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Monitoring outcomes and impacts of capacity development in the water sector: a Cap-Net UNDP experience

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Abstract

Cap-Net UNDP is an international capacity development network for integrated water resources management (IWRM). Cap-Net's approach of working through regional and country networks is an effective method of drawing together various experts from different disciplines, fostering local ownership for capacity development and scaling-up implementation of IWRM. This paper discusses the lessons drawn from outcome monitoring of Cap-Net capacity development courses for 2 consecutive years 2010–12. Cap-Net follows the Monitoring, Evaluation and Learning Plan that it developed and this helps Cap-Net to learn about progress towards its objectives. It also allows for corrective measures to the on-going process in capacity development program delivery. Lessons from the outcome monitoring exercises provided guidance for revision of monitoring approaches in order to capture the outcomes and impacts and to contribute to the overall goal of Cap-Net. It was realized that interest and involvement of partner networks, continuous follow-up of the courses and standardized processes are important for successful monitoring.

Keywords: Capacity development; Evaluation; Impacts; Monitoring; Outcome

1. Introduction

Cap-Net UNDP is an international network for capacity development in integrated water resources management (IWRM). Cap-Net UNDP delivers two types of capacity development activities for IWRM through regional and country networks. The first type of activity responds to new ideas and approaches in IWRM and the second type addresses immerging issues responding to local demand. This demand responsive approach ensures both relevance and impact. Cap-Net works through partner networks that benefit from having the knowledge of experts from different backgrounds and disciplines who are working together to achieve a common goal. This opens up the opportunity to scale up action

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and share experiences rapidly across the countries and regions. The three main objectives of Cap-Net could be simply described as:

- 1. capacity development improvement of the capacity of individuals and organizations for sustainable management of water resources;
- 2. strengthening partnerships develop the capacity of partner networks to make better outreach and to collaborate on effective delivery of capacity development; and
- 3. knowledge management ensuring access to the new international and local knowledge, establish monitoring system.

Network strengthening and knowledge management helps successful delivery of capacity development. Cap-Net Capacity development courses are mainly found in two types; Training of Trainers (ToT) and non-ToT. ToT courses aim to train professionals to train others in the sector and non-ToT courses are organized by the partner networks mostly with the contribution of professional organizations in their country or region. Cap-Net courses provides training in technical and practical knowledge on different thematic areas under sustainable water resources management. The purpose of monitoring and evaluation is the measure and assess progress towards achievement of outcomes and outputs which are known as development results (UNDP, 2002). Cap-Net follows a pre-designed Monitoring, Evaluation and Learning Plan (MELP) that includes all dimensions for monitoring output, outcome and potential impact of capacity development, network development and strengthening and knowledge management (Cap-Net UNDP, 2009). The MELP, Cap-Net UNDP toolkit provides systematic guidance for conducting periodically monitoring while providing feedback to the on-going delivery process of Cap-Net capacity development. Technical reports on Cap-Net courses include the responses to a follow-up questionnaire that is used to monitor the capacity development output although outcomes need to be captured by a separate assessment. This paper specifically focuses on outcome monitoring of the capacity development courses from 2010 to 2012.

The specific objectives of the paper are:

- to discuss the appropriateness of MELP tools and methods adopted in the outcome monitoring of courses by Cap-Net;
- to learn from the past and feed back into the process in order to improve tools and procedures adapted in Cap-Net capacity development courses; and
- to assess the progress towards achievement of planned outcome in Cap-Net's logical framework.

