Researchers as actors in urban water governance? Perspectives on learning alliances as an innovative mechanism for change

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Abstract: Learning alliances (LA) are an innovative researcher-initiated intervention in urban water management. Their design implies that researchers actively engage with urban water management and governance issues. Researchers' views and their role in LA are considered alongside views from 'city stakeholders'. Findings from a series of interviews and observations conducted during the course of the Switch project are analysed using key elements of an effective engagement process derived from literature on cross-sectoral partnerships and strategic alliances. The narrative moves through the design and conceptualisation of the LA approach at the start of the project to the formation and operation of city LAs, in the context of decision-making relating to urban water management. The interviews indicated not only acceptance of the LA concept in the context of the need for technical innovation, but also that many actors see the potential for LA to engage with water governance issues. The contribution concludes with a summary of the challenges and lessons from the Switch experience of implementing the LA concept for more integrated urban water management.

Keywords: learning alliances; LAs; action research; water management.

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1 Introduction

There is a growing interest in the results from applying newer governance models to water management, such as 'neo-liberalism' in the Philippines (Fisher, 2009) and participation models in China (Enserink and Koppenjan, 2007). Moreover, following on the lead of researchers working in the social and health sectors (Walter et al., 2003) and natural resources conservation (Stayeart and Jiggins, 2007) some researchers in the water sector are seeking to increase their impact by engaging in action-research and social learning, working with decision makers and planners to influence the way that water is managed as part of water governance in cities (Salgadoa et al., 2008; Brown, 2008; Pearson et al., 2010). The majority of the Switch project research expertise comes from a technical and water engineering background, but the project design included multi-stakeholder platforms known as city learning alliances (LAs), the subject of this article. vanDjick's article on changes in urban water paradigms in this issue introduces city LAs and the Switch project.

2 LAs and water governance

The intention of a LA is to establish a multi-stakeholder process at city level to encourage key actors, with inputs from researchers, to engage and innovate in the direction of integration of water management that is more sustainable and equitable. Researchers represent organisations which have conventionally been marginal to much urban water management decision-making. LA are a management innovation from the private sector emerging in the context of globalisation and the knowledge economy. The importance of a social learning process in which researchers play a key role, is recognised in the context of complex environmental resource management situations (Pahl-Wostl and Hare, 2004; Ison et al., 2007). The influence that power relations have upon learning is also emphasised in organisational change research (Contu and Wilmott, 2003). Researchers are thus expected to have more influence on decision making. Figures 1 and 2 illustrate the one of the changes that was expected of the LAs.

Figure 1 Research scientists conduct independent research and share results at the end

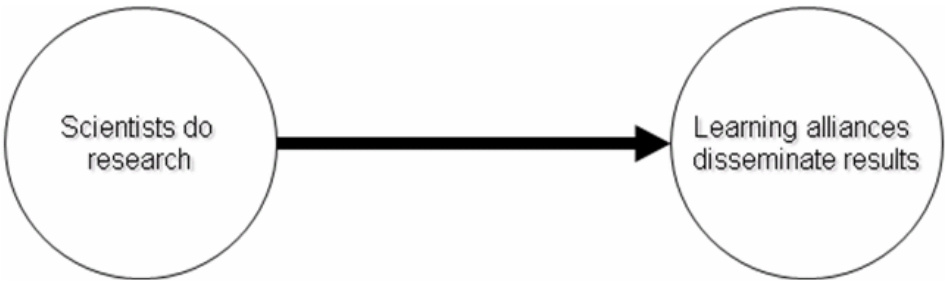

Figure 2 Research scientists part of LA and working together with others to do research while continuously sharing research

LA as multi-stakeholder processes centred on social learning and knowledge exchange have been used in earlier integrated water management projects in the Middle East (Moriarty et al., 2005; Moriarty et al., 2007a, 2007b), a global project on rural water and productive used (Penning de Vries, 2007) and projects focusing on specific aspects of the urban water cycle (Smits et al., 2009a). However, Switch is unique in promoting the LA approach in the urban water sector, in large cities representing a wide range of cultural political and economic contexts.

3 Conceptual underpinnings of LAs

The concepts underpinning the Switch LA approach are set out in Morris (2006) etc., Butterworth and Morris (2007), Moriarty (2007), Verhagen et al. (2008) and Butterworth et al. (2008). At the design stage arguments for a LA were related to ideas about functional integration in a complex situation, cost-effective research, good governance and opportunities for influencing water governance.

LAs are based on the premise that when tackling a complex situation a group of relevant people working interactively are more likely to come up with better options than a clever individual operating in a command and control situation. The underlying assumption of the project design was that complex problems, like urban water management and its governance, require creative solutions that involve new types of interaction and engagement between experienced researchers and other stakeholders with key responsibilities and interest in the urban water sector. For some water engineers this was a paradigm shift, challenging the notion that a single expert or small group of experts could effectively steer a process as complex as more integrated management of the urban water cycle. For researchers this implied engaging with the real world of decision making and engaging in a process rather than focusing on their products (Lomas, 2000).

Secondly, LA were seen as a key for getting better returns to donor investments in research. The background was that much research had been funded which had not been put into use. Hence, a LA was seen as a functional action-research mechanism for improving the application of research towards an agreed objective; integrated urban water management (IUWM). “The central premise of the LA approach is that, by giving as much attention to the *processes* of innovating and scaling up innovation as is normally given to the subject of the innovation itself, barriers to uptake and replication can be overcome” [Moriarty et al., (2005), p.5]. This perspective was re-enforced by an emphatic statement from the EU representative at the end of the project’s first scientific

conference in 2006, who after hearing presentations about the plans for research told delegates "Switch is not a [conventional] research project; it is about getting existing research into use".

Thirdly, the moral case for LA was made, based on ideas about good governance. As facilitators of innovation, Switch LA were expected to promote good governance in the sense of "greater accountability, participation, transparency and equity in the development process" [Morris, (2006), p.1].

