Unfulfilled potential
Irrigation and small farmers- 2 case studies from Tanzania

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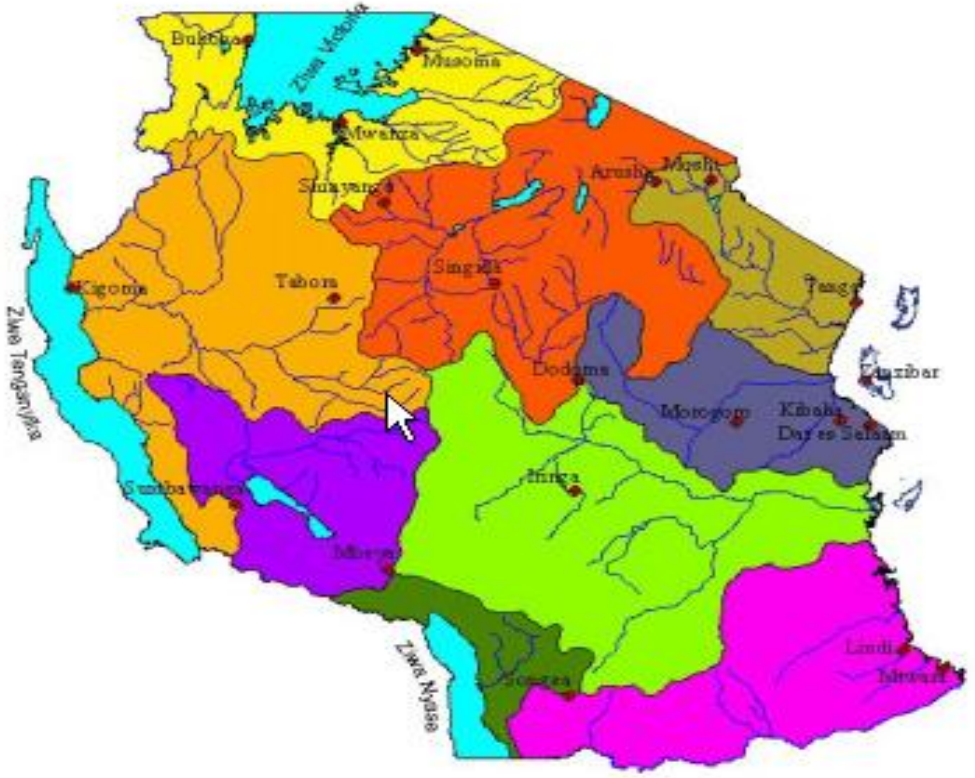
Water Policy in Tanzania

- Integrated Water Resources Management – National Water Policy 2002, National Water Development Strategy 2005-15, Water Resources Management Act 2009.
- THMIS 2011/12 survey suggests 59% (41% in 1985) have access to clean water (12 % rural water supply provided by authority) Only 10% have improved sanitation- off target in all areas.....
- Decentralisation and a ‘demand driven’ approach
- Encouraging participation of private sector and NGO
- Water managed by nine river basin offices- e.g. Wami-Ruvu River Basin- issue permits under 2009 WRMA

Ramani ya Mabonde ya Mito Tanzania



Mabonde

- Bonde la Ziwa Victoria
- Bonde la Bahi na Mazira ya Eyasi
- Bonde la Ziwa Tanganyika
- Bonde la Rufiji
- Bonde la Pangani
- Bonde la Wami/Ruvu
- Bonde la Ziwa Rukwa
- Bonde la Ruvuma na Pwani ya Kusini
- Bonde la Ziwa Nyasa

300 0 300 Kilometers

Irrigation Policy in Tanzania

- Background: the long attempt to modernise and commercialise agriculture
- Irrigation is a named component in Kilimo Kwanza (Agriculture First Plan)
- 2009 Irrigation Policy developed responding to 2002 Irrigation Master Plan

Aims of the policy

i)accelerated investment and effective management in irrigation schemes;

(ii) increased private sector involvement in service provision and investment in irrigation interventions;

(iii) sustainable utilization of land and water resources;

(iv) effective collaboration with other sectors including water sector through the Integrated Water Resources Management (IWRM) approach and the environmental sector through the Environmental Management Act (EMA) 2004

(v) reliable and sustainable crop production which will have more contribution to food security, poverty reduction and the overall economic growth of the Nation; and

(vi) clear demarcation of the roles and responsibilities of various stakeholders in irrigation interventions in the country.

Tanzania launched the National Irrigation Master Plan (NIMP) in 2002
which identified a total irrigation development potential of 29.4 million ha, of which 2.3 million ha are classified as high potential; 4.8 million ha as medium potential; and 22.3 million ha as low potential. However, only **289,245** hectares are under improved irrigated agriculture as of June 2008.