2. Method

The outcome monitoring process was started by reviewing internal documentation on the Cap-Net MELP and technical reports of the conducted courses. Monitoring exercises were conducted on two periods starting in October 2011 and August 2012 which spend approximately 3 months for each monitoring event. The Cap-Net MELP has included a questionnaire for outcome monitoring of the courses conducted by regional and country networks. Therefore both monitoring exercises adapted the same questionnaire, but with several modifications (Annex 1 and 2, available online at http://www.iwaponline.com/wp/015/021.pdf) in order to obtain answers easily from the course participants. The courses conducted within a 6–12 month time period prior to the monitoring exercise were considered for monitoring taking into account that the participants

Year of exercise	Time period considered	Number of courses conducted	Number of courses monitored	Sampling method	Questionnaire
2011 Oct	June 2010 May 2011	30	16	Purposive sampling based on network interest	4 questions sent via email (Annex 1)
2012 Aug	June 2011 April 2012	27	18	Selected all possible courses to monitor ¹	5 questions sent via email with web link (Annex 2)

Table 1. Details of outcome monitoring exercises in 2 consecutive years.

would have had the opportunity to implement the knowledge gained and perhaps noticed any impact. Table 1 describes the details of courses which were included in the outcome monitoring. All the data that are used for the illustrations throughout the paper are based on the monitoring reports in 2011 and 2012.

In 2011, networks mangers were allowed to select the courses to be monitored according to their interest and they were asked how to contact participants either through the network or directly by Cap-Net (Mohando, 2011). In 2012, 18 courses were taken for the assessment, but nine were excluded for practical reasons using a plan to follow a different procedure for outcome monitoring (monitoring by the network that implemented the course). The courses conducted during the selected periods of 2 consecutive years can be categorized into the main themes shown in Table 2.

The 2011 questionnaire (Annex 1) consisted of four open ended questions and provided to answer by email (Mohando, 2011). The 2012 questionnaire (Annex 2) consisted of five questions with a closed ended part and an open ended part and provided participants, via email with the possibility of answering using either a web link (Google docs) or directly in the body of the email according to their preference.

	Number of course	s conducted
Theme	2011	2012
IWRM principles and planning, water allocation	6	2
Climate and water	5	4
Gender and water	4	0
River basin management	4	2
Environment/water pollution	4	0
Transparency and integrity in water, water governance	2	2
Groundwater	1	5
Data and information management, financing in water sector	1	1
Flood management, hydro-climatic disaster	1	3
School training	1	1
Urban water management, water supply and sanitation	1	2
Water conflicts - understanding and resolving	0	5
Total	30	27

Table 2. Categorization of courses conducted in the selected periods for monitoring.

¹ Seven courses were already in the process of being monitored by the partner networks that were involved in those courses. One course conducted for grass root level community leaders was difficult to assess by a web-based survey, and one course was not suitable for assessment using the questionnaire. Therefore these nine courses were excluded from the assessment.

Data analysis became much easier when the web link was provided, but some respondents may not have had time or suitable internet access to go to the web link to answer. Two reminders were sent in 10 days intervals from the day the questionnaire was sent. The responses were tabulated in an Excel worksheet and analyzed to present the overall outcome.

Some selected participants were consulted for follow-up questions on their answers to the questionnaire in 2012. Individuals for further consultation were selected based on their responses on progress they made after the course. Short stories were developed and this helped to identify the potential impact of the courses and constraints to achieving an impact. Outcome mapping was done in order to evaluate whether Cap-Net is heading towards achieving the expected outcomes of its strategic plan 2010–13. The results were compiled and discussed for corrective measures using lessons learnt during the monitoring process.

3. Results and discussion

3.1. Courses and participation

Two assessments covered 34 capacity development activities supported by Cap-Net and delivered through its partner networks benefitting a large number of participants across the regions, as categorized in the Table 3 and 4.

Region	Number of courses in 2011	Number of courses in 2012	Distribution of participants 2011 (%)	Distribution of participants 2012 (%)
Latin America and Caribbean	9	4	60.4	25
Africa and Middle East	4	8	24.7	42
Asia	3	6	14.6	27
Not clearly mentioned/ other regions			0.3	5
Total	16	18	100 (<i>n</i> = 364)	100 (<i>n</i> = 587)

Table 3. Distribution of courses among the regions.

Table 4. Countries represented by the participants in each region.

