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# Multi-Stakeholder Processes for Managing Wastewater Use in Agriculture

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## ABSTRACT

Wastewater use in agriculture is a complex phenomenon since it transcends typical sectoral and geographical policy and planning boundaries, and is influenced by opinions and perceptions. Planning for wastewater use typically requires the involvement of a number of government agencies covering health, water, sanitation, agriculture and irrigation, as well as researchers, community groups and the private sector. Where wastewater use is already taking place spontaneously and unofficially, how can these stakeholders come together to improve the management of the system to maximize the livelihoods benefits while minimizing impacts on health and the environment? One option is the formation of multi-stakeholder platforms, which provide a space for stakeholders to share opinions and seek negotiated solutions in an open and 'level' environment. How effective these are, what outcomes can be expected, and how they can be improved are all questions that are still being asked. This chapter presents three case studies in which multi-stakeholder processes were used to improve wastewater management for urban agriculture. Although differences were observed, there were several cross-cutting lessons. A critical factor is the starting point, including an agreed definition of the problem to be addressed, negotiated goals and a management structure that is acceptable to all stakeholders. When multi-stakeholder processes are externally initiated, as

with those reviewed here, it is essential that project priorities are commensurate with local priorities. Finding an institutional home and anchor agency can improve long-term sustainability but care must be taken in considering how this impacts on existing power structures. Participation and representation greatly influence the effectiveness of the process and much may need to be done to support this, for example by strengthening local community groups. A factor that appears to significantly improve participation and engagement is having tangible outputs, which demonstrate to stakeholders the potential of multi-stakeholder platforms.

## INTRODUCTION

Multi-stakeholder platforms and processes have a number of definitions and even a variety of names, but a well-accepted definition is that of 'a decision-making body (voluntary or statutory) comprising different stakeholders who perceive the same resource management problem, realize their interdependence for solving it, and come together to agree on actions for solving the problem' (Steins and Edwards, 1998). This definition may be disputed by those who have been involved, both from the research community and those in the locations where multi-stakeholder processes take place. It is perhaps more accurate to say that this definition is the ideal to which multi-stakeholder processes should aspire. To facilitate this aspiration it is necessary to critically evaluate existing multi-stakeholder processes, including self-evaluation by the researchers involved (Sanginga et al., 2007).

This chapter reviews the application of multi-stakeholder platforms to manage wastewater for use in agriculture. Such applications are not new, but one must distinguish between two distinct circumstances of agricultural use of wastewater which influence the objectives of these platforms. The first is reuse that takes place in countries where wastewater is treated before being used to cultivate food crops. In this case the key concerns are cost, farmer willingness to pay (Neubert, 2004), farmer and public concern about impacts on crops and health, and resistance because of the 'yuck factor' (Dingfelder, 2004; Russell and Lux, 2006). Multi-stakeholder processes are implemented to gain acceptance from users, build trust and reciprocity (Po et al., 2003, Stenekes et al., 2006), and to provide the right climate for negotiation and conflict resolution.

The second circumstance is when untreated wastewater is used in an unplanned or spontaneous manner for irrigation. In this case, farmers already value it as a resource but there are health concerns (Ensink et al., 2004, 2008), which they may not take into consideration. Such situations usually occur in low-income countries where, for economic and institutional reasons, poor sanitation and wastewater-management practices prevail; they require innovative solutions to reduce water pollution and risks. In this case multi-stakeholder processes have to work towards making incremental improvements on an existing situation, including both policy changes and applying simple, innovative solutions to risk reduction that include

farmers and consumers. Innovation and learning need to be integral parts of such platforms.

Obtaining acceptance for planned reuse through stakeholder involvement is covered reasonably well in the literature (Hamilton et al., 2007), but less has been written on spontaneous reuse and the role of multi-stakeholder processes in these situations. This chapter presents three cases in which multi-stakeholder processes have been applied in several countries, predominantly to address this second scenario. The projects reviewed are:

- The Wastewater Agriculture and Sanitation for Poverty Alleviation (WASPA) project;
- Sustainable Water Management Improves Tomorrow's Cities' Health (SWITCH);
- The Cities Farming for the Future Programme of the Resource Centres on Urban Agriculture and Food Security (RUAF).

These multi-stakeholder processes have been initiated to address the challenges of various aspects of wastewater management in urban areas, and urban and peri-urban agriculture, where a key concern is the health risk associated with contamination from wastewater. The focus of each is slightly different, as explained later in the chapter, with WASPA addressing the continuum from wastewater production to use in agriculture, RUAF predominantly working to improve urban and peri-urban agriculture, of which wastewater use is a part, and SWITCH addressing integrated urban water management, which in some cities includes reuse. The processes were all externally initiated but have achieved varying degrees of success and acceptance, with some having lasting impact on policy. All processes improved knowledge and motivated the stakeholders to build common visions and action plans.

These multi-stakeholder processes are analysed here to understand their potential to improve wastewater management and reuse, leading to overall improved irrigation-water quality, livelihoods benefits and public health. How stakeholders have been and can be involved to address all of these, the successes and failures and the way forward are also discussed.

