MUS upscaling and outscaling: from household to community level and national water law in Thailand

Sawaeng Ruaysoongnern
Department of Plant Science and Agricultural Resources,
Faculty of Agriculture, Khon Kaen University, Thailand

Abstract

Multiple uses of water (MUS) have been traditionally practiced in Thailand for a long time, until the introduction of specific objectives of water use during the past 50 years. Single uses of water resources then became normalized according to the mandate of government sectors on water resource development. This was partly due to limited understanding and lack of information and knowledge about the specific purposes of the development projects of government agencies. Despite the severe reduction in the level of multiple uses in modern development programs, many leading villagers are still developing multiple-use practices at household and farm levels. They could achieve various objectives of integrated water resource management for a successful economy, improved livelihoods, and resource resilience. Successful developments often match previous local water resource management practices and actual water resource requirements, which follow the rhythm of natural water resource availability in different ecosystems.

Since the 1997 economic crisis, Thailand has reiterated former sustainable development objectives by emphasizing self-sufficiency for sustainable development. As a result, water resource management has been considered as a key basic parameter. As such, integration of local wisdom into integrated water resource management concepts became a vital ingredient from plot scales to watershed levels up to national policy and onto the national agenda. With local wisdom blending with government support, multiple uses of water resources has become a best practice for improving resources and livelihood of small farmers in most ecosystems with diverse water resource availability.

From the successful cases at the farm level, the MUS principles of multiple sources, multiple uses, and multiple benefits for water use efficiency have been adopted as national policies, and a key guideline of a draft 2007 national water law and its regulations. The main aim of the law is sustainable water resource management at household and watershed levels. The Thailand case could demonstrate that MUS has played a major role in the successful integrated development of household, community, and watershed levels through group and network efforts for sustainable resource development. The key lesson learned is timely integration of the right organizations and stakeholders for the highest potential success.

Media grab

MUS is necessary for people's livelihoods and the MUS practices should be integrated into government programs and national policies.

Introduction

Multiple uses of water resources (MUS) have been a conventional livelihood practice for people in rural of Thailand for more than 100 years (Ruaysoongnern, 2006a). Developments during the past 50 years have changed the way projects used and managed water resources, from multiple use objectives to single use designs. Therefore, when the CPWF-MUS project began in 2004, it was a good opportunity to reiterate the traditional practices lost during nine National Development Plans that emphasized adopting single uses over multiple uses.

Since the beginning of the project, numerous activities have progressed s a result of learning alliance approaches, knowledge management, policy intervention research, and integration of research results to budgeting systems and national legislation, especially national water law. Some activities were quite successful but some are still in the development phases (Penning de Vries and Ruaysoongnern, 2005). This paper demonstrates the processes and potential practices as lessons learned on how to integrate a research project into national policies and development programs, particularly for Thailand and the Mekong Basin.

Background of MUS in Thailand and the northeast

Before the age of national development plans, people in rural areas with water resource scarcity, particularly in the northeast (Mekong Basin), developed their own knowledge on multiple uses of existing water resources for their livelihood. The basic principles were utilization of water resources from multiple sources, with multiple uses for each source according to quantity and quality, for multiple benefits to cover necessities of their life, and finally sharing benefits to multiple hierarchies within and across basins (Ruaysoongnern, 2006a). As a result, people could eventually have sufficient water for all their needs from drinking to domestic uses, from home garden to large-scale agricultural production, from households to community, and from community to environmental protection (Ruaysoongnern, 2006b). Environmental protection ensured basic resources and livelihood of local and regional people. Most developments are suitable and beneficial to their livelihood, but some could

be beneficial only to the on-site users with potential hazards to other people living downstream. With previously low population pressure, however, the off-site damages were minimal.

At the beginning of the water resource development in floodplain regions in Thailand more than 100 years ago, water resource development was primarily for travel routes, with potential development of agriculture along the waterways, which were somehow multiple uses of water resources for domestic, community development, and productive uses.

When population pressures increased during the 1950s, national development plans were initiated. With the development plans, especially for the earlier ones, single uses of water resources were emphasized to solve specific problems with large reductions of multiple uses. This caused a number of problems for local people, and impacted water resources, the environment, and sustainable development. After environmental impact assessments were initiated, the damages were evident. Water resource development plans have been gradually altered to a combination of single uses and more recently multiple uses under recently integrated water resource management (Ruaysoongnern, 2006b).