In year one, the idea was that city LAs might commission research activities from the project partners, as a process of demand-led research (Morris, 2006). By year two, there could be more emphasis on stakeholders collaborating as part of an action research process, through a project briefing paper (Moriarty, 2007). By year three, LAs were expected to deliver a wider range of benefits including fostering 'a new form of demand-driven research', improve communications between water sector institutions, increase the scientific basis for decision making, help break down political barriers to solving urban water issues, allow better representation of all stakeholders in the decision-making processes and show to other sectors (e.g., public health, agriculture and spatial planning) that the LA approach is feasible and results in more rapid adoption.

4 The project actors

At the project design stage a project briefing paper (Morris, 2006) identified three main types of actors involved in Switch city LA as:

1 'Project consortium members' (mainly researchers) who 'aspire to more IUWM that is sustainable, less risk prone and more equitable'.

2 'Stakeholders with interests in IUWM, and particularly those associated with project themes or work packages being focused on the city' (ibid) (e.g., city planners, regulators, utility operators, politicians and civil society organisations).

3 'A coordinator' – head chef – to champion the alliance, and team of enthusiastic co-workers to support him or her (the coordinator was a researcher in the project consortium who was expected to coordinate and link research to the LA, working with the LA facilitator and other researchers).

Drawing on views expressed by these three actor categories this contribution describes the project experience with the LA approach. The establishment of the LA was a challenge during the first year of Switch. Project resources had not been specifically allocated for this task. However, in early 2007 the project management team allocated resources specifically for engaging LA facilitators and operational costs such as workshops and communications. At this point each participating city had a coordinator who was a senior researcher. In most cases the city coordinators identified the individuals to facilitate their LAs.

5 Methodology and analytical framework

A series of semi-structured interviews using open-ended questions were conducted at different stages of the project with a cross-section of project actors. The interviews were

conducted within the cities as part of city assessments undertaken in mid-2008 and early 2010, and when researchers and others actors were participating in project meetings held between January 2007 and October 2010. The authors were also involved in the internal city assessments, which involved visits to cities and interviews with city stakeholders and researchers involved in these cities. Interviews with project actors are supplemented by insider observations. These observations were made during attendance of various meetings, during training of the city LA facilitators, in work packages covering socio-economic aspects of urban water management and in workshops and informal interactions with various project actors. The approach to analysis is inductive; the views of the three main stakeholder categories and the observations made have been used by the authors to construct an actor-oriented narrative which identifies some common ideas, trends in the evolution of LA and outcomes from the LA process. Actor perceptions and observations are considered in relation to some key elements for an effective process for multi-stakeholder innovation which include:

- a deliberate design and implementation process, including effective facilitation
- considered selection of partners
- partners develop acceptable procedures for implementation
- partners grapple with complexity in a process of social learning
- effort that is persistent and unusually demanding
- effective relations between organisations are fostered and levels of engagement increase over time
- partners deliberately adjust their roles to sustain momentum.

These core elements are also part of an ideal three-stage stakeholder engagement process that would constitute successful action-research. The process starts with an altruistic phase when potential partners are prepared to commit and provide inputs into an uncertain multi-stakeholder venture; in the case of Switch this would be to commit to participation in a city LA. This progress, through increased engagement and testing of the trust by the parties involved into the second stage of a series of transactions with some expectation of future benefit. This future benefit which may be a general goal that has been agreed as part of the transactional process, such as an agreed vision and or strategy for water management in the city. The transactions might include negotiations about who would contribute and analyse the data needed for moving from a vision into a realistic strategy. The process reaches its integrative stage when tangible results are achieved – which in this case may be starting to implement an agreed strategy for improving water management, perhaps involving both technical and institutional innovation. This might involve developers, planners, regulators and service operators working together as part of an urban regeneration project or urban expansion.

6 Establishing Switch city LAs

Starting in 2006, Switch established city LAs in nine cities in Europe (Birmingham, Hamburg and Lodz), Latin America (Belo Horizonte, Cali and Lima), Africa and the

middle-east (Accra, Alexandria and Tel Aviv). Each city LA developed and functioned somewhat uniquely. Activities undertaken in many city LAs are summarised in Box 1.

The range of activities undertaken in city LAs is summarised in Box 1.

Box 1 Summary of LA related activities

1	Stakeholder analysis and scoping – to identify who to involve in city LAs
2	'Start-up/launching' meetings – in most cities to introduce stakeholders to the LA concept
3	Topic specific workshops/meetings – often with a training element, to build the capacity
4	Workshops to develop a vision for water in the city and give training and guidance in strategic planning
5	LA meetings (e.g., annual or twice yearly) to report on progress with Switch activities
6	Networking and presentations by LA facilitators
7	Meetings with and training of community-based organisations (in Belo-Horizonte, Accra and Lima)
8	Involvement in city regeneration initiatives – mainly Hamburg, Birmingham and Lodz
9	Planning on demonstrations of integrated urban water management
10	Communications activities, including setting up city websites to link members of the city LA

The first challenge faced was the concept of demand-led research which proved to be difficult to implement in all participating cities. The main reason was the EU process and rules for project formulation and how senior researchers worked with these. The research project proposal format required partners in the consortium to sign up to topics and research deliverables. Rather than form generic deliverables that could be shaped through an interactive project process and dialogue with city stakeholders, the tendency was to define specific deliverables, or research products, including PhDs on specific topics. This was done prior to the establishment of the LAs. EU rules on matching funding for research were a further hindrance to implementing demand-led research. The matching funding rule not only imposed practical restrictions on researchers moving between cities, but encouraged funding for research which might have been research driven rather than demand-led that was already partly funded from other sources. Further, the project design and related rules regarding types of partner organisations did not provide a basis for city LA to hold part of the project budget with which to commission research (including subcontracting and additional partners where necessary).

