

## **Farmer led irrigation in Africa**

SKOV online Seminar, 18 November 2021.

### **Dr. Gert Jan Veldwisch, *senior researcher and lecturer at WUR.***

During the past decades, researchers in Africa started to notice that apart from the 'official' irrigation, planned by authorities, a lot of self-initiated irrigation was and is taking place. Initially this was labelled as traditional, informal, unplanned, small scale, unsustainable or illegal irrigation. But while the official, 'real' and modern irrigation often failed, it was noticed that farmers kept sustaining, applying and developing their own systems. Looking from the farmers perspective, the labels used are not appropriate: it is not small scale, but related to large areas, and it is beyond individual or private practices, it is collaborative. Farmers plan it and develop these areas without external stimulation, it is expanding in quality and quantity. The concept of *Farmer led irrigation development* (FLID) used from 2012 onwards, indicates that it is a development process, which involves intensified production, without external support. There is a multitude of techniques and scales, some self-invented, some re-using old colonial infrastructure. Field studies show the irrigated areas are increasing, as well as agricultural production, often market oriented.

There are no hard figures on the extend of FLID, in the regions where case studies were conducted it appeared that the irrigated areas were double, triple or 4 times as much as thought before. In the more detail an area is studied, the more irrigation is found. This implies a need to change policies of important organisations (WB, AU): support the FLID instead of investing in big schemes. Farmers have been thought to be incapable, but are able to.

The World Bank started in *The Farmer Led Irrigation Initiative*. This puts more emphasis on technology and official finance. Not all were happy, since there seems to be less recognition for the self-development and the farmers leading aspects of the process. (Although the truth might be in the middle). This year (2021) the FAO published the *Farmer Led Irrigation Development Guide*, in which the concept of 'development' was reintroduced, as well as recognizing farmers taking all kinds of initiatives. They are the drivers of development. One needs water, land and collaboration farmers, and a supportive environment, including access to markets, technologies, cheap labour and finance. This then can lead to 'islands of intensification'; technology is not enough. The belief in 'modernization' causes that farmers are still facing conservatives attitudes, institutions thinking they are not capable. However, the institutes are not any longer in control, farmers set up their own systems.

### **Dr. Hans Komakech, *Centre Director of " WISE – Futures", and Senior Lecturer at the Nelson Mandela African Institution of Science and Technology, Arusha. Farmer-led Irrigation Development on the Southern Slopes of Mt. Kilimanjaro, Tanzania.***

On the Kilimanjaro Southern slopes in Tanzania, irrigation developed from the top to the lower sides. Before colonial times there was already irrigations on the elevated areas. In the research focus is on the lower sides. Farmers moved from higher lands to lower areas,

bringing their knowledge of irrigation. This was and is still regarded as 'primitive'. Other systems were developed, like by the state for the purpose of sugar cane production. This is highly productive farming. Farmers whose fields were considered as too steep were excluded. They copied the systems however on their own land around this state area, irrigating on in total bigger area than the state led system. They are using water that could also go to the state scheme. This led to some shortages in the state scheme. Government gave permissions to the farmers and the government started supporting the farmer led irrigation, in the assumption more water resources could be used. The example shows that farmers are able to develop.

The water use upstream has consequences downstream, where people also want to use the water for domestic use and irrigation. It helps that downstream, where largely use is made of shallow wells, people can buy cheap petrol and diesel pumps. People also learned to develop wells and protect pumps.

There is a multitude of practices in farmer led irrigation development and a lot of new knowledge is developing. There is production for domestic food demands and for the market, local commercial crops. The area is far more productive than earlier anticipated.

There is also a NGO led irrigation scheme in the region. More farmers were interested than could be places on the land, so a lottery scheme applies, and farmers have to pay for participation. The running costs of this scheme are however so high that the farmers started their own schemes in the immediate surrounding. This shows that good willing interventions not done by farmers themselves are not always to their benefit.

With those own initiatives water conflicts might arise and distribution had to be agreed upon. Existing permits are not helping the farmers. An upstream – downstream distribution was agreed upon, indicating the time water could be used, and this was written out. Another system found was by indicating the water level.

This does not imply that all farmers are equal, there are differences in use and in wealth. Other challenges are in depletion of the soil quality and in crop diseases. Pesticides and herbicides are used without sufficient protection and causing water pollution. There is space for improvements. Overall however the farmers who led their own irrigation development are better off, they are market oriented and have made greater food security possible.

**Dr. Barbara van Koppen, *principal researcher at IWMI in South Africa on poverty, gender and water. Community-scale water tenure for historical justice.***

After these introductions on still distant fields where the farmer led irrigation takes place, we need to go to the bottom of the pyramid, where most users are: at the rural household's domestic yards where water is used for nutritious vegetables, meat and milk. Only 10% of the water is for domestic use. There are multiple sources at the homestead (rain, groundwater, a stream) and multiple uses (garden, livestock, domestic), requiring a multipurpose infrastructure. Since time and memorial people have developed this. We see

that in the WASH<sup>1</sup> sector there is a similar movement as took place towards recognition of farmer led irrigation by the WB and the AU; people at domestic level work on self-supply of water. It was realised that what people develop at their homesteads is not all wrong. The *size* of the use is really different from the field irrigation, and for drinking water the *quality* of the water is important. The WASH sector has to find practical solutions for 3-5 litre of safe drinking water per person per day. The human right to food, defined for domestic users, has also to be supported by irrigating farmers. The small scale farmers use the water also for this right to food.

The concern of overuse is often expressed: if farmers and households develop their own water systems, won't there be shortages and conflicts? In practice we see that communities can easily map out all their water resources. In general there is the idea that water is given by God and that it is a source you share. You share it *in* within the community, and you share it *out*, respecting neighbouring communities, as a sign of respect. There are principles of social territorial rights, entitlements on basis of where people were born and make their living, including pastoralists. Infrastructure investments create stronger rights, like if you invest in a pump, and these are usually respected.

The problem is in the legislation, all these uses are illegal as long as users do not have a permit. The amount of small users of East and Southern Africa having permits is really low, about 75% is excluded because their use is too small, which makes them invisible. At the same time states do issue permits for big users, causing an enormous inequality in water access. The present water laws, based on colonial ones, favour big users and do not recognize the customary laws. A solution will be in a hybrid water law, which uses permits as a regulatory tool, to prevent pollution and overuse of water and allows re-allocation. Priority should be at the bottom of the pyramid, to fulfil the relevant human rights to safe water and food and income there. Respect and regulate what people there have developed themselves.

---

<sup>1</sup> UN initiative on Water, Sanitation and Hygiene