

SWITCH CITY FACILITATED PROGRESS ANALYSIS: CALI¹

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INTRODUCTION

This report aims at providing an evaluation of the Learning Alliance (LA) process in Cali, Colombia, after 17 months from its inception. In fact, Cali has become a SWITCH demonstration city only at the beginning of 2008. Until then, Cali had only been a SWITCH case study. The establishment of the LA started de facto in April 2007. The relative magnitude of the impact achieved so far by the local LA has to be seen in the light of its limited duration.

More precisely, the evaluation looks at the outcomes produced by LA activities carried out so far in Cali and at the scope for future strengthening of the local LA. A first part provides an overview of activities carried out in Cali under the SWITCH project. In particular, the context underlying the local LA, its establishment and the outcomes produced so far are illustrated. A second part contains the evaluation of the Cali LA, together with the analytical and theoretical framework and the methodology informing the evaluation itself. Finally, conclusions and recommendations are put forward in light of the issues discussed.

This report follows the leading author's visit to Cali in August 2008 and was compiled with the assistance of CINARA, Universidad del Valle (Univalle), Cali.

PART I: OVERVIEW OF THE CALI LEARNING ALLIANCE

Water resources in Cali

Cali's hydrographic network is formed by 7 rivers, of which the Cauca river represents the main source of drinking water (supplying 77% of the total Cali's population, approximately one million and half of inhabitants). All rivers present progressive quality deterioration due to deforestation, the presence of slums in the protection area of the river basins and the discharge of wastewater, among others. The deterioration of the quality of the Cauca river is threatening the safe provision of water to the population. The two most important sources of contamination upstream the water intake of Puerto Mallarino drinking water treatment plant are the south channel and the Navarro waste disposal site which discharge wastewater and pollution around 5 km upstream the Puerto Mallarino water intake.

Due to the contamination of water supply sources, the drinking water plants present higher operation and treatment costs; besides, this situation has become the main concern of the environmental authorities, the water supply company (EMCALI) and the community. Sewerage (whose coverage is 94.8 %) is provided through three drainage systems discharging wastewaters and storm waters through the left margin of the Cauca river: the South Drainage

¹ This paper was prepared in 2008 for the SWITCH project and is available at www.switchurbanwater.eu

System (SDS), North-West Drainage System (SDN) and East Drainage System (SDO). The South Drainage System discharges through the South Channel into the Cauca river, located approx. 5 km upstream the water intake of the drinking plants of Puerto Mallarino and Cauca river.

Cali's urban expansion area

Urban expansion is currently being planned in two areas adjacent the city: the “Corredor Cali – Jamundi” where the construction of residential housing for middle and higher income dwellers is projected; and the “Régimen Diferido de Navarro” which is earmarked for low income dwellers. The latter area is prone to sliding and subject to the risk of flooding from the “Canal Sur” and the Cauca river. Also, the “Régimen Diferido de Navarro” area is where the waste landfill is located, which was operational until June 2008. Finally, the whole southern expansion area does not rely on systematic urban planning and construction permits are not granted on an overall plan for the area, but are developed section wise.

Technical research carried out under SWITCH IN CALI

The initial participation of Cali in the SWITCH project envisaged activities under Work Package 1 on the paradigm shift in urban water management, and Work Package 5 on urban water planning. The Conceptual Framework of Waste Water Management of Cali is being developed under the latter work package.

In addition, a number of projects are being developed by tapping financial resources from institutions participating in the Learning Alliance and/or involving their participation.

Conceptual framework of waste water management of Cali

The development of the Conceptual Framework draws on the completed Diagnostic of Urban Water Management in Cali. The Conceptual Framework includes activities related to the PhD of Alberto Galvis.

The proposal of Alberto Galvis “Development of a Technology Selection Model for Pollution Prevention and Control from Municipal Wastewater” has as main objective to develop a technology selection methodology to control wastewater pollution that selects options that achieve the optimal cost - benefit ratio, while using a basin approach to select the technologies and the influence area is Cauca River Basin.

Integrated Urban Wastewater System Data Network – Data.Net Project

The project was developed with the support of Partnership for Water Education and Research (PoWER) in the framework of the cooperation between the Institute for Water Education UNESCO-IHE and the Institute Cinara - Universidad del Valle. In this project was developed a guidelines and educational material that can be used to fill the knowledge gaps in data acquisition and data exchange used to control UWwSs Five products were developing by the project:

- Diagnosis of the data network system of Gouda, The Netherlands
- Diagnosis of the data network system of Cali, Colombia
- Case Study of Early Warning Network for the South Drainage System of Cali
- Guidelines for urban wastewater data requirements for integrated control strategies
- Data Net lecture notes and visual aid

Centinela de la Calidad del Agua del Río Cauca para la ciudad de Cali

This project - “Centinela de la Calidad del Agua del Río Cauca para la ciudad de Cali” – has been formulated by CINARA and is co-funded by EMCALI and the Universidad del Valle. Participants incluye CINARA, EMCALI, but also CVC, CRC, DAGMA and other institutions. It aims at developing a system of early warning in case of major pollution events

and elaborating strategies for the control water quality in real time. The implementation of the project is expected to start at the end of 2008.

SWITCH learning alliance in Cali

Smits *et al.* (2008: 13-14) identify two main challenges for integrated urban water management in Cali:

- Improving the quality of water supply, in terms of continuity, preventing the deterioration of drinking water quality and expanding service coverage to the urban expansion areas.
- Managing the impact of pollution of water bodies such as the Cauca river.

The third key problem is urban drainage as flooding, which is becoming more common and entails the related problem of diluted waste water.

“Some of the city problems have developed into a crisis, and it has been evident that the conventional strategies have not been able to provide an effective solution. Such is the case of what has been denominated the “Impact of the quality of the Cauca River water in Cali’s water supply system”, which is associated with the continuous interruption of drinking water services (equivalent to several hours per day, once per week)” (Galvis and Bernal, 2008: 3).

As regards governance, the institutional framework appears characterised by a certain degree of fragmentation and is also lacking coordination. More precisely, Smits *et al.* (2008: 17) observe a certain fragmentation of responsibility especially in water resource management, with the jurisdiction of environmental authorities being defined by administrative areas instead of reflecting the boundaries of river basins.

In addition, there are rivalries and tensions between some of the organisations participating in the LA. “Forming learning alliances is a difficult task. The institutions of the region and the city have traditionally worked in an isolated manner. This situation occurs even within the same institution. Other critical aspects in the formation of alliances have been the following:

- Existing tensions between the different institutions. For example, between the environmental authorities (CVC, DAGMA) and the water and sanitation service provider (EMCALI). Interestingly these organizations are now starting to discuss this conflict together with UNIVALLE in the LA. There has also been conflict between these environmental authorities and the company in charge of waste management and solid waste final disposal (EMSIRVA)
- Tension between the departmental environmental authority (CVC) and the environmental authority (DAGMA). The fact that the environmental authorities manage political and administrative divisions and not the water basins also represents a problem” (Galvis and Bernal, 2008: 2).