## **BACKGROUND**

### **Participation and multi-stakeholder processes**

Partnerships and participation have been part of development practice for decades, emerging from activist participatory research and applied anthropology (Chambers, 1994) and progressing through many stages. This is traced by Reed (2008) as going from awareness-raising in the 1960s; to incorporating local perspectives in data collection and planning in the 1970s; to the development of techniques that

recognize local knowledge and 'put the last first', such as farming systems research, and rapid and participatory rural appraisal in the 1980s; to the increasing use of participation as a norm in the sustainable development agenda of the 1990s (e.g. UNCED, 1992). The subsequent critique of participation, and disillusionment over its limitations and failings, resulted in a growing 'post-participation' consensus over good practice with important lessons learned from the mistakes and successes of this long history. These developments have taken place in parallel geographical and disciplinary contexts. They have been an integral part of the developments in the management of natural resources and common pool resources, for example, community forestry and integrated catchment management, and later extending to the water and sanitation sector as well as more recently the agriculture and irrigation sectors.

Stakeholder<sup>1</sup> involvement in problem definition and action planning developed in response to the growing expectation and demand from the public and civil society to be included in a meaningful way and not to simply accept 'expert' judgment or initiatives by government agencies (Warner, 2006). Greater stakeholder involvement also arose due to an increasing awareness that problems are multifaceted and impacts cut across many disciplines and administrative boundaries, making it necessary to find approaches that addressed this complexity (Mitchell, 1997; Stenekes et al., 2006). More specifically relating to wastewater reuse, the issue is about how the different frames of reference about risk and sustainable natural-resources management can be better understood by the stakeholders (Stenekes et al., 2006). Sustainability in this case relates to resource recovery, reduced health risks and livelihood benefits.

The partnerships of the 1990s have evolved into the multi-stakeholder processes of the present, which recognize that accommodating multiple interests in resources management is unavoidable (Ramírez, 2001) and that interaction and negotiation are necessary not just among the local community and the state agencies but all actors with a stake. This is particularly relevant in the context of wastewater agriculture in resource-poor countries, where inadequate infrastructure and the institutional vacuum (reflected in the lack of clear planning processes) make it imperative that actors consult, interact, learn from each other, attempt to consider all viewpoints and apply innovative solutions. Existing institutional systems and traditional conceptions are unable to cope with the collaboration and consensus needed to achieve sustainability. For the success of such platforms it is critical to consider the fundamental purpose for engaging stakeholders and to define clear objectives and outcomes.

Multi-stakeholder processes and platforms come in many forms and are usually perceived as incorporating several components that allow for shared learning, collaborative planning and interventions, but not all of them can be said to achieve real mutual planning and action. Understanding the broad types and what appears to constitute a 'good' and 'effective' multi-stakeholder process will assist in their replication and improvement. In this context it is useful to consider

**Table 18.1** *Classification of partnerships and multi-stakeholder platforms according to relative power exerted by stakeholders*

Scale of participation and power-sharing	Rungs on the ladder of citizen participation <sup>a</sup>	Typology of multi-stakeholder processes according to their degree of powersharing <sup>b</sup>
Non-participation: limited or no power-sharing, groups operate outside 'the system'; they may have some influence through pressure and financial strength.	Manipulation – rubber-stamp committees. Therapy – power holders educate or cure citizens.	Social networks: a group of people working in different organizations that enthusiastically pursue social change but have weak links to their constituents. They struggle to have influence. Service organizations: raise money for joint projects. They take advantage of the breadth of the network to generate financial support.
Degrees of tokenism: no power-sharing but those in power may respond to concerns if it suits their purpose.	Informing: citizens' rights and options are identified. Consultation: citizens are heard but not necessarily heeded. Placation: advice is received from citizens but not acted upon	Focus or visioning groups: interested citizens and organizations giving feedback to proposals, providing information, voicing concerns and needs at the invitation of the government, only indirectly influencing the decision. Crisis management organizations: the platform tackles difficult political issues or crisis coordination in a non-threatening environment.
Degrees of citizen power: may operate outside the system but gain an element of power through cooperation; may also achieve aims by force.	Partnership: trade-offs are negotiated Delegated power: citizens are given management for selected or all parts of programmes Citizen control: full partnerships.	Social movement: an alliance for protesting about a project. It can negotiate better amenities or changes in the project when they manage to cooperate with their adversary. Management or co-management organizations: devolve decisions and management tasks to stakeholders.

Source: <sup>a</sup>Arnstein (1969); <sup>b</sup>Warner (2006)

the classifications of Arnstein (1969) according to relative power exerted by stakeholders and Warner (2006) based on the level of power-sharing (Table 18.1). It should be noted that Arnstein's categories are more clearly differentiated while Warner's range along a scale between the categories given in the table and should really be seen to be overlapping.

The plethora of multi-stakeholder platforms in the literature has led Warner (2007) to describe them as a ‘multi-legged beast, often mentioned in tales, but as yet rarely spotted in broad daylight’ and he considers it necessary to understand: why multi-stakeholder platforms are promoted; whether they actually emerge; and how they function. Continuing with Warner’s metaphor, several of us have spotted multi-stakeholder processes and platforms but we are not always sure exactly what ‘species’ they are and whether they are another (less social and cooperative) beast in disguise. We may not need to know the exact species but it is useful to know how they exist and what they do so that we can try to breed good traits, for example, in terms of power-sharing and equity.