Africa and Middle	Burundi, Chad, DCR, Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda,	Latin America Caribbean	Argentina, Brazil, Colombia, Costa Rica, El Salvador, Guatemala, Mexico, Nicaragua,
East	South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe, Botswana, Burkina Faso, Congo, Côte d'Ivoire (Ivory Coast), Egypt, Gambia, Guinea, Guinea–		Panama, Peru Anguilla, Antigua & Barbuda, Barbados, Dominica, Grenada, Guadeloupe, Nevis, St. Kitts, St. Lucia, St. Vincent & Grenadines, Trinidad and
	Bissau, Lesotho, Liberia, Lebanon,		Tobago
	Nigeria, Palestine, Senegal, Sierra Leone, Togo	Asia	Bangladesh, India, Indonesia, Malaysia, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam
		Europe and other	Spain

Gender	2011 (%)	2012 (%)
Male	61 (<i>n</i> = 223)	30 (n = 178)
Female	36 (n = 132)	13 (n = 77)
No data on gender segregation	3 (<i>n</i> = 9)	57 $(n = 332)$

Table 5. Gender distribution among the participants of monitored courses.

When considering the participation in the courses monitored in 2012, the highest number was from Argentina (136) and then from Kenya (65) and Zimbabwe (68), whereas considerable numbers were from Malaysia (33), Bangladesh (33), India (35) and Pakistan (28). In terms of gender, the majority was male in both years monitored (Table 5), but gender data have not been clearly reported in 2012 because they have not been included in some of the documents (technical report or participants list). Participants' profession and area of work is also important to determine their potential area of contribution. Table 6 shows the participant distribution based on their area of work.

The majority of the participants were from the education and research institutions followed by other government organizations. Through organizing regional training activities Cap-Net expects the participants will disseminate their knowledge among professionals in the sector in their own countries.

3.2. Responses for the outcome monitoring survey

Response percentages for the questionnaire were very low for both monitoring years (135 in 2011 and 64 in 2012). There were three courses with zero response in 2012, which gives Cap-Net a red signal to think back to the process and suggest some remedies for future monitoring. Some participants responded very promptly and enthusiastically, but it was very difficult to obtain responses from the majority, as shown in Figure 1. The lowest responses were found for the courses that were conducted relating to the following themes.

- Climate change and IWRM, hydro-climatic disasters
- Applications of WRM indicators, IWRM for river basin organizations (RBOs)
- Transparency, water integrity and governance
- Water sector financing.

Low responses were collected for several reasons, for example, not having the correct email addresses for some participants who changed organizations and only gave the old organizational email address,

Participants' area of work	2011 (%)	2012 (%)	
Education/research	38	53	
Government	39	25	
Civil society organization	12	3	
Private sector	4	5	
International organizations/ networks	1	5	
Other projects	6	9	

Table 6. Participants' area of work.



Fig. 1. Response percentages for the outcome monitoring surveys in 2011 and 2012.

participants on the lists who did not attend (a few responses mentioned 'I was not a targeted participant for this course', implying that some support staff or students who did not attend the course may have been included in the list), inclusion of facilitators and supporters in the same list without demarcation, participants who did not have an email address and so on. This is a remarkable point in monitoring and it shows the importance of having a more precise and standard format for the list of participants which is a most useful component required in monitoring.

Respondents to the questionnaire represent 30 countries from different regions of the world. However, a large number of participants from some countries where the courses were conducted did not respond well (Table 7). It will be important in future to make participants aware about the outcome and impact survey, probably during the course, so that they are prepared when they receive the survey questionnaire.

Even though it is difficult to provide conclusions in the absence of some respondents' data from a representative sample, it is worth discussing the results of respondents who did reply. Two assessments had quite different questions, but information gathered from those questions can be summarized together. A majority (>90%) of the respondents have used the acquired knowledge from the course for their performance at work as summarized in Table 8. Also, a majority have made use of this knowledge to improve academic performance at work by enhancing materials, introducing new concepts and so on, while a few reported actions to influence policy making.