Origins and possible future developments of the learning alliance

In 2007 the team in Cali started to address the issue of Learning Alliances with some support from IRC and in 2008 also with support from SWITCH. This required not only strong action in Cali but also made it necessary to convince some of the SWITCH team members from Netherlands that this was an essential road to go. Results of this approach are now gradually beginning to pay. Considerable confidence has been developed among different LA members resulting for example in frank reflections on governance issues in the recent study led by IRC (Smits *et al.*, 2008). It also leads to requests reaching LA team members to be involved in new projects and important discussions such as:

- The emerging idea for a development and demonstration project at the university for IWRM and efficient water use with the potential to include demonstration on the use of natural systems for waste water and waste management. This project is anticipated to

include a strong communication and behaviour change component to influence the university community.

- The involvement of the LA in the emerging idea to explore the development of an Ecocity concept in the Southern expansion zone. It will be important to nurture this idea with emerging concepts from SWITCH
- The discussion among four LA members (CVC, DAGMA, EMCALI and UNIVALLE about the legal environmental conditions that DAGMA has to pose on EMCALI

Aims and composition of the learning alliance

The Cali LA aims at addressing the problems described above and their broader implications (e.g. the risk of contamination of drinking water and the operational and economic impact this produces on the system). The alliance intends to adjust technical, organisational and legislative solutions (including a review of norms) in light of the local sociopolitical and economic context and put forward approaches revolving around the concept of integrated water resources management (IWRM). Ideally, this should result in local institutions embracing the “paradigm shift” advocated by SWITCH. The latter is encouraged by helping participants to look at the issues in a longer term perspective beyond the four years which typically correspond to the political mandate of local authorities.

The LA for Cali is aimed at stimulating teamwork among stakeholders to contribute in the search of sustainable solutions for the city’s water management. The alliance comprises the major institutional stakeholders in the management of water resources in Cali. Table 1 lists the main stakeholders who have participated in the most part of the activities of the alliance. Box 1 shows the issues and goals of some stakeholders of the Learning Alliances for Cali.

Table 1. Main stakeholders of the Learning alliance for Cali

Type of institution	Name of the institution or dependency
Associations	ACODAL – Asociación Colombiana de Ingeniería Sanitaria y Ambiental
	Asociación de Ingenieros del Valle
	Peña & asociados – consulting firm
Municipal and Local Administration	Secretaría de Planeación Departamental
	Secretaría de Planeación Municipal
	UES Valle
	Secretaría de Vivienda - Gobernación del Valle
	UMATA – Unidad Municipal de Asistencia Técnica Agropecuaria
Environmental Authorities	Corporación Autónoma Regional del Valle del Cauca – CVC
	Departamento Administrativo de Gestión del Medio Ambiente - DAGMA
Public services companies	EMCALI EICE E.S.P (water and sanitation)
	EMSIRVA E.S.P. (solid wastes)
Foundations	Fundación PROAGUA
	Fundación Río Cauca
Ministerio de Ambiente, Vivienda y Desarrollo Territorial - MAVDT	IDEAM - Instituto de Hidrología, Meteorología y Estudios Ambientales de Colombia -
	Planes Departamentales del Agua
National and international educational institutions	UNESCO – IHE (SWITCH Partner)
	IRC - International Water and Sanitation Centre (SWITCH Partner)
	Universidad del Valle - Instituto Cinara (SWITCH Partner)
	Universidad del Valle – EIDENAR (SWITCH Partner)
	Universidad del Valle - Escuela de Salud Pública
	Universidad Autónoma de Occidente
	Universidad Nacional de Colombia, Palmira
Pontificia Universidad Javeriana	

Box 1. Issues and goals of some stakeholders of Learning Alliance for Cali

Planning Department, Municipality of Cali: this Department is responsible for urban planning and aims at promoting the integrated sustainable development of the city. It is responsible for municipal development planning in relation to space, but also from the socioeconomic, environmental and administrative points of view. It does so in coordination with other municipal departments.

Regional Corporation of the Valle del Cauca - CVC: this regional authority has jurisdiction over the Department of the Cauca valley. It is responsible for the implementation of policies affecting natural resources. This includes the award of concessions, licences and permits for the use and exploitation of natural resources, the environmental regulation on the use of water resources, and the definition of provisions and directives on river basin management.

Cali Municipal Enterprise, EMCALI: this is a 100% municipally owned multi-utility providing water, energy and telecommunications services to the city of Cali. Water services include water supply, sewerage and wastewater treatment.

Solid waste municipal company, EMSIRVA: this is the municipal waste management company responsible, among other things, for the operation of the Navarro landfill.

Administrative department for the management of the environment, DAGMA: this municipal Department is responsible for the development and implementation of environmental policies for the city of Cali.

Municipal Public Health Secretary: this municipal department is responsible for public health including enhancing access to healthcare and reducing mortality and children morbidity rates.

Cinara - Universidad del Valle: is coordinating the activities of the LA. Alberto Galvis is the city coordinator of the LA and Diana Paola Bernal and Diana Amparo Cardona are the proposed city facilitators. Ines Restrepo is another key member of the team and the leader of the IWRM project for Valle del Cauca that is supported by COLCIENCIAS. The CINARA-UNIVALLE team will also guide the development of the communication strategy and the website

UNESCO-IHE: Provides support to the activities under WP 1.1 coordinated by Peter van der Steen and 5.3 coordinated by Diederik Russeau with main inputs from Damir Brdjanovic. Huub Gijzen is the director of the thesis of Alberto Galvis and Peter van der Steen acts as mentor.

IRC: Is providing support to the development of the Learning Alliance mainly through the involvement of Jan Teun Visscher, John Butterworth and Stef Smits.

Intervention logic

The SWITCH intervention logic in Cali is informed by the following objectives.

- Strengthening the collaboration among institutional stakeholders in order to achieve sustainable solutions for water resource management in Cali.
- Introducing policy scenarios as an instrument for planning in the medium and long terms.
- Using demonstration projects to diffuse awareness among key actors of the merits of the “paradigm shift” advocated by SWITCH.
- Adopting water resource management strategies alternative to the traditional approach. Such innovative strategies would include minimising water pollution at the origin, enhancing the efficient use of water resources and the introduction of cleaner production processes, adoption of more participatory monitoring and organization processes.
- Introducing early warning systems to improve the identification of cases of contamination and enhance the management of water quality.