Learning Alliances and various forms of Participatory Action Planning (PAP) can be considered sub-species of multi-stakeholder processes. These were used in the cases reviewed in this chapter (either in combination or separately) and are briefly described here to give an introduction to the case studies. As stated, however, the lessons from the processes are applicable to many forms of multi-stakeholder processes and platforms and will help in identifying the traits that should be reproduced or suppressed.

## **Learning Alliances and Participatory Action Planning**

Learning Alliances are innovative participatory processes that aim to maximize the impact of research on policy and outcomes. The term has been in use in the business world since the 1980s and is derived from work on innovation systems, where innovation is associated with the commercialization of ideas, hardware and practices, with a focus on adapting existing knowledge rather than creating new knowledge (Arnold and Bell, 2001, quoted in Verhagen et al., 2008). In development literature, Lundy et al. (2005) describe a Learning Alliance as a:

*process undertaken jointly by research organizations, donor and development agencies, policy-makers and the private sector through which good practices, in both research and development, are identified, shared, adapted and used to strengthen capacities, improve practices, generate and document development outcomes, identify future research needs and potential areas for collaboration and inform both public and private policy decisions.*

Other definitions include the notions of identification, development and scaling out and up of innovations through interconnected multi-stakeholder platforms at various levels, such as community, district and national (Smits et al., 2007). The methodology has taken off in recent years, championed by the International Water and Sanitation Centre (IRC) in the water, sanitation and hygiene (WASH) sector (Moriarty et al., 2005b; Morris, 2006) and more recently as part of a holistic approach to urban water management.

Participatory action planning and the multi-stakeholder process for policy formulation and action planning (MPAP) have been used in various ways in all three of the examples, with WASPA and SWITCH drawing on the planning cycles of 'Participatory Action Plan Development' (Barr, 2001; Bunting, 2005) and the Euro-Med Participatory Water Resources Scenarios project (EMPOWERS, [www.project.empowers.info](http://www.project.empowers.info)). Both took the form of several iterative steps: situation and stakeholder analysis, participatory planning, visioning, assessing, consensus building, strategizing, reviewing, reflecting, disseminating and implementing (Barr, 2001; Bunting, 2005; Moriarty et al., 2005a). Central to the process is that stakeholders are given the opportunity to identify constraints, propose appropriate solutions, develop plans of action and embark upon the process of implementing preliminary development activities to address some of the most pressing and widely felt problems. Similarly, the MPAP approach used in RUAF requires a high level of participation by the parties involved. It brings all major stakeholders in urban agriculture together into a new form of communication and information exchange, dialogue, joint situation analysis, action planning, decision-making, gender-sensitive implementation, and monitoring and evaluation.

### **EXAMPLES OF MULTI-STAKEHOLDER PROCESSES IN WASTEWATER USE**

The three examples drawn on in this chapter are distinct but have some common features, for instance:

- All three were initiated as part of donor-funded projects.
- As such, although there may have been initial stakeholder consultation to ensure that the projects and the multi-stakeholder platforms were needed or acceptable to the stakeholders, the convening agencies were in all cases external.
- All are facilitated by a lead organization that is convinced, and can persuade others that more appropriate and demand-driven research, interventions and policies will arise from multi-stakeholder processes.
- All involved the participation of both government and non-governmental stakeholders in joint situation analysis, identification and prioritization of policy issues in a manner as open and transparent as possible.
- All use similar approaches.

The findings presented here come from a combination of internal evaluations, the authors' first-hand experiences, interviews and literature reviews. The inferences about WASPA, for example, draw on a combination of experience by the authors and on findings from an internal review and process monitoring. The SWITCH findings are based primarily on literature but also on the experience of the authors in one of the SWITCH project cities (Accra). Similarly, RUAF is based on the

experience of the authors in West Africa and on synthesis documents about the programme as a whole.

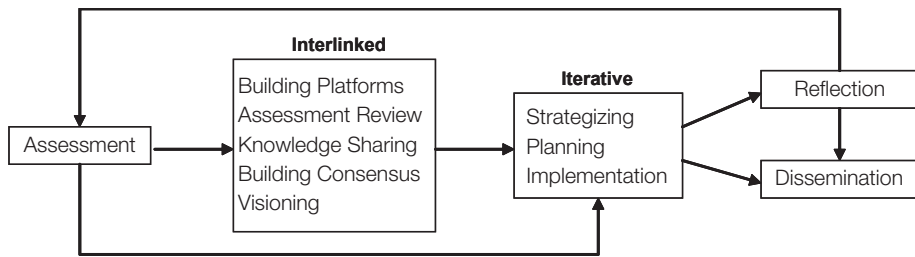
### **Wastewater Agriculture and Sanitation for Poverty Alleviation Project**

The WASPA project was implemented in Rajshahi, Bangladesh, and Kurunegala, Sri Lanka, with funding from the EU Asia Pro Eco II Programme from 2005–2008 by a consortium of national and international partners. The context for the project was the use of untreated wastewater in agriculture resulting from poor waste disposal and sanitation conditions upstream. To address this a team of researchers felt that an approach which made the wastewater producers, managers and end-users part of the process, and applied holistic and sustainable wastewater-management principles, through interventions in the whole wastewater continuum, would make agricultural wastewater use more sustainable. Stakeholder involvement to develop and implement PAP was central to the project. Its objectives were therefore to:

- find innovative local solutions through joint learning;
- foster dialogue between local government, NGOs and the community;
- ensure buy-in from all stakeholders for sustainability;
- scale-up solutions to other locations.