Development programs and constraints

Single use development program

During development planning of water resources, most of the plans were single use because of the mandates of sectoral government offices (e.g. domestic, agriculture, groundwater, watersheds, pollution, industrial, power generation, and other uses). The narrow objectives and practices were also due to education and information systems of specialization of various offices. With the mandates and emphasis on specialization, development plans were virtually single approaches and resulted in single use development with usually separated single benefits (Ruaysoongnern, 2005). Most water resource developments were either productive uses or domestic uses. Only with further experience on the part of users, were other single uses added. Even for domestic uses, they could be mostly for washing and cleaning rather than cooking and drinking. Evidence of failure of public drinking water development is the booming bottled drinking water industry throughout Thailand, even in the rural areas. Therefore, development of MUS under the single use mindset, we need integration of development plans, stemming from action plans, budgeting, project management, monitoring, and maintenance of the resource systems. Integrated plans have been continually developed for more than 10 years but success is relatively low due to bottlenecks in the budgeting system, impractical development plans, nonparticipation, insufficient knowledge on multiple uses at the household level, and political issues (Penning de Vries et al., 2005). Those constraints require policy intervention research and knowledge development for integrated sustainable development at the household, community, region, and basin scales.

Multiple use practices

Many empowered local households and communities have maintained and sometimes developed multiple uses of water resources at the farm and household levels for their own livelihood, applying primarily an indigenous multiple use concept. The multiple uses include drinking, cooking, washing, home garden, livestock, home industries, fisheries, agriculture, paddy, habitat, and environment in diverse ecosystems (Ruaysoongnern, 2004a), with some integration of appropriate scientific knowledge. The successful practices for livelihood and economics have become models of integrated water resource management, and multiple use of water (Ruaysoongnern, 2005). The successful cases leading to self-sufficiency have been the platforms for knowledge development and understanding of how to operate integrated water resource management, especially for appropriate planning, budgeting, and timely action plans for normal and special situations, and more recently national water laws.

MUS project context and its development

Reinstate MUS into development programs

Since the beginning of the CPWF-MUS project, development plans have been analyzed through system approaches and analysis techniques by stakeholders of water resource uses. From the analysis of plans and practices on water resource development, it was determined that constraints of water resource management at all hierarchies from plot to community watersheds had been due to single-use approaches without considering other co-existing uses. Even the irrigation systems, the main project targets, were only water collections and allocations for rice production without any water resource management. Target water users have rarely participated in planning and design of even the single use programs, nor in integrating multiple uses into existing single uses. Moreover, most of the development projects rarely emphasized the needs of people for multiple uses (Penning de Vries and Ruaysoongnern, 2005).

Farmers and local communities have nevertheless tried very hard to divert existing designs for rice crop production to fisheries, domestic, livestock, tree, and home industries. A major task of the CPWF-MUS project is reinstating multiple uses into practice, policy, and budget systems to ease development at the local level (Ruaysoongnern 2004b).

In fact, the project is focused on supporting development of learning alliances for multiple use approaches through knowledge sharing, action research for knowledge development, and policy intervention research. At a later stage, integration of the multiple uses has been applied to Thailand National Water Law through the hard work of learning alliances and beneficiary groups.

Currently multiple uses is in the process of integration into practices of many government offices and budgeting systems, and integration into national water law and its subsidiaries.

Integration of MUS into planning and practices
Earlier, there were separate attempts at water resource development and integrated water resource management, even for the same target areas. With continuous development of learning alliances within the CPWF-MUS project, most government agencies and NGOs have been invited to join and blend their beneficial concepts and efforts for multiple uses into plans of each agency. The common objectives of development plans for water uses has gradually developed into integrated single uses, and finally to practices of multiple uses of water resources for livelihood and self-sufficiency of farmers and local people (Penning de Vries and Ruaysoongnern, 2005).

One of the approaches used during learning alliance development is successful experience and knowledge sharing, exchange field visits, and counterpart development (Penning de Vries et al., 2005). All of the continuing approaches and development have developed into integrated, planned practices for multiple use water resource development at all levels.