Many respondents (62.7% in 2011 and 90.6% in 2012) have shared the knowledge with people outside their organization through conferences and networking, training stakeholders and water users, discussions, distribution of training materials, curriculum development and reforms, by incorporating it into proposals and presentations (Table 9).

Since the two assessments used different questions it is difficult to compare the answers. Responses from both years revealed that the questions should be simple and clear to be easily understood by the respondents. In the 2012 questionnaire, participants were given closed ended questions and asked to elaborate the answer, which helped to capture their success stories and the constraints they faced in using or sharing the knowledge. Since the response percentage was very low in 2012, it is advisable to rephrase the questions with much simpler wording and reduce the number of questions to gather most important details only (it might be possible to combine two questions and make it simpler for the respondent). It is necessary to revise the monitoring strategy that was adopted in the past 2 years so that network managers and course coordinators are closely involved rather than MELP being run by the Cap-Net secretariat.

No.	Country	Participants	Responses	No.	Country	Participants	Responses
1	Argentina	136	5	24	Rwanda	3	2
2	Brazil	7	1	25	Senegal	1	0
3	Colombia	1	0	26	Sierra Leone	3	0
4	Costa Rica	2	0	27	South Africa	8	4
5	El Salvador	1	1	28	Sudan	3	0
6	Mexico	2	2	29	Swaziland	1	1
7	Botswana	2	0	30	Tanzania	13	1
8	Burkina Faso	3	1	31	Togo	8	0
9	Burundi	11	1	32	Trinidad & Tobago	1	0
10	Congo	9	2	33	Vietnam	1	1
11	Côte d'Ivoire	4	1	34	Uganda	7	0
12	Egypt	3	0	35	Zambia	10	0
13	Ethopia	7	1	36	Zimbabwe	68	4
14	Gambia	3	3	37	Indonesia	1	1
15	Guinea-Bissau	3	1	38	Malaysia	33	3
16	Guinea	3	0	39	Bangladesh	33	1
17	Kenya	65	6	40	India	35	11
18	Lebanon	1	1	41	Pakistan	28	1
19	Liberia	3	1	42	Srilanka	2	1
20	Mozambique	1	0	43	Thailand	26	3
21	Namibia	3	1	44	The Netherlands	1	0
22	Nigeria	1	1	45	Denmark	2	0
23	Palestine	1	1		Undefined	27	0
					Total	587	64

Table 7. Responses from different countries in 2012^2 .

Table 8. Answer to question number 1.

Have you used the knowledge from the course to improve your performance at work?2011 (%)				
No	Still in planning	3.7	4.7	
	Facing constraints		3.1	
Yes	In progress	93.3	57.8	
	Already done		34.4	
No answer	-	3		

3.3. Short stories

Short stories developed by consulting the respondents show how the knowledge is being used in water sector capacity development or in water management practices. Figure 2 shows the distribution of 17 short stories among the regions, some of which have been included in this paper.

 $^{^{2}}$ In the 2011 report no data were reported on the geographic coverage of the respondents. Therefore the table gives only 2012 data.

Have you shared the stakeholders outside	e knowledge with colleagues/ e your organization?	2011 (%)	2012 (%)
No	Still in planning	35.1	7.8
	Facing constraints		1.6
Yes	In progress	62.7	50.0
	Already done		40.6
No answer	-	2.20	

Table 9. Sharing the knowledge with outside stakeholders.



Fig. 2. Reported stories distribution in different regions.

The first two accounts elaborate on how participants have disseminated the knowledge through discussions and training workshops and applied in programs.

3.3.1. Short story from Burundi. The Climate Change Adaptation: Strategies and Tools training workshop was conducted by the Nile Basin Capacity Building Network with the objective of strengthening the capacities of the Nile basin water professionals in dealing with climate change issues. Dr Nyandwi Venant is an assistant lecturer at the University of Burundi and a member of Friends of the Earth (Les Amis de la Terre Burundi – ATEBU), Bujumbura, Burundi. He says that 'After the course I've gained new ideas and I use them in some work like consultancies and meetings as much as possible.' He has discussed some climate issues with members of Nile Discourse Forum (NDF) especially on the need to include climate change issues in any project. The NDF is involved in building some national policies as a team. Delegates from the NDF were active where Burundians were elaborating a water policy and poverty reduction strategy framework.