The project proceeded through several overlapping and iterative steps (Figure 18.1), most of which were determined and driven by the convening agency (the project team):

- Initial identification of stakeholders – to answer questions about who the main stakeholders are, their roles, concerns, relationships and conflicts.
- Establishing Learning Alliances – by informing all stakeholders about the project through individual meetings at various organizations and community level meetings; and encourage them to come together to discuss wastewater management.
- Assessment, knowledge sharing and consensus building – a rapid appraisal of the existing situation, of which key components were undertaken with stakeholders, in order to create an informed basis for discussion.
- Visioning and prioritizing – once the problems were defined by the stakeholders, they were able to envisage the future desired situation, write a vision statement and define strategies to achieve them. The strategies were prioritized and action plans developed.
- Planning and implementation – by the WASPA team with working groups selected by the Learning Alliance. Specific decisions relating to the activities set out in the action plan were approved by a core group of three to four members elected by the Learning Alliance, in order to expedite their implementation.



**Figure 18.1** *The WASPA project process*

Source: Evans and Varma, 2009

Any amendments to the strategies or decisions about prioritizing the strategies were taken back to the full Learning Alliance.

- Monitoring and evaluation – reflection, documentation and participatory analysis with stakeholders to see whether the desired results were being achieved (Smits et al., 2009).

### *Achievements and challenges*

Analysis of the process revealed that there were a number of successes and some challenges. Initially, the engagement of the stakeholders and development of the Learning Alliance was slow. Verhagen et al. (2008) attribute this to the lack of financial resources, which meant that it was not possible to hire a facilitator or to increase the visits by international partners. Closer examination reveals that many other factors were at least as, if not more, important, for example: inadequate training of local project staff by international partners, which would have enabled them to facilitate the process more effectively; the narrow view stakeholders held of the impacts of poor wastewater management (many saw problems that affected them in isolation, not as part of a system); political processes outside the project (such as suspension of the Bangladesh government); perceived costs in time of involvement in the Learning Alliance; potential for relinquishment of power to others within the Alliance; and insufficient legitimacy of the project team.

The process documentation and analysis identified these problems while the multi-stakeholder process was ongoing, and the project team used the findings to try to correct some of them. In both Bangladesh and Sri Lanka, team members were assigned to liaise with stakeholders; external facilitators were hired for meetings; Learning Alliance members were encouraged to share experiences, which enabled them to define a common problem and seek solutions; and structures were agreed by the Alliance, which gave greater working flexibility and resulted in more activity. The real breakthrough came when the plans began to be implemented and Alliance members saw tangible outcomes. They realized that this was not simply another 'talk shop' and they became more interested in supporting further activities.

An achievement directly attributable to the project is joint action by the government and community for improving sanitation and waste disposal in communities and thereby potentially improving water quality and public health (though these were not measured), which did not occur prior to the project. Perhaps more fundamentally, the inter-connectivity of the systems, which Huibers and van Lier (2005) describe as the water chain, was previously not part of the thinking of the Kurunegala Municipal Council or Rajshahi City Corporation, much less part of their planning. By expanding the views of the stakeholders there is the potential for wastewater agriculture issues to be addressed, or at least not ignored, in the future, and although the prospects are not certain, the stakeholders would like to keep the platform going in some form.

### **Sustainable Water Management Improves Tomorrow's Cities' Health**

SWITCH is a large-scale research project comprising of 33 consortium partners representing academics, urban planners, water utilities and consultants, with research and demonstration activities in ten cities. The project is funded by the Sixth Framework Programme of the European Union and its goal is the development of sustainable and effective water-management systems for the 'city of the future'. The project aims to improve the scientific basis for the development and management of urban water systems, and to ensure that they are robust, flexible and adaptable to a range of future pressures. It focuses on closing the cycle through promoting the treatment and reuse of wastewater, demand management, decentralized approaches to service delivery and related innovations. The Learning Alliance approach was identified as the vehicle to drive this paradigm shift (Butterworth and Morris, 2007), with two main objectives of the Learning Alliances being to: break down barriers to horizontal (stakeholders responsible for the various components of the urban water system) and vertical (various levels of government) information sharing and learning; and speed up process identification, development and uptake of solutions.

The Learning Alliance process is required not only to understand the priorities of potential users, but also to take account of the prevailing institutional context, to undertake research in partnership with implementers and other key stakeholders, and to communicate results and emerging innovations effectively (SWITCH, 2008). Through the visioning and scenario analysis, city stakeholders have been encouraged to think about and assess the impact of the decisions that they take today on a range of possible futures, and to examine the barriers to the uptake of science in policy.

One component of the project focuses specifically on identifying and integrating appropriate productive reuse of urban water for agriculture into the policy, legislative, regulatory, urban planning and decision-making frameworks

of cities. This component is being implemented in Accra, Beijing and Lima, and linkages have been developed with Hamburg (van Veenhuizen et al., 2007).

### *Achievements and challenges*

An example of success is the Learning Alliance in Hamburg, Germany, where water has been put at the centre of development in an area of future urban expansion (SWITCH, 2008). The Learning Alliance clearly articulated that there were several problems that had to be solved and, through such conversations, trust and a sense of ownership in the Learning Alliance and its objectives were built up. The Learning Alliance now forms the basis for joint research, planning and action among four groups that were not previously well connected: the city administration, local citizens, urban water managers and planners, and researchers.