Secondly, the idea of a 'coordinator and team of enthusiastic co-workers' (Morris, 2006) to initiate city LAs proved difficult to get going. At project inception in 2006, there was not a specific budget line to design, establish and facilitate the city LAs, hence any activity in this direction needed funding from other budgets linked to specific project deliverables. There was an expectation of project management, which proved naïve in retrospect, that because LAs were a key part of the project design, research budget holders would use their resources to support the establishment of them and/or that participating cities (as potential beneficiaries) would fund LAs. In the second year (2007) a budget line was created and LA facilitators would be recruited.

Each LA operated within its specific historical, cultural, demographic, institutional, infrastructural, economic and political context. This context for the participating Latin American cities is described in Smits et al. (2009b). In these cities water supply services had been developed to a relatively advanced level, and the remaining engineering and

institutional challenges related to waste and storm water management. This therefore provided the main focus for project intervention within the water cycle.

The context for the participating European cities was ageing infrastructure, relatively well developed water services and institutions with clearly defined functions, relatively weak civil society engagement in the water sector, and regeneration initiatives ongoing during the lifetime of the project. Linking Switch interventions with ongoing urban re-generation projects was not explicitly mentioned in the project design or LA concept papers, but this became part of the agenda in Hamburg, Birmingham and Lodz where the city LAs were involved in urban regeneration programmes, seeing these as great opportunities for introducing new thinking about urban water management.

In the other cities, Accra, Alexandria, Beijing and Tel Aviv, each LA process was shaped by a fairly unique context. In Accra rapid urbanisation, high levels of poverty, differentiated and patchy water and sanitation service provision, weak linkages between different agencies, and weak municipal involvement in water services meant that engagement with the municipal authorities across all aspects of the water cycle became a major focus of the LA, including strategic planning. In Alexandria, where water had been and continued to be nationally a high profile issue, there was a complex and highly evolved institutional framework for water management. In Beijing, the sheer size of the city and complexity of its water management and the institutions involved, together with rules about how business is done, made the idea of a city LA unworkable. The key actors instead focused on a part of the water cycle where innovation could address integration issues. In Tel Aviv, in the context of water being a highly strategic and sensitive issue, a centralised and well engineered modern and evolving water management system provided an opportunity to show case and further develop technology as a demonstration that included a research element.

Achieving meaningful engagement between researchers and other stakeholders around water management problems was a challenge. Water management issues were raised in the LA meetings, but the research and technical expertise was not always available to enable the issues to be fully explored. More typically city LAs were a forum into which researchers, as recognised experts, could introduce their research ideas. Project researchers could decide for themselves whether or not to attend city LA meetings. To address the relatively weak link between research activities and water management issues in specific cities, in the latter half of 2007, project management explicitly supported efforts to influence city water management planning processes. This was done via visioning workshops to present a vision of what Switch was trying to achieve and how they might be involved. Findings are narrated under the key elements required for an effective multi-stakeholder action research process, phrased as nine questions.

7 A deliberate design and implementation process – with effective facilitation?

The Switch project document provided a relatively clear design for implementation of the project's consortium, the term used to describe the contractual relations between a range of organisations receiving EU funding for project activities. Nevertheless, the scale and geographical spread of the project and the breadth of its mandate provided space for the details of implementation to be shaped in each city and indeed within each work package.

However, senior researchers holding budgets and making decisions could justify producing research outputs using a conventional approach, rather than engage in an action research and learning process. Secondly the lack of an initial budgetary provision for LAs to operate was a further risk. Despite these risks, the views of researchers and LA facilitators, over the period of project implementation, suggest that in most cities a critical mass of the partners worked, progressively, towards achieving a clear process for stakeholder engagement.

In January 2007, during the project's first Scientific Meeting in Birmingham attended by project researchers (other stakeholders were not present), a cross-section of these researchers gave their views on LAs. Researchers were asked: "What is your understanding of LAs?" Many had quite clear expectations about the functions and characteristics of LAs, although different aspects were emphasised. Some responses emphasised general communication and collaboration processes describing a LA as; "a place where people mix and talk and learn from each other", and "a vehicle for establishing collaboration and the inclusion of different stakeholder groups". Other researchers saw LAs as providing research outcomes such as; "dissemination of research results" or "a way to tap into different sources of knowledge, but also ways of securing more funding and ensuring successful application of innovations".

In December 2007, a second survey of researchers attending the project's 2nd scientific conference in Tel Aviv was undertaken (Sutherland and Darteh, 2008). Asking the same question elicited responses that indicated project researchers were thinking with greater specificity about what LAs might do or achieve within the lifetime of the project. By this time some of the senior project researchers interviewed had played an active role in getting city LAs established. Researchers indicated that LAs should articulate city needs and discuss issues of interest.

Two years later, 13 researchers attending the project's 4th scientific conference in Delft were interviewed in a 3rd survey. The most striking development in researcher's views was an increased emphasis on LAs as an effective multi-stakeholder process that could focus on more specific purposes, going beyond providing a platform for dissemination to and communication with stakeholders. Some examples of the focus of LA facilitators were:

> "The real problem is not a technical problem, but the lack of institutional collaboration, long term visions and openness to change and innovation. LA could help overcome these problems". (Cali LA Facilitator)

> "LA are working at local level to bring together researchers and research users to do research together, analyse situations, test solutions." (Lima LA Facilitator) and provide feedback (Birmingham LA Facilitator)

Researcher statements included; "Stakeholders put in resources – time, funds, effort, share ideas, challenges, problems and solutions and learn from one another"; "the LA is a network of relevant stakeholders and to get into action, you need all who are involved in the problem to be on board"; "action research, as opposed to purely academic or laboratory research, is not possible without involvement of stakeholders".