Activities of learning alliance

Three LA workshops have been held so far, whereby the areas of work have been defined, issues discussed and a diagnostic method elaborated.

Activities in 2007

“A workshop was organized in 2007 to review the situation in Cali and to encourage the development of a Learning Alliance to foster institutional collaboration and enhance the impact of research activities on policy developments. The participants in this workshop identified different water issues and water related issues that pose a problem in the city of Cali:

- Lack of an integrated vision and short term planning
- The river basin is not studied as a whole
- Limited inter-institutional coordination
- Limited community participation
- Lack of leadership
- Resilience to new concepts in development change
- Limited technological focused on non sustainable end of pipe solutions not taking into account for example key developments such as cleaner production
- Problems related to the management of information
 - Information not reliable
 - Information not related to decision making process
 - Lack of environmental information (not exact , restricted and kept secretly)
 - Lack of institutional set up
- Sometimes decision making is made based on own interests
- Lack of capacity building and limited environmental education at all levels)
- Limited monitoring and control actions

Looking at the overall problems three main problem areas have been identified by the participants:

- a) The water quality problems of Cauca River and its impact on drinking water supply. This is a complex problem as it is influenced by rainfall, the waste water disposal of the city of Cali, drainage water of the Navarro landfill and the discharge regime of the main dam in the river.
- b) The planned expansion of Cali towards the south (Corredor Cali – Jamundí), which offers a unique opportunity to establish new (innovative) infrastructure including water supply, sanitation and urban drainage.
- c) The urban drainage and waste water problems in the Southern part of Cali which have an impact on the city as a whole” (CINARA, 2008: 2-3).

Learning alliances have been formed for each of the three problem areas to look at the problems in a comprehensive way taking into account the main issues identified in the first workshop and not just the technical aspects. “There are institutions that are highly committed and have participated in the entire process, since the initial workshop held in 2007 (EMCALI, CVC, DAGMA, and the Government of Valle del Cauca through several of its departments). Other institutions have had intermittent participation or have participated in the workshops and work meetings with different individuals every time. Additionally, we consider there are key institutions that still need to be more involved and improve their participation in the process” (Galvis and Bernal, 2008: 3).

The main activities that were carried out in 2007 for Cali as study case include:

- Several individual meetings with staff from leading organizations in Cali.
- Three major workshops with different stakeholders on respectively April 13, October 4 and November 16. See the Box 2.
- The diagnosis of the urban water management of Cali; this activity began with the recompilation and organization of the information providing by the main stakeholders of the alliance.
- A general description of the principles and approaches in the urban water management for the city of Cali

Activities in 2008

The main activities carried out during 2008 for Cali as demo city include:

- Visit to the Netherlands from March 10 to April 30, 2008 of Alberto Galvis, coordinator of the SWITCH Project at Universidad del Valle and coordinator of the Learning Alliance of Cali as Demo City, met with Carol Howe (UNESCO-IHE) and John Butterworth and Jan Teun Visscher (IRC), to evaluate the proposal presented by Universidad del Valle in November, 2007 for Cali to progress from a Case Study to a Demo City. Finally, 30,000 Euros were approved for the development of the activities during 2008. The trip to the Netherlands was also useful for the revision of the Work Plan with Jan Teun Visscher, from IRC
- Two Learning Alliances Workshops were held during May 14 and May 21, 2008. See Box 3.
- Twelve meetings with key personnel from the following entities: Cinara Institute; Corporación Autónoma Regional del Valle del Cauca –CVC; Empresa de Servicio Público de Aseo de Cali – EMSIRVA; Empresas Municipales de Cali – EMCALI; Departamento Administrativo del Medio Ambiente – DAGMA; Asociación Colombiana de Ingeniería Sanitaria y Ambiental – ACODAL and the Secretaría de Salud Municipal. The main objective of these meetings was the sensitizing of key individuals in regards to learning alliances, preparatory activities for the May 14 and May 21 workshops, and the discussion of governability.
- The governability topic included 14 interviews with members of different institutions. This activity was done jointly with Stef Smits from IRC.
- Internally, several meetings were held, mainly during the period from June to July, 2008, with the objective of evaluating activity progress, the results of the visioning workshops, the revision of the basic documents of the Alliances and the planning of future activities.
- A visit to the South Drainage System of Cali was held in July 30. It was an activity of the whole day with participants of different institutions
 - Meeting of the alliance for the quality of the Cauca River water and its impact on the water supply system for Cali on August 2nd in the Puerto Mallarino plant.
 - Visit to south expansion area with the members of this alliance on August 14th
 - Meeting with personnel of institutions interested in belong to the alliance.
 - Launch of the website for the learning alliance for Cali on July 10th The link to access this page is: <http://switchcali.wordpress.com/>.
- During the period of August 19-21, 2008, was the visit of Emanuele Lobina, from the University of Greenwich, who had the mission to evaluate Learning Alliances for the city of Cali. E. Lobina met with representatives of institutions participating in the Alliance and visited different areas of the South Drainage System of Cali, expansion area of South of Cali and the water intake of Puerto Mallarino Plant.

Role of external facilitators

The SWITCH program in Cali has received different inputs from external experts and facilitators. Several of these inputs were more of a technical nature. These inputs helped to bring in new ideas and concepts in the approach to the problem and enhanced the visibility of the team in Cali. Visiting experts provide interesting opportunities to reach both the management and technical levels of the institutions concerned. One limitation particularly at the beginning was that the visiting experts focused on technology alone and were not convinced of the need to develop a learning alliance. This is surprising as the LA concept is perhaps the most important concept in the SWITCH project and core to paradigm shifts. Hence a stronger integration of these concepts among the leaders of the different themes seems very important.

Fortunately the team in Cali had additional support to develop the Learning Alliance. It benefited from the participation of an external facilitator from IRC, who provided support in different areas (Box 2). This has helped considerably to develop the LA program and to change the status of Cali from study case to demonstration city. An added advantage was that the facilitator also could function as a bridge with the team in Delft. The positive results of the LA initiative also helped to change the views of the more technical oriented experts.

Another interesting support was provided by a staff member of IRC in helping to collect data on the issue of governance. It proves quite effective to establish a small task force to take a specific issue further and having the advantage of an external person to stimulate and guide the process. It requires however a good dialogue between the local team members and the external supporter to ensure that sensitive issues are being addressed in a sensible way.