As with WASPA, the SWITCH Learning Alliances were externally initiated and not fully demand-driven, and are, so far, externally funded and not yet institutionalized. Furthermore, projects and activities related to integrated urban water management at city level were not clearly defined at the start because they were meant to be developed through the process, but this limited the possibility of attributing project funding to the activity. A similar problem was experienced in WASPA with the project funding agency insisting on detailed activities and budgets before the project had even started. It is, however, vital that in these processes multi-stakeholder platforms identify objectives quickly and start some joint activities, otherwise the energy of such platforms will diminish (Butterworth et al., 2008).

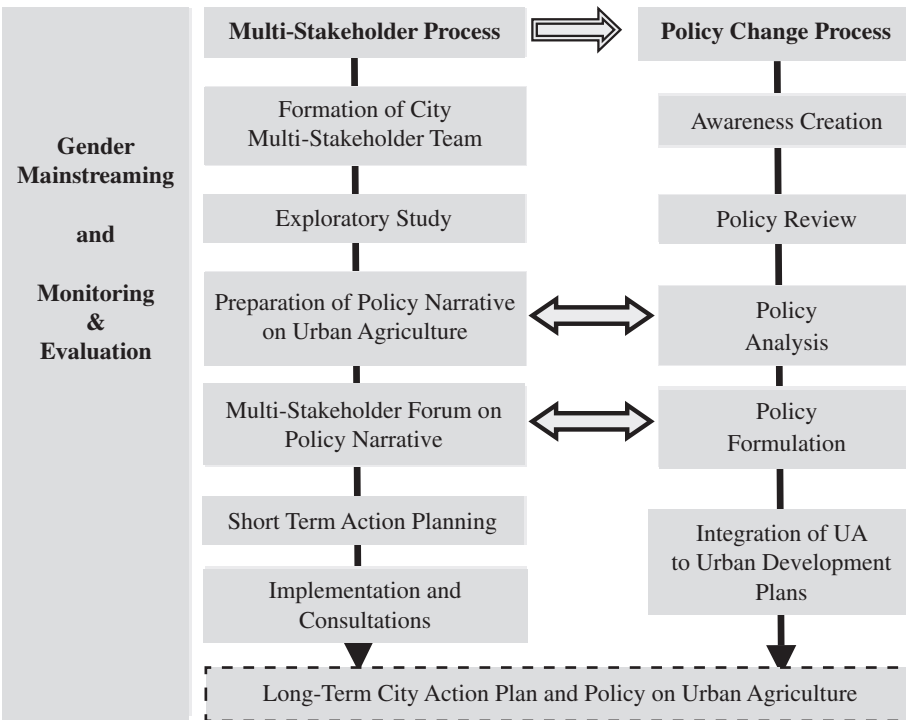
In the three cities where wastewater agriculture was the focus, van Veenhuizen et al. (2007) noted that there were both common and specific challenges. They reported that the process of developing joint action within a multi-stakeholder context requires time and needs to be adapted to the particular institutional arrangements and research and planning cultures of the different countries. Furthermore, for innovations to be scaled out and up, it is essential that there is effective process documentation, monitoring and evaluation (M&E), preferably in participatory mode, using tools such as outcome mapping, the use of micro-scenarios and knowledge management.

## **Resource Centres on Urban Agriculture and Food Security**

RUAF seeks to develop the capacities of stakeholders, strengthen collaboration and networking among them and facilitate access to information and the sharing of experiences. Through its 'Cities farming for the future' programme, it has established multi-stakeholder platforms in 20 pilot cities around the world in order to improve the productivity of urban and peri-urban agriculture, and to increase official recognition and support for the practice, which is an important

source of perishable food crops to cities in less developed countries and a source of livelihoods to urban poor. A particular problem that has to be addressed is that water resources are often contaminated with wastewater, the use of which is not officially sanctioned. Furthermore, farming is marginalized in municipal planning, with no legal framework to protect farmers, who often work without any formal structures such as farmers' organizations. As a result, it was perceived that a multi-stakeholder participatory approach should be applied (Drechsel et al., 2008) to address all these issues.

The MPAP approach, as conceived for West Africa at the onset of programme implementation, is schematically presented in Figure 18.2. It shows in particular how the policy change process could be integrated into the MPAP process to support policy outcomes which mainstream gender. The process pathway was modified for various cities within the region depending on the local policy environment.



**Figure 18.2** *Schematic of the MPAP approach in RUAF, West Africa*

Source: Cofie et al., 2005.

*Achievements and challenges*

RUAF in West Africa has had many achievements as well as broader successes associated with institutionalizing the process. It has:

- Informed policy-makers at the national ministerial level, urban agriculture stakeholders and the general public in Accra, Freetown, and Ibadan. The process has resulted in reasonable levels of commitment to promote urban agriculture, with recognition of the significance of wastewater irrigation and the need for safer practices.
- Increased capacities of local stakeholders in urban agriculture to appreciate the water-quality challenges and reduce the risks.
- Incorporated urban agriculture and informal irrigation into national irrigation and agriculture policies of Sierra Leone and Ghana with mention of the need to address water-quality issues pragmatically.
- Reviewed by-laws on urban agriculture which address safe use of wastewater through improved irrigation and agricultural practices.
- Developed guidelines for urban agriculture in Ghana, which cover how to achieve water-quality improvements on farm, applying safer irrigation and agriculture practices, and improving food safety.
- Institutionalized the National Best Urban Agriculture Farmers award in Ghana after 22 years of annual celebration and the next step is to use the adoption of safer practices as a criteria for selection.
- Secured funds for urban agriculture activities in Sierra Leone, demonstrating donor interest.
- Prompted curriculum development on urban agriculture, addressing safer irrigation practices in urban agriculture at the university level.