Assumptions

- 'Traditional' irrigation is wasteful and inefficient- suggests training the farmers on better water use and encouraging the private sector, NGOs etc to contribute.
- 'Improved' traditional irrigation- investment in upgrading traditional systems (can be seen in Pare Mountains- see paper by Mul)- suggest gov will oversee technical requirements and encourage PPP
- Water conflicts can be avoided if all are organised properly in 'associations'

New schemes

- Challenge to establish and bring in private investment while benefiting small holders
- Gov promises 'demand-driven' scheme identification (often the best excuse for doing nothing!)
- Management must formalised.....
- Zonal Irrigation Units are supposed to support LGAs (until the private sector can fill the gap).
- But private sector is risk averse- land and water rights are too risky
- Policy is VERY short on specific actions and VERY big on unspecific blah blah...

A political ecology of irrigation Fieldwork - May 2013-Jan 2014

2 ethnographies of small-scale irrigation:

Dakawa Rice Farm- a 2000 hectare former state rice famr. Now managed by a co-operative society for small farmers with large inputs from USAID

Choma- Uluguru Mountains- hosepipe irrigation for cultivation of high value fruit and vegetable crops. Latest evolution for small scale farming by indigenous WaLuguru people.

Dakawa- an example of a formal irrigation scheme

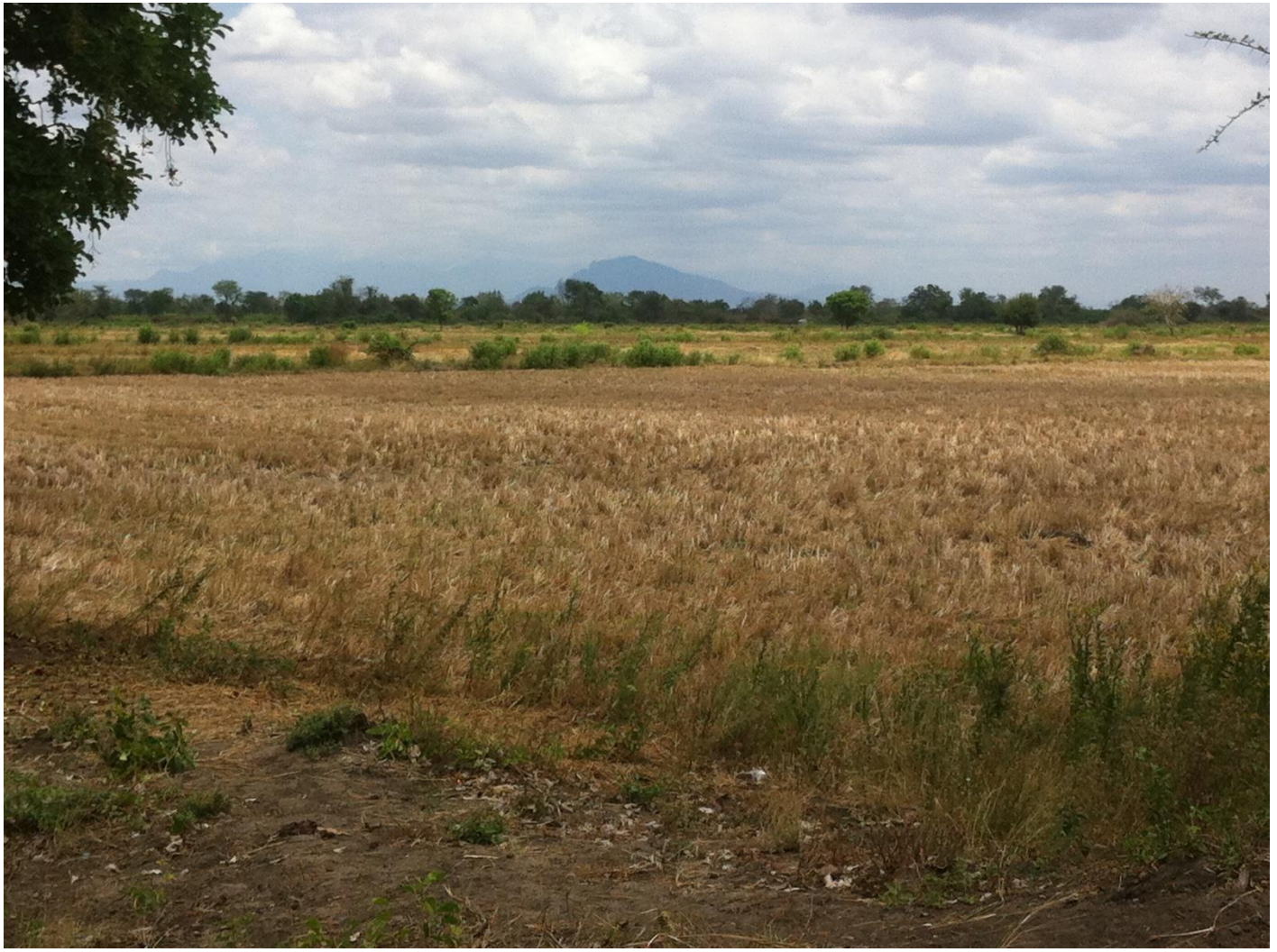
- Dakawa- former NAFCO farm- 2000 hectares of paddy
- Built by N. Korea but never operational at full capacity
- Now revived by UWAWAKUDA (a water user's association and co-operative of small Farmers.
- Large investments by USAID- Feed the Future
- Improved production (30-40 bags per acre) through use of system of rice intensification