By 2009, some researchers attending the City Water summit in Delft were thinking about LAs more specifically in relation to urban water governance. One researcher felt that "LAs should not be decision making bodies", implying that they should be linked to but separate from water governance. Another researcher stressed the need for a multi-stakeholder platform that brought decision makers together to address practical

issues; the LA is about everyone working together for the common good. The policy and legislation aspect is crucial. One researcher stated "the LA is a methodology aimed to improve water management in the city by involving stakeholders in the decision making process". Another researcher suggested a more formal decision making role "a kind of parliament for discussing water issues and making decisions so far as it is possible".

By 2009, project research management team members interviewed, having received criticism from external reviewers about the work packages not being well integrated, also emphasised the importance of LAs for project effectiveness. A member of the management team emphasised the role of LAs in ensuring more demand led-research processes in cities and pointed to the potential of LAs to influence planning and decision-making; "LAs are the method for linking scientists to practitioners and people in cities to ensure our science is relevant, and to bring together city participants to plan together in a more integrated way".

Four years into the five year project evidenced more reflection by the management team on LAs. One member contrasted the theories about LAs with their actual functioning; "in theory the LA is a multi-stakeholder platform to define research needs, steer research, upscale innovations – both horizontal and vertical learning and integration, however, upscaling of innovations is the weakest point".

7.1 Effective facilitation?

Effective facilitation is a key element for successful change management and action-research processes. The evidence from Switch supports this view. Where funding and/or human capacity for facilitation was not in place, the city LAs have not become well established, or not established at all. For example in 2009 a project researcher observed "getting a funded LA facilitator is a challenge. This is not the case in this city, and so the LA is not working".

The importance of funding an effective facilitation process is evidenced by the project management decision-making about continuing to fund LA activities mid-way through the project, following the earlier decision in the first year to provide funding. In November 2009 a city stakeholder from Hamburg lamented the fact the LA facilitator had left stating "I would like it if the meetings were more frequent. I don't know what will happen now that X has left. He did good work and the information he provided was useful for me. X went away, there has been very little communication. Before he put together a lot of information and this was useful for me". A city stakeholder from Accra also noted the role of the LA facilitator in response to the question, how has your involvement changed over time he explained "I have seen Y's confidence grow over time and that of the others who work with her".

7.2 Considered selection of partners?

Selection of the right partners is emphasised in literature on cross-sectoral partnerships (Le Ber and Branzei, 2009). In the Switch project, selection of partners for action-research and learning was undertaken at two main levels; selecting research partners and selecting other stakeholder partners within cities. In both cases partners were selected mainly by the project researchers and LA facilitators. Some partners were drawn into the LA process, as the project ideas were worked out as an organic process, both within the project consortium and in each of the cities.

The core group of research partner organisations were selected during project design. The process of putting together the consortium was based to a great extent on using existing personal networks to make contact and from there researchers were drawn into the project for a range of motivations. To a great extent the individual researchers working in the project self-selected because of what the project had to offer that was aligned with their interests.

A researcher based in Europe explained in 2010: "My involvement in this project was purely by chance. We had a relationship with the Ouagadougou School of engineering and a student doing a study of GIS on urban agriculture had a link with one of the consortium partners. That person gave my name and I joined the first meeting. I was attracted to the mix of sciences – the social sciences with the harder sciences to get the two different approaches together for added value and synergy".

Many of the researchers became involved because senior researchers in their organisations were already involved, and were also interested in what the project had to offer. Some were specifically attracted by the LA concept. A researcher interviewed at the final Scientific Meeting held in Lodz in 2010 recalled "I attended the first meeting and met X and Y. I was attracted by the LA idea. My first job after my PhD was working with stakeholders and I wanted more of this type of interaction". Other researchers interviewed at the same meeting, asked how they became involved in Switch mentioned that their organisation was involved at the proposal stage.

Use of the internet to bring in new organisations was also used. An EU-based researcher explained, "a researcher Googled 'Water management' and found our research group at Middlesex University. She then emailed the head of our group who contacted me. I wanted to do research that was useful and work with stakeholders to get results".

The Switch project consortium members were mostly new to each other and the partners were selected for their science reputation rather than their ability to set up and manage a city LA. This situation meant many of the senior researchers needed to be convinced of the need to recruit LA facilitators. Moreover, because the facilitators recruited were in most cases younger junior and part-time, and the senior researcher was clearly the boss, this limited the extent of their initiative and activities in some cities.

Reflecting on the composition of their city LA a researcher noted "At first I thought representation should be broad to include various organisations not directly involved in water management. I later came back to the view that the LA should cover mainly water management, urban planning and ecological actors as the most important ones. During the scoping these water related actors were defined, and then the LA was enlarged to include actors beyond the municipality, due to different responsibilities for different rivers". This statement is indicative of the layers of complexity that build up over time when addressing the challenge of bringing all the relevant stakeholders together to address urban water management issues.

The idea of achieving broad and balanced representation was also emphasised as being important by one researcher: "broad representation, not too much from government, a few researchers, NGOs and concerned citizens". This suggests a view that the criteria for selecting of LA partners did not only look at issues of competence or trust, but at achieving a balance of different interests. In some cities, notably Lodz, Cali and Birmingham, efforts were made to bring private property developers into the LA process. These developers did not have a specific institutional mandate related to water management, but were seen as an opportunity for getting water management research ideas and products into practice.

7.3 Partners develop acceptable procedures for implementation?

One of the challenges in multi-stakeholder, interdisciplinary or cross-sectoral initiatives is agreeing the rules of the game, and indeed agreeing a common language for communication between the various actors. The Switch project did not employ explicit strategies for this. Apart from the project proposal and some training on facilitation during the second year there were no set guidelines about how to establish and manage a city LA that would undertake action research. This challenge was perhaps one of the most daunting, and in many ways was not tackled head-on during project implementation. Instead of using the city LA as a focal point of interaction, the research actors within the project gravitated towards interactions with other researchers.

In the project's fourth year a City Summit was organised in Delft. The outcome was a success in terms of information sharing and motivation of city leaders in the direction of more sustainable urban water management in the cities represented. However, the question of how city LAs should operate to support the desired direction of change was not fully explored.