There were, of course, a number of significant challenges, including personal commitment versus institutional interest, which was also evident in WASPA. For instance, in some cities in the RUAF project, an institution with great power to initiate a necessary course of action did not have representation on the platform by an individual with commensurate commitment and position to effect institutional change. In other cases, the most committed individuals were from less powerful institutions. The level of capacity of stakeholders, including convening agencies, was an issue and sometimes there were conflicting interests within the platform.

## DISCUSSION

One key element that has a powerful influence over the effectiveness of multi-stakeholder processes in this area is the degree to which powers of decision-making and the management of financial resources have been devolved to the

administrative level at which the platform is constructed. All three processes took place at the city municipality/metropolitan level. As such the key stakeholders had some degree of autonomy over implementing decisions and the use of resources. However, in many instances devolution of responsibilities is not uniform for all the sectors interacting on wastewater agriculture. For instance, in the case of Accra, Ghana, wastewater service provision has been decentralized to the city-authority level, but this is not the case for water supply. Both agriculture and public health are represented at the city level via municipal departments, but policy and strategy decisions are still centralized. Thus, in the case of wastewater agriculture, decisions on wastewater management and the use of land and water resources for agriculture can be made at the city level for some scenarios of use, but certain sources of water are under the jurisdiction of the water or power utility, or under the water resources commission, all of which have centralized and sometimes autonomous functions outside of the administrative boundaries. Decisions on their use cannot be made if the stakeholder platform operates at the city level, unless there is vertical representation as well. This non-uniform devolution of responsibilities complicates the functioning of such platforms and processes, and overcoming the constraints requires a thorough knowledge of the governance framework under which wastewater agriculture functions.

A number of other factors critical to the success of multi-stakeholder platforms have been identified through analysis of the three case studies and other related processes (Dubbeling and de Zeeuw, 2007; Mitchell, 1997; Warner, 2006, 2007). These are listed below:

- The issues addressed must be pertinent to stakeholders.
- Institutionalization has to be built in from the outset.
- The process should be well planned with clarity about the aims, expected results, roles, responsibilities and time frame.
- Selecting the stakeholders and understanding their needs and positions is important, particularly those of less powerful groups.
- Early implementation of activities that produce concrete outputs will help to reinforce commitment and participation.
- Benefits must be widely understood and accepted to facilitate the paradigm shift needed in most multi-stakeholder processes.
- Monitoring and (self-)evaluation throughout the process by all stakeholders will result in improved learning and better outcomes.
- Regular formal and informal communication that creates transparency is critical to the process.
- Facilitation and conflict mediation skills are vital.
- Ideas and plans that deviate from current modes must be accommodated.
- Willingness to adapt to changing circumstances and uncertainty must be recognized.

- Trust, mutual respect and patience, especially in the face of frustration and slow progress, are key ingredients.

In addition, a lesson articulated by the SWITCH project, but evident in all three of the examples, was that there are critical questions that must be asked early in the process to ensure success (Box 18.1).

Several of these factors and questions have been amalgamated and are discussed in more detail below. Critical issues identified by the case studies centre around: the priorities of the stakeholders and those initiating the process; institutionalization; clarity on goals and management; stakeholder selection, involvement and representation; outputs and outcomes; and communication.

#### **Box 18.1 QUESTIONS TO BE CONSIDERED AT AN EARLY STAGE OF MULTI-STAKEHOLDER PROCESSES**

- How is the process to be funded, and costs and benefits shared?
- How will communication take place between stakeholders?
- How will capacity and training requirements be assessed and addressed?
- How will the problems around which the multi-stakeholder process is built be assessed?
- How will learning be assured both within and outside the platform?
- How will engagement with influential stakeholders outside the platform take place?
- How will the platform monitor and evaluate its performance?
- How will the process be documented to ensure that lessons are learnt and processes optimized in future?

### **External initiation and priorities**

All three multi-stakeholder processes were initiated by ‘outsiders’ (although it should be noted that they, too, are stakeholders) to address needs as they perceived them; whilst these issues were undoubtedly real they did not necessarily address the most pressing needs of all the local stakeholders (Drechsel et al., 2008). The salience of an issue is one of the key factors in the desire of a stakeholder to be part of a planning process; the absence of this may result in late entry or self-exclusion, not least because involvement takes time (Warner, 2006). It could be argued that any multi-stakeholder process that attempts to address issues that are not pertinent to all stakeholders should not take place, but this fails to recognize the fact that not all stakeholders have the same experiences and thus some may be concerned while others are not. Furthermore, the problem may not currently seem urgent but it may be prudent to initiate research and planning – for example, wastewater

management in a city may be manageable at present but as cities grow the sheer volume of waste will increase the difficulty.

The purpose of a multi-stakeholder process is to overcome this and to change attitudes. However, even if stakeholders do have an interest in the issue they may not be convinced that a multi-stakeholder process is the most appropriate way to resolve it. Therefore, good facilitation is essential and a level of awareness-raising is likely to be necessary.