Dakawa

The official story:

- Farm is divided into 12 acre blocks.
- 1 farmer can own a maximum of 1 block (but many of the 900+ members own 1 or 2 acres and share blocks as small farmer groups).
- The land/water is owned and managed by UWAWAKUDA on behalf of the members.
- Training on the 'system of rice intensification' (sri) has led to big increases in productivity
- See http://www.feedthefuture.gov/article/feed-future-press-tour-tanzania-marks-global-economic-statecraft-day

12-acre block – Dakawa Rice Farm



Water for Dakawa

- Water is pumped from the Wami river
- There are an increasing number of upstream users
- Rivers levels are too low to allow the scheme to operate outside of the wet season (March-June)
- Water is supplied to blocks by a strict rotation. Bye-laws control water theft- but there are disputes within and between blocks
- The Chinese Ag. Research station in Dakawa is seeking access to river water but has not been successful.

but.....

- Are these really small farmers?
  - Who owns the land?
  - Who controls the organisation?
- Is the scheme sustainable?
  - Competition for water-upstream users- dropping level of wami river
  - Poor water use efficiency
  - High costs of power-15m Tsh per month
  - Subsidised by donor
  - Lack of market competition
  - Illegal rice importation leading to price falls

Dakawa and the politics of aid

Dakawa is an aid hotspot

- -proximity to Dar-es-Salaam
- -reliable local stars- Veronica Urio story
- -China-US aid nexus
- -