Dr Venant has trained 18 journalists in order to build their capacity on climate change. This training was held on 12th September, 2011 in Bujumbura Press House. His colleague Mr Apollinaire Niyirora conducted a session on environmental reporting techniques for journalists. After the training course, the facilitators noticed some impact of the training course. They were invited by some journalists to answer questions related to the environment after the workshop and nowadays. Media and papers in Burundi talk more about environmental issues now.

3.3.2. Master plan to solve flood issues on the Argentine coast. The Integrated Urban Flood Management ToT took place in Brazil and was hosted by the Institute of Hydraulics Research in collaboration Cap-Net Brazil. Alejandro Miguel Felizia, who works in the coastal regional center of the National Institute of Water located in Santa Fe, Argentina, participated in the training. He says that 'among other tasks, we are committed for many years to the preparation of master plans and strategic planning tools to solve flooding problems in the cities of the Argentine coast'. He, together with the team, is currently developing the first phase of a master plan for Reconquista city, located in the north of the Province of Santa Fe. The city of Reconquista is a very important agro-industrial development center. The aim of this first stage is to define a diagnosis of the different situations that arise from storm flooding from different rainfall events. In a second stage, adapting the contents of an integrated urban water management, they will proceed to develop a master plan to address the problems of urban flooding.

In the diagnostic phase of this project, Mr Felizia has been able to apply the knowledge gained in the course, particularly adapting integrated urban water management to the methodology of the project. In the future this project will continue to be applied in a practical way. He has shared the knowledge he gained with his colleagues at the National Institute of Water located in the Santa Fe city and works with them on the project mentioned above.

There were some stories that contributed to national policy level planning, as illustrated by the following two accounts.

3.3.3. Outcome of story on developing groundwater regulations. A Groundwater Management within River Basins course was held by AGW-Net. Dlamini Tom Titus participated in this training and is working in the Department of Water Affairs, Swaziland. He acknowledged that 'Since groundwater is an invisible resource controlled by geology, the training was able to boost my understanding of geology.' He commented that all the modules and especially the groundwater abstraction, legislation and related modules helped him in taking further action. He has identified several key issues related to groundwater in Swaziland.

Key issues: Although groundwater is a major source of water supply in Swaziland's industrial and small scale agriculture, it has been ignored as a crucial economic input. Poor people usually suffer since they have no alternative to obtain water from elsewhere. Authorities (decision makers) and other water users have been ignoring the governance of groundwater. They only observe when a borehole is dry or during drought when surface water or rainfall have declined. Spontaneous and substantial use of groundwater has resulted in serious and mounting problems of decline in quality and quantity. Government and the civil society (NGOs and private companies) are responsible for drilling boreholes. There is no solid database center because data are scattered. Climate change will have a negative impact on groundwater because it is part of the hydrological cycle.

Before the Water Act 2003 came into force, groundwater was managed by the drilling unit of the Department of Geology under the Ministry of Natural Resources and Energy. The National Water Authority, five River Basin Authorities and the Department of Water Affairs were formed by the current Water Act. The Water Act stated that all water related issues must be handled by the River Basin Authority and National Water Authority. Previously there were no groundwater regulations, but the training has encouraged Dlamini and provided the required knowledge to develop groundwater regulations that support IWRM principles. Prepared groundwater regulations will be presented to the National Water Authority and to stakeholders for comments. They will then be taken up by the honorable minister of Natural Resources and Energy to enforce. Dlamini has been involved in groundwater modeling that will enhance the sustainable use and management of the resource. Since some aquifers are

trans-boundary, groundwater modeling would help in the management of these types of aquifers. Some of the major aspects that Dlamini has suggested in new regulations are application for authority to conduct groundwater exploration, consent to conduct groundwater exploration, borehole sinking permit, permit to conduct groundwater abstraction, groundwater abstraction permits for existing borehole or wells, survey for groundwater resources, borehole disinfection, groundwater assessment, cancellation of a groundwater borehole drilling permit, and so on.