Sometimes there was uneasiness about using the term LA. For example in Tel Aviv the term water club was chosen instead. In Alexandria, researchers indicated that the term LA did not sound official or serious enough and more official sounding names were suggested. In spite of these challenges, LAs were established in most of the cities, and the operational procedures were worked out in practice and in context. In most Switch cities, as part of the project design, the LA was involved in research demonstrations.

7.4 Partners grapple with complexity in a process of social learning?

An international project like Switch provides great potential for a complex process of learning and exchange of viewpoints and knowledge, to realise some of this potential, the significant barriers already mentioned needed to be addressed during project implementation. Implementation includes both managing the LA process in each city and the process of learning between different cities. Part of managing complexity is managing relationships and interactions. This is illustrated in a comment from a city stakeholder in Hamburg in 2009 that "*there are so many stakeholders and also the project is only for one small part of Hamburg*".

Grappling with complexity also involved managing differences in languages, power and other aspects of social differentiation. Hence, Belo Horizonte's LA facilitator felt that the city LA could help in "overcoming political and social issues in bringing different groups together".

The project design assumed that understanding complex problems in a particular city could be increased by exposing LA members to experience from other cities. However, this is difficult to realise within the lifespan of a project. One researcher interviewed in 2010 stated "it is a huge project and this makes it hard to have an overview, we are all on just a bit of it, a lot of information we are not aware of because it is simply too big". Even the project website does not appear to have met the expectations of some project actors. In 2009 a LA facilitator commented "getting information and ideas from other cities to feed into the LA meetings is a challenge. In this respect not having a budget to travel does not help, and the project website is not easy to use either".

7.5 Effective relations between organisations fostered and levels of engagement increased?

The project had a triple challenge in fostering effective relations and engagement; between key actors (including researchers) in the participating cities, between the researchers within the consortium and between the participating cities and also the international researchers not directly involved in these cities (global LA).

A premise underpinning the Switch project design was that organisational fragmentation was a major barrier to achieving more IUWM in most cities. In the three participating Latin America cities, where a relatively more uniform and relatively progressive governance framework already existed, the need to achieve fuller integration and improve relations between organisations and actors was flagged (Smits et al., 2009b). In Birmingham, the UK centralised water governance arrangements made the task of integration at the city level particularly challenging. The differing national water governance contexts and the influence this has on city LAs were emphasised in 2009 by an EU-based researcher who had engaged with Switch city LA in Brazil and the UK: "Some LAs are more structured than others. For example in Belo Horizonte the LA is more structured and owned by the municipality and the university works from within the framework. In Birmingham the LA has less structure, each group has its own vested interests so it is more difficult to have a major achievement".

In the other cities (Alexandria, Tel Aviv, Beijing, Chongqing and Accra) the water governance arrangements were more specifically linked to rapid urbanisation creating high levels of demand on water supply and sanitation services, with increasing competition between various uses of water and relatively more opportunities for technical innovation.

In 2009 a city representative from Tel Aviv commented "we found there was no need for all those meetings". The remarks suggest progress in building relations, but the last one suggests that more progress is made when sub-groups in the city focus on a specific task, such as the strategic planning or the application of the technical research.

In Accra the new Mayor explained in 2009 "I got involved when I took over as the new Chief Executive of the Metropolitan Assembly. Another city representative from Accra emphasised the challenge of linking the LA to levels of decision-making, particularly between the city level and national level"; "*it requires buy-in from decision makers and changing of attitudes among public and municipal departments. Normally water issues are dealt with at national level and city planners don't deal with each other daily. We need to create linkages between the different levels*". During the Accra city assessment in 2010 one stakeholder remarked "*from attending meetings I realised that there were departments that are doing their own thing especially where there should have been collaboration. Our eyes are being opened that is better to collaborate and have a strong link between the assembly and other stakeholders*".

A city stakeholder from Lodz in 2009 gave her experience, emphasising that the Switch researchers differ from their peers in terms of engaging with the city. "I was very shocked to find that the attitude in the university is that we cannot achieve change in the city. They are interested only in their lab results. In the Switch team the attitude is very different and there is a positive energy: a supportive environment and they say let's do it!"

To address concerns raised by an external review of the project, in 2009 project management formed an integrator team. In practice the team did not develop and

movements towards integrated were largely voluntary. In retrospect, a project inception report or meeting might have addressed the risk of poor integration at an early stage, as by the time the issue was raised the direction of research in the work packages had already been set.

The City Futures Summit was a key tool for getting a buy-in to the overall vision of Switch and could have helped create greater buy-in if it had taken place earlier in the project. A meeting in Zaragoza was another opportunity where delegations from Switch cities met each other. A project communications strategy was produced. There was a newsletter occasionally produced but that was a bit one way.

7.6 Effort that is persistent and unusually demanding – building consensus?

In the earlier part of the project not all project researchers were committed to engaging persistently in a demanding process. One researcher commented in 2007 that "existing cities are difficult to change, we should focus on building new cities". A different researcher stated "I'm not interested in it (i.e. the LA) yet. I prefer to do my research and let other people give training to the stakeholders". A third researcher interviewed stated "to be innovative, the technologies should be leading. Now its more like the tail wagging the dog"; implying that researchers should be clearly in the driving seat as the experts.

More evidence of researcher awareness of the need for persistence from all three categories of project actors came from interviews undertaken in early 2009. For example, a younger researcher base in Lodz reflected that "getting data is very difficult and requires a lot of perseverance. At first, people wanted us to pay for the data and we needed to convince them that it was a good thing and they should cooperate". A similar situation was experienced by a young researcher based in Birmingham "*we got some of the data needed very late towards the end of my PhD deadline. It is because of X group/company – they just didn't give the data……they became more interested once I demonstrated it*".