Box 2. The role of the external learning alliance facilitator in Cali:

- Assistance to the development process including joint visits to key institutions identified as potential member of the LA to promote the program
- Co-facilitation of meetings bringing in an external and international dimension
- Creating access to new information and experience in issues of interest to the alliance members through training workshops
- Establishing a stronger link with SWITCH management partly also required because of the language barrier and encouraging the more technically focused staff at UNESCO-IHE to grasp and embrace the broader concept of an LA as foundation for change
- Acting as an external and trusted critical reviewer of progress

PART II: EVALUATION OF THE CALI LEARNING ALLIANCE

The entry point for the LA activities in Cali since their inception was to start with creating a space for inter-institutional dialogue. This has created the opportunity for participants to identify key problems they encountered in their work and gradually entail in discussions beyond technical nature. The result is that gradually confidence is being established among participants thus opening the opportunity to also enter into more sensitive issues such as governance. Virtually all the interviewees agreed that the LA has considerably contributed to enhancing inter-institutional dialogue in Cali and that it has provided a more systematic method for looking at local issues. More precisely, a big step forward was realised in 2008 by specifically encouraging staff at local institutions to adopt a longer term horizon through the visioning exercise.

In what is to be regarded as a considerably short time, the Cali LA has created strong premises for strengthening inter-institutional dialogue and achieving the above objectives. The efforts produced and the results obtained so far by the LA coordination and facilitation

team, together with the other participants in the LA, are to be commended. We would thus like to associate ourselves to the words of the SWITCH Project Manager in recognising the “learning alliance work that has been progressed by the SWITCH Cali team, the enthusiastic and integrated team approach that Univalle has shown to date and the potential for this city to become a “key success story” for SWITCH”¹.

However, the leading author of this report takes the view that a more rigorous approach to analysing governance and seeing governance as informing practice with the LA might contribute to enhancing the outcomes of the Cali LA. In fact, in essence, LAs represent forms of governance in action. This evaluation looks in detail at the implications of addressing governance in Cali. This would certainly have implications in terms of resources. The leading author would nonetheless like to encourage the Cali LA coordination and facilitation team to consider strengthening their work on governance and integrating with the development of the local LA. A second annex to this evaluation contains reflections on governance, Learning Alliances as policy networks, and knowledge transfer. These inform the leading author’s reasoning on governance in relation to further developing the potential of the Cali LA.

Methodology

The leading author was first introduced to local issues thanks to a field visit of a number of key sites, followed by presentations from the CINARA team and selected members of the LA. The presentations were followed by semi-structured interviews with all the above listed LA members and with key CINARA staff. The semi-structured interviews adopted a different format depending on the profile of the interviewee, so that different sets of questions were asked to research providers (“scientists”), facilitators and research managers, and research users. The full set of questions is contained in the Switch document “Facilitated city progress analysis: sampling frame and checklist of questions”.

Using semi-structured interviews proved to be a sound approach. The interviewees were in fact selected in order to represent the three categories of LA members: scientists, facilitators and research managers, and research users. However, some actors were playing more than one role, either formally or informally. Using the semi-structured interview format allowed the author to address the multiplicity of the interviewee’s roles as this emerged in the course of the interview.

The interviewees also include relatively established LA members, who joined the alliance since its inception, and LA members who have only recently joined. This helped the author get a sense of how the LA membership is evolving. Due to constraints in terms of timing, it was not possible to interview actors who have been invited to join the LA but are proving reluctant to fully engage in the exercise or actors that have been not been invited yet to join. This represents a limitation to this evaluation.

The results of the interviews and secondary data (e.g. LA documents and correspondence between CINARA and the SWITCH management team) are elaborated in light of the above analytical framework and theoretical perspectives.

The co-authors contributed by controlling over the correspondence between the content of the report and the local context of the Cali LA. Any errors and all the opinions expressed in this report remain the responsibility of the leading author.

The establishment and dynamics of the learning alliance: network composition and network management

In inviting stakeholders to join the LA, CINARA relied on its network of institutional and personal contacts, acquired throughout the years as a result of its professional activity. “In the

case of Cali, the selection of stakeholders was based on the experience of Cinara Institute and Universidad del Valle in work done with sector institutions in projects related to the integrated management of water resources. In the past, Cinara has had some significant teamwork experiences with institutions in the region (high Cauca River basin) and the city (Cali), especially in sub-normal settlements and the rural sector” (Galvis and Bernal, 2008: 2). CINARA seems to be ideally placed to catalyse virtuous collaboration among the LA members as it is generally regarded as a relatively neutral organisation and has established long term collaborations with a number of the main stakeholders in Cali. In addition, it is positioned to play the role of gate keeper beyond exercising mere control on who is invited to join the LA. In fact, CINARA is recognised as the only actor with access to knowledge from the perspectives of all other stakeholders, thanks to its multiple collaborations. It is thus able to facilitate a truly integrated approach to local issues and this generates respect among LA members.

Implications of the switch intervention logic

“In general terms, the learning alliances for Cali are aimed at stimulating teamwork in the process to contribute in the search of sustainable solutions for the city’s water management” (Galvis and Bernal, 2008: 3). “Following are certain key items that have contributed into the consolidation of inter-institutional work and learning alliances:

- Cinara’s experience working with sector institutions at regional level (high Cauca River basin), and local level (Cali).
- Recognition by institutions that teamwork with a shared vision is essential to be able to solve the critical problems associated with integrated water resource management in the city of Cali.

“The future depends of our actions today and the problems to face are complex. Therefore, nobody alone can achieve much. Among all of us we will be able to find solutions” (a participant in the Workshop held on October 4, 2007)” (Galvis and Bernal, 2008: 2-3).

Alberto Galvis is recognised as a tactful facilitator, who carefully avoids being forceful to encourage people to get involved in the LA rather than opposing resistance to an imposed agenda². This approach appears correct and is to be commended.

The objective of the local LA is to start up a “laboratory” of communal and collective work on the 3 identified themes, aiming at scaling up results beyond the duration of the SWITCH project. In this sense, CINARA can rely on its past experience of progressing and scaling up results from one project to another³, also using international funding as seed money largely complemented by domestic funds⁴.

More precisely, the LA’s theory of change is to encourage stakeholders to adopt the principles of “paradigm shift” in some of the activities that they would have to carry out anyway⁵. An example of the integrated approach informing the LA is represented by the project “Centinela del Agua”, jointly undertaken by CINARA and EMCALI, which is informed by SWITCH principles. Another example is provided by a concurrent Learning Alliance on IWRM in the Valle del Cauca region, which might allow for cross-pollination with the SWITCH LA⁶. This “hands on” approach to the diffusion of knowledge seems to favour stakeholders’ engagement as they see the relevance of principles to practice.