Dlamini is happy with the contribution he made using the knowledge he gained from the course. The challenge that he has faced is the inability to meet stakeholders to discuss proposed groundwater regulations because of financial constraints.

3.3.4. Contribution towards economic plans and policy decisions. The training workshop on Innovative Water Sector Financing aimed at strengthening the capacity of water service providers, their association and the water resources management authority (WRMA) and primarily targeted financial managers and managing directors of water utilities and the catchment managers of the WRMA. Hellen Musyoki, is a senior economist at the Ministry of Water and Irrigation in Kenya and participated in the training. She has been able to assist in the design and development of funding mechanisms for the ministry's vision 2030 projects, with knowledge of the different perspectives of water financing gained during the course. The course was very important to her. Details presented for poor credit rating of most water service providers were the main aspect she was interested in. She highlighted that it was good to see the situation of financing in the water sector from the provider's perspective, that is, the Water Services Board's funding mechanisms for vision 2030 projects. She has suggested continuing stakeholder consultations throughout the project cycle to identify suitable funding mechanisms for each type of project. The main weaknesses and gaps in the current financing mechanism of water services in Kenya are lack of innovative funding sources and over reliance on excessive subsidization. She has outlined all possible sources of finances for the projects, but the challenge that remains is to incorporate sufficient income generation to recover costs and provide for extensions. This situation has directed her thinking towards research to provide evidence-based strategic decisions and policies in the overall management of water services provision. So, Hellen is currently undertaking a research 'assessing the cost efficiencies of water service providers in Kenya'. She is expecting to publish the research paper and share it widely. As she explained, it will show which inputs the sector uses efficiently or wastes and hopes to suggest means of improving these to make them sustainable. Hellen has joined the Kenya Institute for Public Policy Research and Analysis (KIPPRA) as a young professional to develop policy research and analysis skills. Developing policy research and analysis skills was identified as a requirement for the ministry and other sector institutions as well. She is keen to mention that 'I hope to initiate or continually develop various research agendas to answer most of the policy problems of the sector.'

3.4. Cap-Net strategic plan and outcome mapping

The Cap-Net strategic plan is based on the Logical Framework Approach (LFA) and has described goals, objectives, outputs in the causal chain of results with expected outcomes and impacts to contribute to IWRM implementation. In general, the strategy is designed in such a way that a direct and casual attribution of outcome and output is ensured (Roduner *et al.*, 2008). Output measurement indicators that have already been identified in the planning stage should be available for use in monitoring achievements independently and objectively. It was noticed that some of the specified indicators of

Cap-Net's strategic plan are not practically measurable within the prevailing program strategy and organizational practices. Since Cap-Net programs are run by networks over which Cap-Net has no direct control, the outcome monitoring of capacity development intervention becomes a challenge. When compared with the general LFA matrix which has 16 fields, Cap-Net follows the same format and has a defined comprehensive set of indicators to use in monitoring, but needs to improve methods of program delivery in a way which could facilitate monitoring and reporting separately on outputs and outcomes at the time of program delivery. Usually the objectives of the program will be expected outcomes and goals formed by the overall objective/expected impact. Verifiable indicators need to be defined accordingly and the focus will be on the outcome monitoring using good measurable indicators and impact evaluations and also on learning and feedback into the process of program delivery.