Building consensus between stakeholders, the expected fruit of persistent effort, was strongly emphasised by representatives from all of the cities. The comments of city stakeholders from various LAs suggest that in addition to technical innovation, negotiation, consensus building and joint problem solving are also seen as key to achieving change within the cities: "the LA aims to get consensus on strategic goals and make plans through stakeholder participation" (Accra city stakeholder).

7.7 Partners deliberately adjust their roles to sustain momentum?

Most of the interviews did not provide a substantial direct evidence of project actors adjusting their roles to sustain the momentum for change within Switch cities. What they suggest is in many cases the city LA did encourage project actors to cross boundaries and think within a wider context. The Head of Lodz's water infrastructure department when attending the scientific meeting in Tel Aviv in 2007 referring to the LA in her city, noted "Communication, particularly between different levels of hierarchy within the city administration is difficult".

To have achieved more substantial role adjustment by the key actors would have required more radical changes to the project at an early stage, including the re-defining of the deliverables to better align these with what the project wished to achieve in the participating cities. The project was managed in a way that retained money in the hands

of the senior researchers, and did not attempt to re-define deliverables. The city demonstrations that were not defined at the start of the project did provide some scope for actors to adjust their roles, but this proved difficult to implement in many cases, sometimes because of the matching fund rule.

7.8 LA outcomes – from forming to performing?

Interviews conducted in 2009, suggested that by the fourth year city stakeholders engaging with the project LA were able to identify the benefits for themselves. By this stage of the project some of the Switch city LAs had progressed from the formation stage through the operation stage of a strategic alliance which offers the opportunity for partners to explore differences, learn from each other and influence each other's perceptions, to the outcome stage (Das and Kumar, 2007). Examples of early outcomes provided from stakeholder interviews of early 2009 illustrate some of the early fruits of city LAs and the process of stakeholder engagement in the cities:

> "As a result of their engagement in the city alliance, decision makers now see water not as a given, but as a strategic issue." (City stakeholder, Tel Aviv)

> "The government of Lima is very interested in applying this multi-stakeholder approach to other areas of policy development. The LA concept and materials have been helpful to us and also support from IRC. Switch has brought attention to water." (Researcher, Lima)

Before involvement in the LA and strategic planning we had our perspective and our way of doing things. We still have our perspective, but now we have a different viewpoint on planning in the city. We can bring these views to our boss who is involved in decision making. We don't use the language of the researchers but put the message into a language that he can understand. We write briefs for him" (Two city planning officers, Lodz).

Other cities also evidenced fruits in terms of perspectives of stakeholders, and their understanding of the value of research, both current and future, as an aid to decision making. An Environment Agency officer in Birmingham explained in relation to a Switch demonstration, "I think green roofs are interesting and don't know when the reports will be available but hopefully they will give me an idea of whether you need a green roof policy. And we need to answer questions like "How much water does it hold up? Does it really clean up water?"

8 Challenges and lessons

For the LA approach to be incorporated within the urban water governance process, the Switch experience has highlighted certain challenges to be faced, and related to these challenges, lessons that might help future initiatives. The Switch experience suggests that facilitation, which includes having an effective facilitator, is a key to a successful LA. This role involves earning the respect of the main stakeholders, and this involves inputs of a significant amount of time from a skilled and committed person, or team of people, who receive some form of reward and recognition for the task.

Secondly, setting up a city LA requires not only a person or people with good facilitation skills, but the financial and other forms of support, particularly support from influential actors. In the Switch project the senior researchers bearing the title city

coordinators were influential in terms both of their gravitas within the cities, and their control of parts of the project budget.

Three, the type of person selected as LA facilitators had a significant impact on the development and functioning of city LAs. In many cities LA facilitators undertook this task alongside other duties and with limited support from others. LA facilitators where more effective not only when they had support, but also when they had the experience, local standing, and time to devote to this task.

Four, there is a need for champions who provide sustained leadership for a particular cause, is recognised as a key element for an effective multi-stakeholder process in various sectors including natural resources (Sanginga et al., 2007), ICTs (Adam et al., 2007) and more generally in development. The Switch project did not, as part of its methodology, explicitly set out to identify local champions or to support these. Strong champions did not exist in all participating cities from the start. However it is apparent in the cities where more progress has been made in engaging with stakeholders, Switch has worked through local champions.

One of the main drivers behind the LA concept, was the perceived limited uptake of funded research and hence the need to get existing research relevant to water management into use. The Switch experience highlights the potential divide between researchers and other stakeholders as a challenge. The researchers interviewed at the final conference who had engaged more effectively with city stakeholders fell mainly into three categories:

1 senior older researchers with significant previous engineering consulting experience who also were signed up to the vision of IUWM

2 mid-career researchers with established positions who either felt passionate about application of their research and/or were already involved in consultancy and research networking activities

3 younger early-career researchers committed to undertaking research with stakeholders.

Where the Switch project was successful in the application of research it was largely the product of building on previous work undertaken by committed and visionary researchers who were not afraid to cross over from academic publication into more direct influencing, advisory and facilitation roles.

The Switch experience also highlights the importance of building relationships of trust and mutual respect between the stakeholders a finding from complex partnership arrangements and strategic alliances in other sectors (Das and Kumar, 2007). In some but not all of the participating cities, the city LA meetings developed into a platform where researchers and other stakeholders were comfortable to meet and freely exchange ideas. For example in Lodz all parties have come to value the LA meetings, and these have also played an important role in moving the urban water agenda forward in other cities such as Birmingham, Hamburg, Accra, Alexandria and Tel Aviv, along with the participating cities of Latin America. Development of trust and respect has been a gradual process in most cities, resulting from fairly frequent meetings of the LA underpinned by interactions between some of the members in between meetings. This proved difficult to achieve in Beijing, largely due to cultural etiquette and existing established informal and bilateral mechanisms for achieving innovation and consensus.