The fact that CINARA has traditionally shared the principles that are now being promoted by SWITCH facilitates the integration of the LA activities with external initiatives and scaling up of results⁷. In turn, CINARA’s own activities might benefit from integration with activities carried out under SWITCH in the same way as, for example, a 120 credits course has been developed from the above mentioned Valle del Cauca project and LA⁸. Synergies created between the local SWITCH LA and other projects contribute to mutually reinforcing

the cost-effectiveness and impact of both the Cali LA and stakeholders' activities. They are thus to be commended and indeed the SWITCH Project Management applauded the integrated approach shown by CINARA in a recent letter⁹.

There are attempts to address the lack of leadership that Smits et al. point to in relation to governance. Initially, institutional leadership sharing the "paradigm shift" agenda has been found in EMCALI, the company providing water and sanitation services" (Galvis and Bernal, 2008: 2-3). However, it has been noted that the decision makers with the power to make a real impact on the ground are represented by the municipal, regional and local government and that strategies should be devised to engage such actors if change is to take place. Direct meetings are being scheduled with governmental authorities to lobby their support for the SWITCH LA and its objectives¹⁰.

At the same time, the engagement of regulatory agencies such as Contraloria del Estado has been sought as these exert control on public entities benefiting from public funding. Furthermore, a strategy has been devised to engage officials responsible for planning in the involved operators, in order to facilitate bottom-up knowledge transfer within the respective organisations. Mid-level technicians are in fact regularly consulted by top management, who might conversely be subject to high level of turnover due to political decisions¹¹.

An interviewed stakeholder suggested that another approach to facilitating change on the ground might be represented by involving the local press and media in diffusing the findings and results achieved by the LA or simply highlighting observed problems. Critical media attention to local problems is in fact often followed by swift and decisive action by the concerned institutions. However, the interviewee noted that so far there has been limited if any involvement of the press in the activities of the LA¹². The city coordinator and LA facilitator explained that this was due to a deliberate attempt to avoid creating unnecessarily high expectations among the public, at a time when the LA is moving its first steps and has not produced concrete results yet¹³.

Managing stakeholders' expectations on what the LA can deliver and trying to communicate that time is a vital element for the success of this type of multi-stakeholder partnerships is recognised as a challenge that the LA facilitation and management team has to address¹⁴.

Mix of project activities and actors involved

The current mix of project activities includes the following: a) under WP 1.1, the development of a strategic approach and indicators for sustainability and risk assessment; b) under WP 5.3, maximizing the use of natural systems in all aspects of the municipal water cycle; and c) WP 6.2, Learning Alliance (CINARA, 2008: 3-5).

It is certain that the €30,000 that have been allocated by the SWITCH Management¹⁵ for supporting LA activities in Cali in 2008 are definitely not sufficient to proceed with the core team in 2009. Therefore a proposal has been developed for 2009 and additional funding is being sought.

The coherence and thoroughness of the current mix of project activities could be strengthened further, aiming to effectively promote a "paradigm shift" beyond the technical dimension. At present, the LA is the only activity falling under WP6 Governance. As a matter of fact, it remains to be seen whether the objectives of the local LA can be effectively delivered without the support of activities carried out under WP 6.1, such as the following:

- A framework of procedural equity incorporating guidelines and criteria for stakeholder engagement in IUWM.
- A handbook of appraisal and communication tools to assist conflict resolution.

- Report analysing ways of influencing individuals and groups to bring about institutional change and modified behaviour
- A theoretical understanding of institutional co-operation and co-ordination necessary for the delivery of sustainable IUWM.
- A report identifying the lessons learnt from the Learning Alliances on good governance for IUWM.

The risk is thus that the LA will be limited to a multi-stakeholder platform that will focus on improved communication and collaboration on technical and organizational issues including training on issues such as conflict management and only make a partial attempt to improve decision making and governance processes. In turn, this is likely to result in limiting if not undermining the potential for a “paradigm shift” at local level. It is the leading author’s view that many of the problems that the LA is currently addressing find their origin in poor governance and that they cannot be credibly solved without thoroughly enhancing governance dynamics. This could be done by rigorously developing work under WP 6.1, not only for issues strictly related with water resources management but also water services. A number of factors contributing to the problems addressed by the LA under the three identified themes are due to poor water service governance. These include, to name but a few, EMCALI’s lack of financial resources to expand water infrastructure in Cali’s urban expansion areas, legal constraints faced by EMCALI in extending service coverage to the peri-urban area of the city, remedying the effects of past decisions (e.g. on the financially disastrous Power Purchase Agreement with TERMOEMCALI), and the fact that at the moment the management of EMCALI is governmentally controlled so that decision making might reflect central governmental preferences rather than local requirements. For a summary of current water service governance issues in Cali, see Lobina and Hall (2007: 41-42).

Extending work to other areas of WP 6, for example WP 6.1, would obviously have implications on resources. It is recommended that CINARA and the SWITCH Management (including the responsible persons for WP 6 and WP 6.1) jointly discuss the merits of extending activities to ensure a more coherent and comprehensive approach to governance and to provide valuable support to the LA. Such consultations should also assess the resource implications of ensuing decisions.

Current LA membership is heavily composed of institutional actors, with a considerably circumscribed participation by representatives of civil society and the local community. Although improved communication and consultation between local institutions is regarded by virtually all the interviewees as a major advancement facilitated by SWITCH in respect of the status quo, an institution-centred LA is unlikely to foster genuine participation. In turn, this is likely to affect the inclusiveness of governance and thus undermine prospects of achieving a real “paradigm shift”. The city coordinator and main facilitator of the LA process is aware of the need to extend participation in the LA to the civil society and local community¹⁶.

However, it appears that there is no awareness for the need to include trade unions in the local LA process. Trade unions are in fact “invisible” actors, not only to the LA, but arguably to the whole SWITCH project. In this sense, it is noticeable that Smits *et al.* (2008) remain silent on trade unions as stakeholders in the local governance process. Empirical evidence from a wide range of international experiences shows that, when meaningfully engaged, trade unions can represent valuable partners in supporting local water service reforms and strengthening governance (Hall and Lobina, 2006: 15; Lobina and Hall., 2005: 18-20; Lobina, 2006). Boys (2006) confirms the importance of involving workers in dialogue on the reform of water operations and emphasises the wealth of experience and knowledge workers can contribute thanks to their engagement in delivery, at direct contact with the end recipients of the service. In this sense, it should be noted that SINTRAEMSIRVA, the trade union

organising workers at Cali's waste management operator EMSIRVA, have signalled to the author their availability to share experience on possible technical solutions to the pollution of water courses caused by the local landfill.