Outcome mapping with qualitative analyses is required to learn what type of outcome/impact occurs, to make the changes in approach to capacity development that are currently undertaken and to identify what support is further required to improve the performance of affiliated and partner networks. Cap-Net outcome mapping becomes more comprehensive because the program delivers through regional and partner networks with the vertical integration of different stakeholders at different levels of intervention. In this situation; changes in behavior, relationships, actions and activities of the regional and partner networks affect the overall attribution of Cap-Net impact on water resources management. Figure 3 adapted from Roduner *et al.* (2008) describes a basic model for outcome mapping and it is particularly applicable to Cap-Net. Where partner networks act as the change agent in IWRM, the expected outcome of Cap-Net becomes the outcome challenge of partner networks. Progress markers can be used to measure progress towards these outcome challenges. When the partner networks have strategic plans that align with the strategic plan of Cap-Net, it will contribute to achieving Cap-Net's goals.

As shown in Figure 2, the indicators become the outcome challenge of regional and country networks and the progress markers are the things that network expected to see towards achieving the outcome challenges. As an example:

- Outcome challenge 1: Knowledge is used in national level policy planning and implementation.
- Progress markers: Network members involved in policy planning or work for advocacy, guidance, or knowledge dissemination to relevant officials in policy making institutions.



Fig. 3. Outcome mapping logic model (Source: Roduner et al., 2008).

Cap-Net program strategies are focused on providing knowledge, training materials and the required support to the network in achieving progress markers. It is not necessary for one network to have all the outcome challenges related to all the defined indicators given in the LFA, but the collective effort of all networks will constitute the final outcome for Cap-Net.

The descriptive results of the outcome monitoring survey were analyzed and discussed against the expected outcome of the logical framework (strategic plan). Twelve indicators were identified that reflect the expected outcomes of LFA in order to analyze the descriptive answers. It should be noted that these classifications are not to assess the entire program of Cap-Net, but to identify what kind of outcomes were realized using the knowledge gained from the courses conducted.

Table 10 shows the percentage of respondents with different types of outcomes in 2012, as measured under each 12 indicators³. A majority of the respondents (more than 75%) have improved their knowledge and competency in IWRM, used it in their work related to IWRM in their present jobs and widely shared the acquired knowledge. About 37.5% have applied the knowledge in basin level management, pollution prevention, water safety planning, climate change adaptation, groundwater management and water supply and sanitation, and so on and similarly 37.5% have promoted IWRM practice among stakeholders. A considerable percentage (18.8%) has contributed to national level policy planning. Only 6.2% have delivered capacity development making use of gained knowledge. It was satisfactory to notice that efforts have been made to influence other related stakeholders in IWRM by around 58% of the respondents, through research or sharing knowledge and by 37.5% through their involvement in IWRM practice.

Out	come indicator	'Yes' (number of respondents)	Percentage (%)
1	Knowledge and competency on IWRM of the participants is improved	62	96.9
2	Stakeholders (other than the own organization) in related field are supported/ promoted to practice IWRM	24	37.5
3	Knowledge is practiced in basin level management, pollution prevention, water safety planning, climate change adaptation, groundwater management and water supply and sanitation	24	37.5
4	Knowledge is used in proposals for new projects related to IWRM implementation	23	35.9
5	Knowledge is used in work in present job related to water	51	79.7
6	Knowledge is used in national level policy planning and implementation	12	18.8
7	Capacity building delivered through gained knowledge	4	6.2
8	Knowledge integration is done in research and knowledge development	15	23.4
9	Knowledge is widely shared	58	90.6
10	Research and/or knowledge sharing has encouraged effort to influence other related stakeholders to practice IWRM	37	57.8
11	Contribution is made to develop competency of students and academic staff	23	35.9
12	New knowledge documented/published	11	17.2

Table 10. Percentage of respondents who performed under each outcome indicator.

³ It should be noted that outcome mapping was only done for 2012 results of the survey. Answers for all questions were used to categorize the outcome into the indicators given and the percentages were calculated from the number of respondents.

It is important to compare the outcome achieved among different types of respondents: that is course types and institution types, to focus program strategies in the future. Table 11 explains that academic professionals have applied the knowledge in research, staff and student capacity development, while knowledge has been widely shared and efforts made to influence other stakeholders through sharing of knowledge and research work.