Another challenge is understanding power relations and how these impacted on city LAs at two levels; within the participating cities and within the project research consortium. An aspect of power relations overlooked in project design was the politicisation of urban water issues in cities (e.g., Whitfield, 2006). This does not appear to have been factored into the thinking behind LAs. The design of Switch included governance research deliverables as stand alone components within a work package. One of the products of this research was an innovative and comprehensive mapping of water governance arrangements in Birmingham. Prior to this each city had undertaken a stakeholder analysis as part the preparation for setting up the city LAs, and guidance for this was provided (Verhagen, 2007). At a later stage a related diagnostic methodology was made available. While some resources to guide analysis of power relations in cities were provided, limited social science involvement at these stages meant that an explicit in-depth analysis of power relations and how these might influence the dynamics of city LAs that informed the strategy for stakeholder engagement was not achieved. In case where a LA is to achieve meaningful influence on the direction of urban water management, achieving legitimacy of the platform and continuity in participation by relevant stakeholders is key. This includes getting high level officials to attend meetings and endorse the LA, and getting the people from the key organisations to attend meetings and follow up after these meetings.

Equally important to the development of city LAs, were the power dynamics within the project consortium. Hence the ongoing challenge of getting city LAs adequately funded was largely a function of the concentration of project power and resources within the hands of a small number of research institutions and researchers.

In Switch cities eight different major languages and 12 national cultures were found. The importance of differences in language, culture and its impact on two-way communication in developing strategic partnerships and alliances was underestimated in project design. Challenges applied at different levels of engagement. Within the project consortium the researchers spoke and wrote in different languages, with English as agreed language for communication. In cities the main communications between researchers and stakeholders were in the national language, and hence researchers not speaking this were at a disadvantage and depended on translation in order to operate. National cultures proved significant in terms of understanding the mechanisms for supporting innovation that might work better than others. In Beijing and Chongqing, efforts to initiate a city LA did not develop as planned. Instead university-based project partners played an honest broker role to bring together different stakeholders in more informal bilateral meetings. This modification was in response to previous experiences with multi-stakeholder platforms in the cities and the rules of the game for public meetings which reflected significant differences between the Western origins of the Switch thinking and the current ways of doing business in China.

Two key elements for an effective multi-stakeholder process around a complex issue are both altruism and choice of the right partners. Studies of public-private sector partnerships have documented success in cases where choices between alternative partners could be made the concept of partner choice it is less easy to apply to urban water management. Choices are possible in terms of selecting research institutions, and also in selecting potential cities for action research on water management. However, once

the cities have been selected, most of the partners will be key stakeholder organisations having a monopoly of a particular water management function.

While nearly all the project partners interviewed acknowledged the value of city LAs, they also questioned how these could be sustained. 'How keep people interested and motivated' was a question posed by one LA facilitator. Balancing the interests of LA members, sharing information and having open discussions in LA are not easy, particularly when there is lack of trust and when there are unequal power relations. Building trust between stakeholders is a slow and complex process: 'like chipping away at a great boulder' as one LA facilitator explained.

9 Conclusions

This contribution has explored Switch city LAs, as a potential innovation in an era of neo-liberal governance approaches. The narrative has moved through the design and conceptualisation of the LA approach at the start of the project to the formation and operation of city LAs, in the context of decision-making relating to urban water management. Key elements of an effective multi-stakeholder action research process provided a framework for the analysis.

During the LA formation stage many project actors were open-minded, some were optimistic, and some were skeptical, regarding what LA could achieve. As the LA moved from formation to operation, LA facilitators faced the challenge of sustaining a multi-stakeholder process. Project management were initially less supportive of getting city LAs established, but as the project progress became increasingly supportive of the idea behind city LAs and continued to provide resources to support LA, seeing the LA's potential as a platform for longer term strategic planning around urban water issues, and also for uptake and up-scaling of researchers products. The city stakeholders interviewed indicated appreciation of the city LA and a number moved from a skeptical position to a support stance. They valued LAs as a safe and useful platform for the exchange of information, networking and forging relationships, and for gaining access to new knowledge relevant to water management. Important in the context of a governance function is who participates in an LA. If participants have recognised authority and influence in the city, there is greater potential for a LA to influence changes and innovation in the way that urban water is managed.

References

Adam, L., James, T. and Wanjira, A.M. (2007) 'Frequently asked questions about multi-stakeholder partnerships in ICTs for development: a guide for national ICT policy animators', Association for Progressive Communications (APC), APC-CAITA. ISBN: 92-95049-42-X, APC-200710-CIPP-T-EN-P-0040, Creative Commons Licence: Attribution-NonCommercial-NoDerivs 3.0, available at http://www.apc.org/en/system/files/catia_ms_guide_EN-1.pdf (accessed on 25/04/2012).

Brown, R. (2008) 'Local institutional development and organizational change for advancing sustainable urban water futures', *Environmental management*, Vol. 41, No. 2, pp.221–233.

Butterworth J.A., Sutherland, A.J, Manning, N., Darteh, B. Dziegielewska-Geitz, M., Eckart J., Batchelor, C., Moriarty, P., Schouten, T., Da Silva, C., Verhagen, J. and Bury, P.J. (2008) 'Building more effective partnerships for innovation in urban water management', Paper presented at the *International Conference on Water and Urban Development Paradigms: Towards an Integration of Engineering, Design and Management Approaches*, Katholieke Universiteit Leuven, Belgium, 15–19 September, 13p., available at http://switchurbanwater.lboro.ac.uk/outputs/pdfs/WP6-2_PAP_Effective_partnerships_in_UWM_abridged.pdf.

Contu, A. and Willmott, H. (2003) 'Re-embedding situatedness: the importance of power relations in learning theory', *Organization Science,* Vol. 14, No. 3, pp.283–296.

Das, T.K. and Kumar, R. (2007) 'Learning dynamics in the alliance development process', *Management Decision*, Vol. 45, No. 4, pp.684–707.

Enserink, B. and Koppenjan, J. (2007) 'Public participation in China: sustainable urbanisation and governance', *Management of Environmental Quality: An International Journal*, Vol. 18, No. 4, pp.459–474.