It is recommended that greater efforts be made to strengthen the effectiveness of the LA and to enhance local governance processes by involving representatives of civil society associations, the local community and trade unions in both water services and waste management operations in the LA. This is likely to be met by a number of current LA members with resistance, so that arrangements should be made to manage ensuing conflicts. The city coordinator and main facilitator of the LA process suggested that this could be achieved by resorting to CINARA staff with expertise on conflict solution in a rural context¹⁷. The deployment of CINARA's internal expertise to this purpose would be invaluable in light of CINARA's understanding of the local context and the generally perceived neutrality of CINARA. However, CINARA's expertise on conflict management should be complemented by SWITCH partners with greater experience in solving institutional conflicts around governance issues in an urban setting.

CONCLUSIONS AND RECOMMENDATIONS

The Cali LA has considerable potential for contributing to the promotion of a "paradigm shift" at local level. This is due to the fact that the local political and institutional climate seems to be favourable to promote a "paradigm shift". There is also enthusiasm among the LA members, including the interviewed stakeholders, both more established LA members and new entrants, but also the LA facilitation and management team. The CINARA team appears well positioned to guide the local LA exercise from several points of view, including their recognised competence, knowledge of the local context, perceived neutrality and experience with facilitating LA and participatory processes aiming at breaking barriers between technicians and communities. They also appear aware of the main areas for further improvement, from communication to process documentation and capable of engaging in self-reflection. This is vital if the process is to further improve. However, obstacles to the achievement of a "paradigm shift" include the fact that the LA is not supported by a systematic analysis of governance issues and that the LA membership is de facto restricted to a circle of institutional actors and experts with insufficient inclusion of civil society, community and trade unions.

Another vital aspect is to quickly proceed with the envisaged development and demonstration projects and activities to clearly show what can be achieved and use this to further the inter-institutional collaboration and discussions with civil society.

The following recommendations are aimed at strengthening the thoroughness and coherence of the LA approach in Cali.

- The efforts produced and the results obtained so far by the Cali LA are to be commended. The enthusiastic and integrated team approach shown to date should thus be retained.
- It is recommended that the SWITCH intervention logic, based on encouraging the application of "paradigm shift" principles to the practice of LA participants, should be retained.
- Synergies created between the local SWITCH LA and other projects contribute to mutually reinforcing the cost-effectiveness and impact of both the Cali LA and stakeholders' activities. They are thus to be commended.
- If the LA is to produce the expected contribution to promoting a "paradigm shift" in Cali, it will be necessary to provide additional resources for to allow the core team to proceed with its activities. On the one hand and on short notice this implies that additional funding will be sought from the SWITCH programme as indicated in the LA work plan for 2009

and on the other that the Cali team has to initiate efforts to seek other potential funding sources for the longer future.

- A number of problems that the LA is currently addressing are due to poor governance and cannot be credibly solved without thoroughly enhancing governance dynamics. This could be done by exploring how the Cali team can get support from the advisors working under WP 6.1, not only for issues strictly related with water resources management but also water services.
- Extending work to other areas of WP 6, for example WP 6.1, would have implications on resources. It is recommended that CINARA and the SWITCH Management (including the responsible persons for WP 6 and WP 6.1) jointly discuss the merits of extending activities to ensure a more coherent and comprehensive approach to governance and to provide valuable support to the LA. Such consultations should also assess the resource implications of ensuing decisions.
- Greater efforts should be made to strengthen the effectiveness of the LA and to enhance local governance processes by exploring how to best involve representatives of civil society associations, representatives of the local community, relevant trade unions and politicians in the LA.
- Extending LA membership to the civil society, local community and trade unions is likely to be met by resistance from a number of current LA members. Arrangements should thus be made to manage ensuing conflicts. The deployment of CINARA's internal expertise to this purpose would be invaluable but needs to be complemented by SWITCH partners with greater experience in solving institutional conflicts around governance issues in an urban setting.
- CINARA is respected for its neutrality, the trust deriving from its long term collaborations with current LA members and its role as central depository of knowledge. It is recommended that, when expanding the LA to actors who have not so far been included, CINARA retain such respect by strengthening the analytical rigour of tools applied to solving conflicts and governance-related issues.
- The establishment of the website is a good development and can enhance the communication effort. Nevertheless another crucial aspect is to further explore involvement of the press as an important factor that may encourage change.

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Unless otherwise stated, the views expressed in this report are those of the author and do not necessarily reflect the views of the European Commission, nor any of the listed stakeholders.

ANNEX 1. M&E LEARNING ALLIANCES OUTCOMES (COMPILED BY CINARA)

The objectives used for assessment of Cali in the M&E framework are following:

1. We know who learning alliance members are, and how to communicate with them effectively.
2. Regular, effective and innovative events capture interest of learning alliance members
3. Demonstration activities are undertaken within a framework for scaling up
4. We understand why change is occurring in relation to integrated urban water management, not just what happens
5. The learning alliance action plan/ city storyline is regularly reviewed and updated

Scenarios for objective 1. We know who learning alliance members are, and how to communicate with them effectively.	Score
This is no accessible record of learning alliance members	0
There is only an out-of-date record of learning alliance members	25
There is an up-to-date record of learning alliance members and some basic tools (e-mail, phone) are used to communicate regularly	50 [benchmark]
There is an up-to-date record of learning alliance members and advanced tools (e.g. a google group that archives information) are used to communicate regularly	75
This is an out-of-date accessible online database of learning alliance members with contact details, participation in all events and activities is systematically recorded and a combination of methods is used effectively to communicate between events	100
Justification of score	Score awarded
At date there is a frequent communication with all members of the alliance, using the phone or e-mail tools. In some cases we have been carried out meetings with key people. At the moment, it is planning the process for the conformation of google group for each of the 3 alliances for Cali, which will begin activities in the first week of November, 2008.	50

Scenarios for objective 2. Regular, effective and innovative events capture interest of learning alliance members	Score
Events (e.g. workshops, site visits, seminars) are no regular and only announced at the last minute	0
Regular events are held but they are poorly facilitated and fail to attract the interest of learning alliance members	25
Appropriate events are announced well in advance and use a mix of mainly standard methods to effectively engage interest of city stakeholders at least once every six months	50 [benchmark]
Quarterly (or more frequent) events use innovative facilitation methods (not just presentations and discussion) but tend to be poorly documented	75
Quarterly (or more frequent) events use innovative facilitation methods and high quality reports are rapidly made available	100
Justification of score	Score awarded
Although Cali carried out some preliminary activities in the 2007, only since April 2008, Cali becomes demo city in SWITCH project. In May, 2008 began the execution of the activities, which has been frequent at the date. During 2008, the events made in the alliances framework for Cali are following:	100

