated irrigation, since those who used irrigation survived the hardships best. In imperial times irrigation was frequently initiated by external agents, such as members of the nobility or landlords. During the occupation (1936-41) the Italians were also involved in developing irrigation. In one area a Sudanese who came with an Italian road-builder during the occupation, began irrigation in collaboration with a local land-owner. He settled and married a local woman, and his children proudly show the fruit trees he grew, including orange trees he had grown from seeds he brought from Asmara.

Irrigation in imperial times was limited mainly to areas close to the centre of valleys, with limited numbers of users. Administration was based on simple rules. Landlords tended to have first choice and only once their fields were saturated, would peasants compete over the surplus referred to as 'hyena water'. There was usually a single

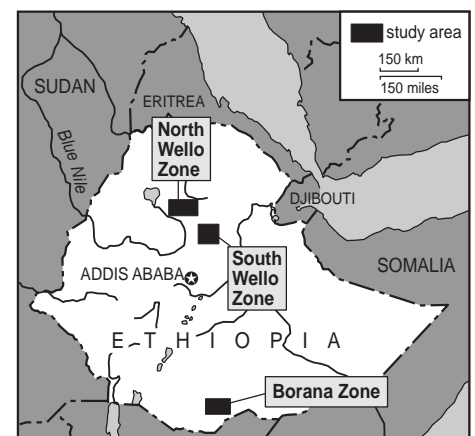
main canal used by a handful of people. Where landlords did not control the irrigation it was run by a "father of the water" (*Wuha Abbat*) responsible for ensuring fair distribution.

Peasants tended to grow the same cereal crops with irrigation as with rain-fed agriculture, the type varying with altitude: barley and wheat in the highlands, and maize and sorghum in the lowlands. Investment in perennial crops was rare. However, deep in a few lowland valleys, coffee, and some citrus fruit were already grown in imperial times. Sugar cane, bananas and vegetables, notably tomatoes, carrots, potatoes, cabbage were introduced gradually in the later part of the 20th century, through diffusion and especially urban stimulus.

Revolutionary times

During the Derg period state interest in irrigation increased, in part in response to drought and famine, and perceptions of water as a scarce resource to be harnessed. State intervention targeted irrigation as a prime resource for control by cooperatives, often leading to dispossession or evictions of other peasants. The concern for reforestation also led to parts of irrigation areas, notably near springs and streams, being taken for seedling nursery projects.

Existing irrigation schemes were expanded with larger numbers of users. Dams, ponds, spring protection, additional canals and new projects were established, sometimes with



external project funding. Irrigation management and rules of water allocation became more complex. "Fathers of the water" were generally replaced by committees with several members, and areas under irrigation were divided into teams (*budin*). Cash crops, notably vegetables and fruit, were promoted and became more common in areas with relatively easy access to larger markets.

With greater complexity and more users, management became more problematic and disputes more common, especially between upstream and downstream users. Indigenous institutions therefore began to play more of a role, notably in conflict resolution. However, serious issues were addressed by the formal structures of the Peasant Associations with intervention from the Ministry of Agriculture, especially in the larger and externally-funded schemes. Day-to-day running of schemes was left to users, who usually appointed a "water judge" (*wuha dagna*) to check on fair distribution. In return for his services the judge obtained the benefit of allocation of the water on Sundays, which he could use for himself, for relatives or friends or even 'sell'.

Transition and recent times

With the overthrow of the Derg, cooperatives collapsed, and the prime irrigation land was redistributed. There were large numbers of claimants including existing users, people whose irrigation land had been confiscated, youth seeking to establish themselves as new households, and different categories of displacees, including returnees from resettlement, ex-soldiers, migrants returning from wage-labour, and refugees from the Eritrean war.

As a result of these population movements, the numbers of users increased dramatically, the amount of land allocated to each household decreased accordingly, and conflicts arose between former and new users. Another consequence was that the interval between waterings of plots increased almost to 'breaking point', sometimes affecting the type of crop that could be grown. For example the practice of vegetable-growing became more limited in some areas.

One response has been the expansion of existing canals and the digging of new ones, especially further upstream. These have reached a wider area higher up mountain slopes and further from the centre of valleys. In some cases whole new areas of valleys have been irrigated for the first time in the past year or two. Inevitably this has led to competition and conflict, notably between upstream and downstream users. Institutionalisation of irrigation management has become more sophisticated, involving lists of users, records of turn-taking, more committee members and sub-division of schemes

Concluding comments

Irrigation has increasingly come to be perceived by external agents and local communities as a crucial resource over which there is much competition. With the transition period and the evolution of a new order, irrigated land was generally redistributed among more users, including the landless and returnees.

With increasing numbers of users and larger and more sophisticated schemes, the management of irrigation has become more

complex and has promoted the development of more institutionalised arrangements. Both local and exogenous institutions have come to play a greater role in irrigation but the relationships between them remain problematic, and joint management has not been envisaged.

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