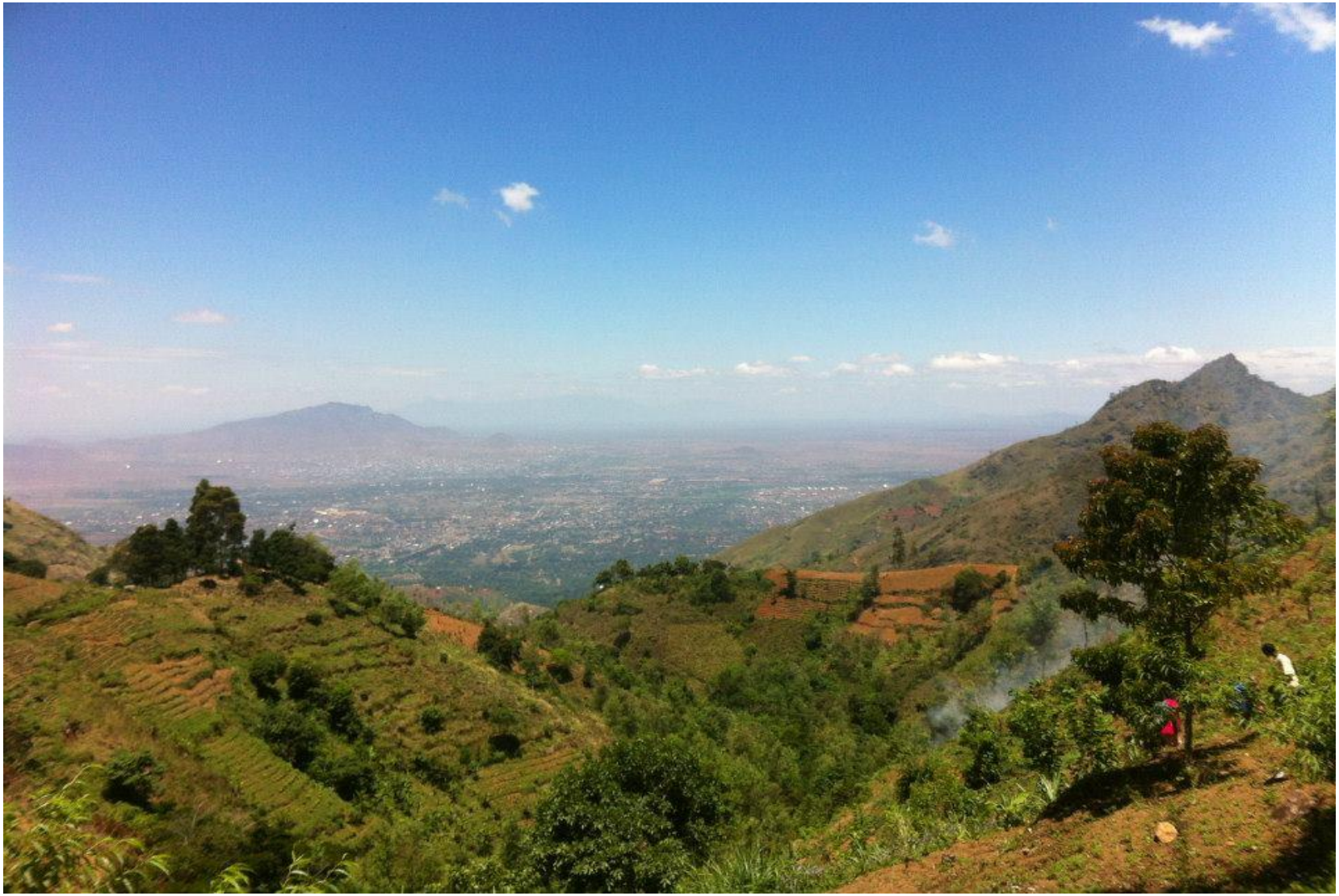
‘Traditional’ and informal

- Choma- Luguru produce vegetable and fruit crops on small land holdings.
- Past- used traditional furrow systems but these were banned
- Records show concerns over agriculture in the Ulugurus since German colonisation- promotion of terracing has been contentious in the past
- Now- use hosepipes from the waterfalls and rivers to feed sprinklers

Improved livelihoods

- Some good production with market linkages
  - Vegetables, herbs and fruit in Morogoro
  - Strawberries- Arusha and Dar (and cannabis)
- Evidence of improved livelihoods-
  - Improvement of housing
  - Purchase of motorbikes
  - Construction of road by community
  - Secondary school for children

Terraced farming on the Uluguru Mountains



But

Their activities are seen as illegal- it is informal and unregulated- characterised as competing with drinking water supplies in Morogoro and beyond to Dar-es-Salaam local hydropolitics

In 2006/7 the Municipal Council tried to evict the farmers from the mountain- they took the case to the President.

Were told they can stay if they do not farm within 60m of the water sources and use environmental conservation practices.

A number of NGOs are supporting this approach- e.g. Through ‘payment for watershed services’ and organic farming initiatives

See http://kilimo.org/WordPress/

How do different groups access water?

Choma- through inheritance of land and the financial means to buy a hosepipe. Informal sharing of water based on kin relationships. Low conflict. Seem by state as illegal and potentially negative impact on urban water availability

Dakawa-access through membership of UWAWAKUDA (which has a WUA permit)- politically contested. Formalised system of water sharing (with sanctions) –some conflict and allegations of manipulation of rules by powerful

What are the moral economies of water use?

Choma- water is a freely available resource- shared informally by those with access to land and capital to buy pipes. Government have done nothing so why should they be paid for water? Government says use is illegal and should be formalised.

Dakawa- the scarce water to the scheme is only available for a limited period. Therefore water must be managed fairly through the formal rules of the scheme and on a strict rotation. Transgression of rules leads to punishment and/or conflict. Outside users have caused the shortage of water and need regulation by the RBO.

WHAT IS THE ROLE OF KNOWLEDGE AND INFORMATION IN SMALL SCALE IRRIGATION?

- Evidence from both sites shows postive uptake of information by external interventions on techniques to improve productivity.
- Lead farmers and peer to peer learning (including from working as labourers on others land) are cited as every effective ways of learning.
- Organic and sustainable agriculture through an NGO has had positive uptake in Choma.
- System of Rice intensification in Dakawa has also been adopted over 3 year period supported by JICA and USAID

HOW ARE THE VARIOUS PROCESSES AND PRACTICES AT PLAY IN THE MANAGEMENT AND USE OF WATER IN IRRIGATION INFLUENCING WELLBEING AND LIVELIHOODS?

Dakawa- few report substantial livelihood and well-being gains (given market price fall), despite productivity increase. Some talking of moving to veg production. Other evidence of excessive use of credit, need to increase fee to UWAWAKUDA to cover electricity and other operational costs. Wide range of farmer involved in Dakawa- some very wealthy already

Choma- those who have hosepipes and sprinklers claim to make a good living and can spend resources on their homes, school fees and motor bikes

Summing up

- Small-scale irrigation is not a quick fix for agricultural growth without solving bigger issues of hydropolitics
- Insufficient attention is given to competing uses of water (e.g. Agricultural use vs power generation)
- Current policy frameworks and approaches are inadequate, contradictory and ineffective
- Inadequate capacity of RBOs to regulate water use- ‘we just sell water’.
- Climate change, economic growth and increasing population make water supply a critical issue