<ul style="list-style-type: none"> ▪ May 14th. Workshop No. 1 Water Resources Integrated Management in Cali: Searching Orientation for Sustainable Solutions. ▪ May 19th. Meeting with the 3 groups of the alliances to adjust and complement work started during the workshop of May 14. ▪ May 21st. Workshop No. 2 Water Resources Integrated Management in Cali: Searching Orientation for Sustainable Solutions. ▪ Presentations of the work outcome for each of the three groups were made during the workshop held on May 21st. ▪ July 30th. Visit to the South Drainage System of Cali, this activity included a meeting which the members to discuss the work plan for the second semester of 2008. ▪ August 2nd. Meeting of the alliance for the quality of the Cauca River water and its impact on the water supply system for Cali ▪ August 14th. Visit to south expansion area and meeting with the members of this alliance <p>At the moment, there are planning the foreseen activities for the three alliances for Cali to be realized in the last quarterly of 2008.</p> <p>All events have been documented rapidly and the reports are available on the website (http://switchcali.wordpress.com), the members of the alliance have been informed opportunely.</p>	
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Scenarios for objective 3. Demonstration activities are undertaken within a framework for scaling up	Score
Demonstration activities are initiated without discussion in the learning alliance.	0
Demonstration activities are decided with limited consultation within the learning alliance.	25
Demonstration activity plans are consistent (and/ or merged) with learning alliance action plans/ city storylines and are supported but without clear commitments to scaling-up by some one or more members	50 [benchmark]
Learning alliance members with potential to scale up demonstration activities pro-actively made suggestions and proposals that were addressed in demonstration plans.	75
Learning members maintain a keen interest in demonstration activities at all stages and show clear commitment to scale-up successful interventions in their policies and actions.	100
Justification of score	Score awarded
The proposals related with the demonstration activities has been developed and discussed in the framework of the Learning Alliances. Some of these activities has been proposed by stakeholders and are coherent with the context for Cali and philosophy of SWITCH project. However, this proposal must be adjusted and concerted with the interested stakeholder to participate in the planning and implementation of these ideas.	50

Scenarios for objective 4. We understand why change is occurring in relation to integrated urban water management, no just what happens	Score
No process documentation is in place.	0
Occasional process documentation is undertaken using some of available tools (including different media such as writing, photography, film etc) but with limited attention to detail or quality.	25
A few process documentation tools are used regularly but results are not widely shared	50 [benchmark]
Several process documentation tools are used regularly and results are widely shared within the learning alliance	75
Effective process documentation using a combination of tools tracks not just project	100

outcomes but why those changes occurred, especially the unexpected and unplanned, and sharing within the learning	
Justification of score	Score awarded
<p>The setting and consolidation of Learning Alliance for Cali, which was initiated at the beginning of 2007 (with preliminary activities) has been documented permanently and all stakeholders has been informed about the development of process.</p> <p>Between the tools of documentation used for alliances of Cali, are following:</p> <ul style="list-style-type: none"> ▪ Reports of all activities, which are shared with the stakeholders (the reports of the events made and the urban water management diagnosis, has been delivered to members of the alliance and are available on the website) ▪ Meetings and interviews with key professionals of the institutions (has been made different meetings for promotion, planning and information of the activities of SWITCH project and Learning Alliances, during 2007 and 2008) ▪ Diffusion of information (meetings, electronic and printed bulletins, lectures, website, among others) ▪ Videos and photographic register (the events made in the framework of the alliances have a register of photos and some of them have a video) <p>Recently the work group began to development strategies for the capture of information in the day to day to improve the documentation process</p>	75

Scenarios for objective 5. The learning alliance action plan/ city storyline is regularly reviewed and updated	Score
Learning alliance members are not aware of the learning alliance action plan/ city storyline.	0
There is limited awareness of the original learning alliance action plan/ city storyline but it has not been revisited or updated since it was produced.	25
Most learning alliance members known the contents of the learning alliance action plan/ city storyline and where to find the document	50 [benchmark]
Most learning alliance members known the contents of the learning alliance action plan/ city storyline and progress has been discussed regularly in meeting.	75
Every six months progress is checked against the plan, reported and changes are incorporated in a revised version of the plan	100
Justification of score	Score awarded
The action plan for the learning alliance for Cali has been built jointly with the stakeholders of each three alliances. All members known the plan and they are informed permanently of the advance of the activities, which they participate.	75

Annex 2. Reflections on governance, Learning Alliances as policy networks and knowledge transfer (by Emanuele Lobina)

Analytical and theoretical framework

Moriarty *et al.* (2005: 8) provide the following definition of Learning Alliance: “At its simplest a Learning Alliances is a series of linked platforms, existing at different institutional levels (national, district, community, etc.) and created with the aim of bringing together a range of stakeholders interested in innovation and the creation of new knowledge in an area of common interest. The stakeholders involved should have complementary capabilities which, when combined, will allow the new knowledge created in the innovation process to be brought to scale. Some of the key capabilities required are in: implementation, regulation, policy and legislation, research and learning, and documentation and dissemination”.

Smits *et al.* (2008: 4, 6-8) refer to the SWITCH approach, encompassing the use of Learning Alliances in the various SWITCH demonstration cities, as based on action-research and aimed at promoting a paradigm shift in integrated water resources management (IWRM). It is thus possible to describe LAs within SWITCH as a series of linked multi-stakeholder platforms striving for innovation and knowledge generation, not only in the technical areas of IWRM but also in policy and governance.

The below analytical and theoretical frameworks appear relevant to informing this evaluation.

Governance and participatory decision making

Agarwal *et al.* (2000: 16) identify the water governance crisis as one of the major problems affecting IWRM. Drawing on a definition by the Global Water Partnership, Rogers and Hall (2003: 16) refer to water governance as the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society. Castro (2007: 761) elaborates further on the concept of governance as emerging from mainstream literature. This consists of the interaction between different management regimes: state authority (hierarchy), private management (market competition), and civil society (voluntary participation).

Among the preconditions to good or effective governance, in both water resources management and water service provision, Rogers and Hall (2003: 9, 27-29) identify inclusiveness, predictability, accountability, transparency, participation, equity and ethics, coherence, efficiency, responsiveness and sustainability.

For the purposes of our analysis, the distinction between internal and external water governance is particularly significant. The former refers to the “functions, balances and structures internal to the water sector”, including legal agreements governing property rights. The latter extends the concept to embrace the influence of civil society and political actors on the management of water services (Rogers and Hall, 2003: 16-17). In that sense, Hall *et al.* (2007: 154, 156, 158) emphasise the importance of public participation and transparency in strengthening the democratisation, coherence and responsiveness of decision making on water sector reform.