## **Institutionalization**

The initiating and anchor agencies, and the processes they follow, influence the level of institutionalization that can be achieved. Success and long-term sustainability are helped by building on existing processes and depend on the anchor institution. Ramírez (2001) suggested that before initiating the process, platform convenors must analyse their own roles and objectives in terms of power, legitimacy and urgency. The issue of urgency relates to the perceived salience of the issue as discussed above. In RUAF, the main convenor at the city level was an international research organization (the International Water Management Institute, IWMI) and in WASPA it was IWMI and national non-governmental organizations. These organizations had limited power, which influenced the willingness of stakeholders to come to the table and their level of involvement. In WASPA, legitimacy could have been enhanced if the project had received the formal approval of central government departments, which emphasizes the importance of interlinked multi-level platforms as advocated in the Learning Alliance approach. With SWITCH, the level of commitment and progress varied depending on the institution that facilitated the process: where a local authority embraced the project, more progress and real impact was seen. The advantage of an independent research organization leading the process is that it is not perceived to be supporting existing power structures.

In emerging economies where civil society and the private sector still play only a minimal or marginal role, and government has a majority say in decisions, there is a need for the right government institution to be convinced of the usefulness and to be the anchor for the process. However, an external skilled facilitator is also required as they are perceived to be more neutral.

## **Clarity on goals and good management**

All multi-stakeholder processes, especially when externally initiated as projects, start with a set of goals. Ideally, as the SWITCH project highlighted, there is a need for establishing shared goals early on, but it is difficult to initiate the process without some predetermined goals. This may not be incompatible with participatory goal-setting provided the goals work at different levels and are not

mutually exclusive. For example, the project goal may be 'to encourage multiple stakeholders to engage in knowledge sharing and collaborative planning for improved wastewater management', while the multi-stakeholder platform goal may be vision-based (e.g. to improve the quality of water reaching farms by reducing inputs from hospitals). If goals cannot be agreed upon, then there is a fundamental problem that would suggest that the platform has either been created around an inappropriate issue or that additional preliminary work needed to be done to share opinions and to identify the appropriate challenge. In some such cases, conflict resolution and negotiation skills are likely to be needed, but such situations are rare and stakeholders are usually willing to discuss and seek pragmatic solutions. The WASPA project team realized that even more awareness-raising and joint activities to understand the issues around wastewater agriculture at the outset would have made the visioning, planning and implementation far smoother.

The goals need to be achievable to avoid disappointment if expectations are raised too high (Warner, 2006). In the projects reviewed, expectations tended to be high, aiming for policy changes, demand-led research and implementation of action plans. Only some of these expectations were met but in all cases stakeholders commented that the multi-stakeholder platforms had contributed to their knowledge and capacity, an outcome which should not be underestimated. They also brought together individuals and organizations who had rarely or ever met in the past. Of course, this can be seen as a form of tokenism, as observed by Arnstein (1969), but not if it is part of a legitimate process to stimulate understanding, capacity and ultimately collaboration, in which case it is a necessary first step.

Goals must be time-bound and supported by a negotiated framework of roles and responsibilities that will result in their realization. The RUAF project found that the results of the process can be disappointing if there is poor management, inadequate planning and insufficient transparency. There is, however, a balance to be struck between being 'well organized' and 'overly prescriptive', which can make the process very slow and resource-intensive, and may alienate stakeholders because they feel that everything has already been decided and they are just pawns in the process to legitimize predetermined concepts and activities. The optimal situation is one in which a minimum set of criteria are provided for the platform or process that ensure that it goes beyond rhetoric and tokenism. The specific structure, mandate, and terms and conditions should be one of the first things decided by the stakeholders themselves.

## **Stakeholder involvement and representation**

The importance of stakeholder selection, analysis and inclusion are naturally central to an effective multi-stakeholder process. All three projects were concerned with how to ensure that as many stakeholders as possible were represented but inevitably some will be overlooked and others will exclude themselves. One approach is to

encourage stakeholders to play an active role but it may be more productive to work with those who perceive the benefits and want to engage. The danger is that stakeholder groups who are normally excluded from decision-making processes, but who are highly affected by decisions, may exclude themselves for various reasons, and special measures might be needed to overcome this (Verhagen et al., 2008).

Even where the platform appears to be representative it is not always certain that the delegate is adequately representing his or her constituency. As the RUAF project found, it is sometimes difficult to differentiate between the involvement of the individual and the organization, likewise it is hard to determine whose views they represent without meeting the entire group. Multi-stakeholder platforms therefore have a tendency to 'federate' often competing local interests and do not provide a clear understanding of individual motivations. This is especially true when there is no mechanism to select representatives and provide exchanges between the stakeholder group and their spokesperson. There are means to overcome this, such as establishing or revitalizing local-level groups (farmers' groups, village committees, water-user associations), as was attempted in WASPA, but this will only go some way to addressing the challenges inherent in representation as a mode of decision-making. The facilitator could also facilitate platforms at lower levels, but this may not be sustainable if these agents are external (i.e. project based), and if they are internal (i.e. other stakeholders) it may not overcome the existing power imbalances.