Integration MUS into budgeting and legislation
During the research project period, there were occasions when researchers met with ministers and directors-general responsible for water resource management, including: the Minister of Agriculture and Cooperatives during the planning of 3 million multiple use ponds on 12 July 2004 at the Satuk farmer learning center; the Minister of Natural Resources and Environment during Megaproject development 9 November 2005 at Government House, Bangkok; the Prime Minister during water resource management for economic sufficiency on 15 May 2006 at Lamplaimas Farmer Learning Center; and the Deputy Prime Minister and Minister of Agriculture and Cooperatives at Kandong Farmer Learning Centers on 19 October 2007. In addition, many meetings were held with the DG of Land Development Department, the DG of Water Resources, and the DG of the Irrigation Department for MUS and other development plans. Responsible directors under these departments are also members of existing learning alliances. The learning alliances have greatly assisted in integrating MUS into planning, policy, budgeting, and finally into legislation of water laws.

Lessons learned
Learning alliances development
The success of project activities can be largely attributed to learning alliances at community, regional, and national levels. Although the approach sounds simple, the practices were extremely delicate, requiring continuous goodwill at all levels. In particular, major limitations were placed on existing conflict resolutions of different organizations. At such meetings, organizers had to be highly sensitive to the mandate, regulation, working culture, and beliefs of their counterparts. Thereafter, blending of the idea and concept was extremely important prior to actual cooperation and continuing friendships outside the office.

With delicate personal handling of learning alliances, the outcome of the project could be achieved even against 'impossible' odds.

Knowledge management
With learning alliance development, the techniques used to encourage cooperation included knowledge sharing, exchanging site visits, and sharing views and ideas. Finally when sound understanding was established, the sharing of plans and resources of different offices were readily accepted.

Development techniques for multiple uses, particularly approaches and practices, were usually lacking in original single use plans. Understanding existing knowledge was also important for sustainable development. Knowledge development was emphasized to central officials and field staff, rather than just supplying them with documentation.

Comparative economic returns of MUS over single uses
Economic analysis data (Ruaysoongnern, 2008) showed that poverty alleviation could be done more effectively through MUS than through single use or even combinations of single uses. Clear explanations were offered on overall lower costs of MUS practices and higher returns of MUS over single use or combinations of single uses. The reductionist's view of development programs, however, usually considers that single use designs might be simpler and easier to manage with lower project cost. This reductionist evaluation procedure is still an obstacle to MUS development.

Policy intervention research and policy development
Knowledge sharing and development of learning alliances have led to voluntary development of resource sharing and official agreement to solve the existing constraints. There were joint attempts to

tackle bottleneck policies to which most of the learning alliance members agreed (Ruaysoongnern, 2007). With this approach, joint policy intervention research was developed to verify integrated water resource management for further development and modeling (Ruaysoongnern, 2008). The MUS models and sites finally became research and learning sites for learning alliances and for everybody involved. As a result, policy development was eventually facilitated and achieved (Ruaysoongnern and Penning de Vries, 2005).

Research and legislation procedures
It was quite fortunate that during the life of the project, there were government and community efforts to develop better water law for Thailand. With continuous publicity of the research work and project activities, project staff and well-known learning alliances were invited to public hearings and, the drafting of water laws and its regulations. Multiple use concepts of water and water resources have been fully integrated into legislation. The most significant part is the right of people to use water resources for their livelihood (multiple uses), and not just activity-oriented allocations as before. Another important point in the law is water resource ownership: the water belongs to the people, not the nation or government, which is the crucial starting point for integrated water resource management by local committees for multiple uses.

Conclusions and recommendations

From the project activities, multiple use concepts were reinstated into national practice and policy, using a platform of learning alliances and through knowledge sharing and development. The objectives of the project were achieved at all levels. The key techniques on learning alliance development and knowledge sharing are prime principles of research for development of poor communities. The concepts and approaches can be applied with a clear understanding of the delicate balance of the role and power of each side. With continuous development of social capital under the learning alliance approach, other research programs and development initiatives could be done using similar practices. The lessons learned can be transferred to other working systems with a potentially high chance of success.

Acknowledgments

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