



Enhancing sustainable rice production in the Lake Victoria Basin: a focus on land and water management

Introduction

Trends of increased demand for rice in the Lake Victoria Basin countries have substantially driven interest in increased production as a means for food security, development and poverty reduction for small-holder farmers who make up the majority of rice growers throughout the Basin. Furthermore, for productivity and environmental reasons, the intensification of rice production, i.e. the increase of yields, has shifted into focus. Yet the governance of this sustainable intensification is faced with challenges stemming from the complex multi-level and multi-actor dynamics of rice production, processing, and other related sectors. Due to this complexity, policies, and actions to foster this transition do not follow a linear cause and effect pattern, rendering decision-making difficult.

The scaleWAYS project seeks to contribute to these efforts by, among other activities, conducting a Political Economy Analysis of the rice sector. For reasons of resources and ease of access, we have selected two case countries, Uganda and Kenya, for structured interviews of key players in the rice sector. This exercise provides in-depth knowledge about current enablers and barriers to sustainable land and water management in the rice production system as well as the actor network that may enable a transition to sustainable intensified agriculture.

Based on the insights gained from this study, this policy brief provides key entry points for policy making for fostering the key enablers and overcoming challenges that were identified.

About ScaleWAYS

The project 'Scaling out resilient water and agricultural systems (scaleWAYS) in East Africa' is being implemented jointly by IIASA, the Lake Victoria Basin Commission (LVBC) and the International Crops Research Institute for Semi-Arid Tropics (ICRISAT). The research for development project analyses scaling options for water and land management practices for resilient and sustainable agricultural intensification in the extended Lake Victoria Basin. Informed by local stakeholder's rice and fodder production systems are chosen for gaining an improved understanding of up-scaling and out-scaling of such sustainable practices through model simulations and integrated analysis of political economy aspects, governance, and social and gender dimensions.

The project is funded by the Austrian Development Agency and individual own contributions of the three partner organizations.

Our approach

We have conducted a political economy analysis of the rice sector in the Lake Victoria Basin to better understand the enablers and barriers to sustainable land and water management as well as the role of actors within the system to support this transition. Kenya and Uganda served as case countries for this in-depth analysis. To this end, we have first conducted a stakeholder mapping of the production system and subsequently interviewed key experts from these stakeholder groups.

These in-depth interviews focused on discussion of opportunities for sustainable intensification, sustainable land and water management as well as the barriers thereof. Special focus was placed on better understanding the role of actors and specific actions required to overcome these barriers. Through in-depth qualitative data analysis, we were able to synthesize key messages and policy actions required to facilitate sustainable intensification of rice production in the Lake Victoria Basin.

Opportunities

We have identified a total of 27 challenges to sustainable scaling, and land and water management as well as a total of 17 enablers. Amongst these the main challenges mentioned in the interviews revolved around diverging interests, inappropriate or inadequate political governance, land management and regulations, and underdevelopment. On the other hand, key enablers were mostly focused on the production and dissemination of knowledge, the creation and utilization of convergence spaces for actors, measures ensuring economic profitability of sustainable land and water management practices, and good policy and governance of sustainability transitions.

Further exploring the relationship between actors mentioned and the enablers and challenges to the scaling of sustainable and intensified land and water management practices we can clearly observe that knowledge appears to be not only the most mentioned but also most connected enablers.

Knowledge, especially from trusted sources, is mentioned as a key motivator for adoption amongst small-scale farmers. Extension officers endorsed and employed by the ministry of agriculture for example are especially trusted. Collaborating with such extension officers further enables other actors, such as researchers, to better collaborate with small-scale farmers. Yet especially the extension services are facing several challenges relating to lacking networks and opportunities to disseminate knowledge and build capacities.

A close working relationship amongst extension service providers, farmers and researchers is also seen as especially beneficial for not only knowledge generation but also capacity building, the adoption of technologies and technological transfer. The same is the case for irrigation and water harvesting technologies. Experts observe a gap between technological innovation and dissemination, and adoption of technologies due to lacking knowledge and capacities on the farm level. Here as well, extension service officers play a key role in building capacity.

In terms of sustainability, experts observed that farmers often make decisions based on short-term considerations. Knowledge about sustainability provided by researchers and extension service providers as well as fiscal incentives, provided by the macro policy levels, are suggested to overcome this issue.

From a research perspective, experts from the fodder sector additionally mentioned research being needed to explore options for ecologically sustainable intercropping as an enabler for sustainable land management, especially regarding climate change.

We have further identified several enabling but also barring **policy** aspects regarding the scaling of sustainable land and water management.

On one hand research and knowledge dissemination through extension service providers is funded and facilitated by or with support of government agencies, albeit some experts mentioned a decline in funding of extension services.

Yet governance can also be observed to be a major challenge. These challenges can generally be categorized into two main categories: i. a policy and institutional void regarding certain issues, and ii. a gap between the policy and implementation level. This includes for example a lack of policy on foraging and marketing of foraged fodder, as compared to other fodder types such as maize. Here, experts argue that a vested interest is needed in forage seeds.

Additionally, a gap between the policy level and the implementation level occurs primarily due to a lack of concrete policy action. This is due to diverging interests amongst political parties and government agencies. Specifically, regarding the latter there appears to be a significant lack of policy integration and coherence. Such diverging interests in politics can also be observed amongst the interests of ruling elites and farmers on the micro level.

Profitability of sustainable agriculture is in many cases not ensured. Coupled with low capacities of risk tolerance among small-holder farmers, this factor presents a significant barrier to the sustainability transition within the rice and fodder production sectors. Small-holder farmers

have low capacities for accessing finance and low (perceived) resilience to crop failure and market variability. As such experts recommend measures to be put into place that ensure market value of sustainably grown rice and fodder. For both commodities experts point out the need for better accessible and more developed markets.

Furthermore, in terms of rice and the encroachment on wetlands in the Lake Victoria Basin, the inclusion of small-holder farmers into ecosystem conservation and restoration schemes presents essential opportunities for environmental and development objectives. Experts recommend for example the compensation of farmers for ecosystem preservation and restoration activities.

In regard to gender inclusion, experts further pointed out the potential for technology adoption in activities such as processing rice husks can lead to increased production and income for women within the value chain. This, however, should be accompanied by a creation and improvement of existing spaces for women to conduct trade as well as the inclusion of women in the governance and creation of development plans.



POLICY RECOMMENDATIONS



Increase support and enable the establishment of cooperatives

Increasing support for grower associations or cooperatives could significantly contribute to better management of ecosystems, increased production, reduced production costs, and align with other development goals

Knowledge production and dissemination

Support for knowledge production and dissemination via research institutions and extension service providers should be increased

Policy integration across policy fields and levels

Sustainability agendas should be considered across policy fields and across governance levels to ensure coherence and effectiveness of policies and implementation actions

Inclusive decision making

Convergence spaces should be created and facilitated to increase communication, cooperation among actors across scales and sectors and would provide valuable insights to facilitate good governance

Increase gender equality and women's empowerment

Targeted training of dissemination of technology for female dominated activities is essential to facilitate better decision making and support gender equality

Compensation for ecosystem services

Explore options for compensation schemes for ecosystem conservation and restoration

Revised taxation and subsidy schemes

To encourage farmers to transition to sustainable land and water management practices financial incentives and secure markets are necessary to mitigate perceived risks