### **Tangible outputs, outcomes and good communication**

The purpose of multi-stakeholder platforms is to reach consensus about problem definitions and solutions. Although this initial stage may be slow and frustrating, because developing a commonly shared vision, agreeing on objectives and establishing effective communication between members takes time and effort, it should not be rushed as it is central to the ultimate fairness, transparency and efficacy of the platform (Verhagen et al., 2008). However, that does not mean that outputs should be suspended until all aspects of the platform structure have been defined and a full plan written. Many convenors of multi-stakeholder platforms have found that stakeholders more readily converge around tangible outputs which they perceive to be real benefits. It is suggested that such physical outputs should be planned for at the outset (although the specifics should be decided with the stakeholders) to give impetus to the process by demonstrating the benefits (Evans and Varma, 2009). The crux is how fast to proceed to demonstrate results while at the same time proceeding slowly enough to have true (or acceptable) participation in setting the objectives. Lessons from WASPA suggest that the ideal is to create an initial vision and plan early on (which was not done in this instance) and to select 'quick wins' that are unlikely to negatively impact on any stakeholder or other component of the plan, but which demonstrate commitment to the process.

Attaining an optimal mix and timing is therefore critical to demonstrate valid results that have the support of all the stakeholders, especially those with the least influence. The degree of true participation is affected by how the platform perceives the initiator's attitude towards it. Equally, it is time related, especially on platforms where there is wide diversity in experience and influence of stakeholders, who need time to acclimatize and feel comfortable.

Maintaining interest can also be achieved with targeted and appropriate communication. All multi-stakeholder processes require adequate knowledge sharing and transparency, which can be supported by the early establishment of a communications strategy. This should include a variety of components to appeal to the different stakeholders, including newsletters, working papers, policy briefs, posters, calendars, drama, newspaper articles, presentations, websites and exposure visits.

## Scaling-up

Scaling-up has so far proven to be one of the most difficult components for the Learning Alliances to achieve. The causes of this need more detailed analysis but at a superficial level some limiting factors can be articulated. Firstly, investment in Learning Alliances is high, mainly in terms of time but also financial, which limits them. In the cases presented here, all three projects were also engaged in participatory action planning which can be resource (time) intensive and although resulting in positive local outcomes this may be to the detriment of wider impacts. The second reason that scaling-up did not take place was that the innovations were simply not captivating enough. Thirdly, it is possible that there was a failure to engage adequately at higher political levels. This was definitely the case in WASPA but much less so in RUAF, which resulted in some policy changes. The reasons for this are complex but relate again to time, resources, political clout within the project, decentralization and the need to work closely with local government, especially on the action plans, as wastewater reuse is not a priority at national level.

## Implications for wastewater irrigation

Many of these points may be equally applicable to a multi-stakeholder process around any issue. What can these case studies add to our knowledge about how to improve wastewater management for productive use in agriculture? Reviewing why multi-stakeholder processes for wastewater irrigation are different helps in this:

- Wastewater irrigation cuts across typical sectoral and geographical policy and planning boundaries.

- Stakeholders may have radically different viewpoints, not just in opinions on wastewater use but also in understanding and awareness of current practices and potential health and environmental risks and benefits.
- For some stakeholders, concerns over health and environmental risks make even discussing the issue untenable, especially where it is actually illegal.

These characteristics serve to heighten the relevance of the findings, because they create conditions that require negotiation, discussion, shared learning and mutual solution finding, more so than in many other sectors. For example, the second and third points reiterate the fact that initiation may need to be external as there is unlikely to be sufficient impetus locally because of differing opinions, but also that good facilitation, representation and communication can result in shared goals and significant outcomes.

In addition, as explained above, it must be remembered that the degree of decentralization and devolution of governance systems, especially when this is non-uniform across sectors, have particular implications for wastewater irrigation which necessitates inter-sectoral integration.

## CONCLUSIONS

Wastewater management and reuse in less developed countries is spontaneous and often occurs in an institutional vacuum with poor planning processes. Under these conditions multi-stakeholder platforms play the role of convening various actors to solicit their inputs in the belief that such joint action and commitment are necessary ingredients for improving specific wastewater challenges.

Stakeholders' views on wastewater management and reuse are variously influenced by their perceptions of its risks and benefits as a resource. Thus, it is imperative that all voices are heard, for which purpose multi-stakeholder platforms are crucial. There is, however, no blueprint for the optimal functioning of a multi-stakeholder platform or process; it is dependent on the local socio-economic and cultural contexts, and the platform has to be woven into the existing institutional fabric if it is to have impact (Drechsel et al., 2008).

Understanding the metaphorical 'beast' to which Warner (2007) likens multi-stakeholder processes, and breeding its good traits, will ensure that future multi-stakeholder processes have maximum effect and do not simply become the rhetoric of projects and programmes wishing to justify their actions. Within the wastewater-agriculture sector, multi-stakeholder processes have not yet been extensively used. In the three case studies described here (WASPA, RUAF and SWITCH), some successes are recognized, but practitioners need to learn how to effectively operationalize and sustain such platforms, in particular, making them less time-consuming and resource-intensive, realistic in their goals, and inclusive. Solutions will be more easily identified and effectively implemented if such

platforms can capture and make use of the knowledge, experience and desires of all relevant stakeholders.

## NOTE

- 1 Individuals, groups or institutions that are concerned with, or have an interest in, a particular issue or systems, at any level in society and of any size, organized or disorganized (Grimble and Wellard, 1997).

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