Fisher, K. (2009) 'Urban water supply and local neoliberalism in Tagbilaran City, the Philippines', *Asia Pacific Viewpoint*, Vol. 50, No. 2, pp.185–197.

Ison, R., Roling, N. and Watson, D. (2007) 'Challenges to science and society in the sustainable management and use of water: investigating the role of social learning', *Environmental Science and Policy*, Vol. 10, pp.499–511.

Le Ber, M.J. and Branzei, O. (2009) '(Re)forming strategic cross-sector partnerships: relational process of social innovation', *Business and Society*, Vol. 49, No. 6, pp.140–171.

Lomas, J. (2000) *Connecting Research and Policy*, ISUMA, Spring.Printemps, available at http://www.portals.wi.wur.nl/files/docs/ppme/lomas_e.pdf (accessed on 10/11/11).

Moriarty, P., Batchelor, C., Laban, P. and Fahmy, H. (2007a) '*The EMPOWERS approach to water governance: background and key concepts*', Amman, Jordan, Inter-Islamic Network on Water Resources Development and Management, INWRDAM.

Moriarty, P., Batchelor, C., Abd-Alhadi, F.T., Laban, P. and Fahmy, H. (2007b) *The EMPOWERS Approach to Water Governance: Guidelines, Methods and Tools*, Inter-Islamic Network on Water Resources Development and Management (INWRDAM), Amman.

Moriarty, P., Fonseca, C., Smits, S. and Schouten, T. (2005) 'Learning alliances for scaling up innovation approaches in the water and sanitation sector', Paper to *ESRC Seminar on Water Governance – Challenges and the Concensus*, 27–28 July, The Hague, available at http://splash.bradford.ac.uk/files/PDF%20Moriarty,%20Fonseca,%20Smits%20and%20Schouten%20seminar%203%20paper.pdflast (accessed on 26/04/2012).

Moriaty, P. (2007) 'Learning alliance briefing note 4: a brief introduction to action research concepts and practice', available at http://www.switchurbanwater.eu/outputs/pdfs/WP6-2_BRN_4_Action_research.pdflast (accessed on 26/04/2012).

Morris, M. (2006) 'An introduction to learning alliances', Learning Alliance Briefing Note 1, available at http://www.switchurbanwater.eu/outputs/pdfs/WP6-2_BRN_1_Intro_to_LAs.pdf, (accessed on 26/04/2012).

Pahl-Wostl, C. and Hare, M. (2004) 'Processes of social learning in integrated resources management', *J. Community Appl. Soc. Psychol.*, Vol. 14, No. 3, pp.193–206.

Pearson, L.J., Coggan, A., Proctor, W. and Smith, T.F. (2010) 'A sustainable decision support framework for urban water management', *Water Resour Manage*, Vol. 24, No. 2, pp.363–376.

Penning de Vries, F.W.T. (2007) 'Learning alliances for the broad implementation of an integrated approach to multiple sources, multiple uses and multiple users of water', *Water Resour Manage*, Vol. 21, No. 1, pp.79–95.

Salgadoa, P.P., Corral Quintanab, S., GuimarãesPereirac, Â., del Moral Ituarted, L. and PedregalMateosd, B. (2008) 'Participative multi-criteria analysis for the evaluation of water governance alternatives. a case in the Costa del Sol (Málaga)', *Ecological Economics*, Vol. 68, pp.990–1005.

Sanginga, P.C., Chitsike, C.A., Njuki, J., Kaaria, S. and Kanzikwera, R. (2007) 'Enhanced learning from multi-stakeholder partnerships: lessons from the enabling rural innovation in Africa programme', *Natural Resources Forum*, Vol. 31, pp.273–285, available at http://web.idrc.ca/en/ev-151792-201-1-DO_TOPIC.html (accessed on 24/04/12).

Smits, S., Galvis A., Bernal, D.P., Visscher, J.T., Santandreu, A., Nascimento, N.O.D, Sánchez, E. and Butterworth, J. (2009a) 'Mapping governance of urban environmental sanitation in Latin America: case studies from Belo Horizonte, Cali, Lima and Tegucigalpa', available at http://www.switchurbanwater.lboro.ac.uk/.

Smits, S., Da Silva Wells, C. and Evans, A. (2009b) '*Strengthening capacities for planning of sanitation and wastewater use: experiences from two cities in Bangladesh and Sri Lanka'*, (Occasional paper series/IRC; No. 44), IRC, The Hague.

Steyaert, P. and Jiggins, J. (2007) 'Governance of complex environmental situations through social learning: a synthesis of SLIM's lessons for research, policy and practice', *Environmental Science and Policy*, Vol. 10, pp.575–586.

Sutherland, A. and Darteh, B. (2008) 'Revisiting Switch consortium thinking on learning alliances', Switch Learning Alliance Briefing No. 8, available at http://www.switchurbanwater.eu/outputs/pdfs/WP6-2_BRN_8_Revisiting_Consortium_thinking.pdf (accessed on 26/04/2012).

Verhagen, J. (2007) 'Stakeholder analysis Switch learning alliance briefing Note 2', available at http://www.switchurbanwater.eu/outputs/pdfs/WP6-2_BRN_2_Stakeholder_analysis.pdf (accessed on 26/04/2012).

Verhagen, J., Butterworth, J. and Morris, M. (2008) 'Learning alliances for integrated and sustainable innovations in urban water management', *Waterlines*, Vol. 27, No. 2, pp.2–116.

Walter, I., Davies, H. and Nutley, S. (2003) 'Increasing research impact through partnerships; evidence from outside healthcare', *Journal of Health Services Research and Policy*, Vol. 8, No. 2, pp.58–61.

Whitfield, L. (2006) 'The politics of urban water reform in Ghana', *Review of African Political Economy*, Vol. 33, No. 109, pp.425–448.