Policy networks and Learning Alliances in water

Klijn and Koppenjan (2006: 144) define networks as “patterns of social relationships between mutually dependent actors”. These relationships are formed around policy problems or policy programmes (Klijn, 1997: 30), thus including LAs concerned with solution of policy and

governance issues. Actors strategically interact in pursuit of their own interests and objectives and such interaction is informed by the respectively available resources and the context which shapes the relationships. Resources include powers, status, legitimacy, knowledge and money. In turn, one actor's power is given by the perception other actors have of his or her power (Klijn *et al.*, 1995: 439-441). Context includes rules informing actors' engagement in the network, but also the technology which defines the limits of policy making and decision making (compare De Bruijn and Dicke, 2006: 721 on the interdependency between public values and technical infrastructure). Finally, relations can be characterised as transactional or conflicting. In the first case, actors exchange resources for the achievement of communal objectives. In the latter, resources are deployed for the attainment of divergent goals which generate antagonism (Hermans and Timmermans, 2001).

Klijn *et al.* (1995: 442) elaborate on the process of network structuring and enable us to derive insights on the strategic games which might take place in relation to the establishment and enlargement of LAs. It is in the phase of network structuring that LA facilitators have the power to decide which actors can access the network by invitation or other procedures.

The concept of game management is instrumental to investigating interactions between LA facilitators and stakeholders participating in the LA, but also among participants or between participants in the LA and initially excluded actors. Games are series of actions occurring between different actors in light of formal and informal rules (Klijn *et al.*, 1995: 439-442). In a participatory exercise such as the LA, characterised by the absence of a rigid vertical hierarchy of power, informal rules are likely to prevail over formal rules. A possible exception is represented by the eventual adoption of procedural rules by the LA to govern interaction between its members.

When inviting actors to join the LA, the LA facilitator acts as gate keeper holding the power to decide who can access the network or is to remain excluded. Subsequently, and especially if network interaction among LA members is governed by consensus, any other participant in the alliance might become gate keeper by holding a *de facto* veto against the access of new actors to the LA. Opposition might be due to rivalries between actors or actors' games and "agendas". Similar dynamics might also unfold between established LA members. In cases of conflict as well as of proactive collaboration, the influence of the LA facilitator in a non-cogent environment is most likely to derive from its prestige, perceived neutrality and ability to diffuse tension.

Knowledge generation and transfer through Learning Alliances

A possible definition of knowledge is the "awareness and understanding of facts, truths or information, gained in the form of experience or learning (*a posteriori*), or through introspection (*a priori*)"¹⁸. Interestingly and more pragmatically, Moriarty *et al.* (2005: 11) define knowledge as "the intrinsic ability of individuals or groups to carry out actions".

According to Antonelli (2005: 52, 55, 70-71), it is possible to identify three different and rival concepts of technological knowledge that have been developed since the second half of the twentieth century. The first concept, of knowledge as a public good, relies on the assumption that markets and profit-seeking actors cannot produce knowledge "in the appropriate quantities and with the appropriate characteristics". Knowledge as a public good is characterised by non-appropriability, non-excludability, non-exhaustibility and non-tradability. The second notion of knowledge as a proprietary good relies on the market for the generation and distribution of knowledge, for example through the use of intellectual property rights and the direct access of new high-tech companies to the stock exchange. Knowledge as a proprietary good would be characterised by limited appropriability, modular divisibility, fundability by private equity and limited tradability. However, it would also be

associated with limitations such as exclusion, concentration and the ensuing emergence of a trade-off between the incentives to knowledge generation deriving from commercial exploitation and disincentives to knowledge distribution. Antonelli's third concept is that of knowledge as a localised, collective, complex and path dependent process, which "is based upon a deeper analysis of the interaction of the generation and distribution of knowledge, the appreciation of the role of the variety of learning and creative agents, the understanding of their complementarity and systemic interdependence, in a context where prices do not and cannot convey all the relevant information". Furthermore, networks represent a vehicle for the distribution and generation of knowledge whose structure affects efficiency in the generation and distribution of knowledge within the networks themselves "and hence the actual availability of external knowledge" (Antonelli, 2005: 66).

Empirical evidence suggests that the above concepts of knowledge as, alternatively, a public good, a proprietary good or a localised, collective and complex, path dependent activity can be applied not only to technical knowledge but to any type of knowledge informing decisions on water governance. Moreover, while the definition of knowledge generation and transfer as a path dependent activity is more accurate, treating knowledge as a public good rather than a private commodity favours good water governance. Finally, policy networks created by local and international stakeholders around decision making in the water sector appear to be crucial to the distribution of knowledge (Lobina and Hall, 2008: 98-99).

In respect of knowledge generation and transfer dynamics within LAs, the following considerations impose. Both the definition of knowledge as a "localised, collective and complex, path dependent activity" and the prescription to treat knowledge as public good point to the merits of treating knowledge development as an inclusive participatory exercise. Reference to "awareness and understanding" contained in definitions of knowledge suggest that knowledge is more than mere information. Furthermore, stakeholders with relevant experience might contribute to the identification of new perspectives, and thus of new knowledge, even if they were outside the traditionally acknowledged elites of experts. The above emphasises the crucial role played by the LA facilitator in catalysing an open and inclusive process of collective and collaborative interchange. In this sense, LA members' trust in the facilitator's capability and integrity is of considerable importance. On the importance of trust as a catalyst for the transfer of water governance-relevant knowledge in the context of a multi-actor partnership, see Lobina and Hall (2006: 7).

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Notes

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- ¹ Source: Letter from Carol Howe, SWITCH Project Manager to Alberto Galvis, dated 22 April 2008.
- ² Source: interview with Douglas Laing, Independent expert.
- ³ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ⁴ Source: interview with Jorge Latorre, CINARA, Univalle.
- ⁵ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ⁶ Source: interview with Ines Restrepo, CINARA, Univalle.
- ⁷ Source: interview with Jorge Latorre, CINARA, Univalle.
- ⁸ Source: interview with Ines Restrepo, CINARA, Univalle.
- ⁹ Source: Letter from Carol Howe, SWITCH Project Manager to Alberto Galvis, dated 22 April 2008.
- ¹⁰ Source: interview with Gloria Pardo, planning department, municipality of Cali; interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process; interview with Ines Restrepo, CINARA, Univalle.
- ¹¹ Source: interview with Ines Restrepo, CINARA, Univalle.
- ¹² Source: interview with Yolanda Otero, DAGMA, municipality of Cali.
- ¹³ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ¹⁴ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ¹⁵ Source: Letter from Carol Howe, SWITCH Project Manager to Alberto Galvis, dated 22 April 2008.
- ¹⁶ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ¹⁷ Source: interview with Alberto Galvis, CINARA, Univalle and main facilitator of the LA process.
- ¹⁸ Source: <http://en.wikipedia.org/wiki/Knowledge>.