Although it is expected that knowledge from ToT will be used in local capacity building programs, it has not been achieved to a satisfactory level. It is important to notice that a high number of responses from academics of both ToT and non ToT courses indicate that further dissemination of knowledge through academic/research institutions will be effective, but follow-up and further support for organizing local training/workshops through affiliated networks taking the contribution of already trained professionals are required to achieve the Cap-Net objectives. Knowledge should be transferred to those working in water sectors (practitioners) in order to get the expected outcomes and impact. It is clearly noticed that participants those who have disseminated the knowledge through trainings have achieved good output as discussed in short stories.

3.5. Lessons learnt and feedback for Cap-Net capacity development delivery

Capacity building providers need to be honest and open enough to monitor and evaluate their processes seriously and be more effective when monitoring and evaluation is delinked from the funding decisions (Simister & Smith, 2010). Similarly, Cap-Net would like to take lessons from two assessments as feedback to the ongoing processes as planned in the MELP. The number of respondents was

Indicator vs. institution type	Stakeholders (other than the own organization) in related field are supported / promoted to practice IWRM	Knowledge is practiced in basin level management, pollution prevention, water safety planning, climate change adaptation, groundwater management and water supply and sanitation	Knowledge is used in national level policy planning and implementation	Capacity building delivered through gained knowledge	Knowledge integration is done in research and knowledge development	Knowledge is widely shared	Research and / or knowledge sharing has encouraged effort to influenced other related stakeholders to practice IWRM	Contribution is made to develop competency of students and academic staff
Academic, research and advocacy	8	4	3	3	13	30	20	22
Government institutions and ministries	9	10	8	1	1	15	11	1
NGO/CBO/Projects and other	7	10	1	0	1	13	6	0

comparatively high where some follow-up work has been done and where there is good communication between the participants and the network. The best example is the water conflict forum hosted by SCAN (Cap-Net partner network for South Asia), where participants were reminded about the questionnaire via the forum. Responses were low where the local network was not supporting the process. Respondents percentage for ToT (strengthening networks) courses was high (30%) compared to the respondents percentage for regular courses (8%). This shows that the monitoring and evaluation process cannot be done successfully without the involvement of the network or organizer who conducted the course. Therefore, it is very important to build-up awareness in the affiliated networks of the necessity of course follow-up work and maintaining records of outcomes in order to monitor the achievement of expected impacts. Course follow-up and outcome monitoring should be a joint responsibility with the affiliated network and activity organizers.

Respondent percentage is higher from academic institutions (45.3%) and government institutions. This could be analyzed properly if all the required data are available for the entire participant list. It was sometimes very difficult to distinguish course participants and facilitators. Targeted participants and facilitators should be mentioned separately to avoid double-counting. Standardization of the procedures and reporting formats, awareness building of affiliated networks on MELP and the strategic framework of Cap-Net is important to have a better response and to make it easier to monitor and evaluate outcomes and impacts. Participants' institutions should be properly mentioned. These errors can be minimized by adopting a participants' data form which is filled before the course by the participants, as is done by some partner networks.

Responses during the survey revealed that some new knowledge has been developed through research and regular work related to IWRM, but no mechanisms are in place to acquire, report, properly document and use this knowledge by the network as well as the member organizations. There are some participants who effectively made an effort to integrate the knowledge in their work, but were constrained owing to lack of further knowledge or lack of motivation by other stakeholders. This is where follow-up is required by the network to contribute in work towards achieving outcome challenges. One important point that should not be forgotten is that the time between a capacity building intervention and the desired end result may be very long (Simister & Smith, 2010). Therefore, although it would be really difficult to capture, it is important to maintain and update participant's records regularly and know their further developments and requirements. It is advisable for each network to maintain a proper database of the courses and participants. This would help to strengthen the network, acquiring new knowledge to use in material development and case studies for future training. A common developed database format for all the networks will make it easier to monitor and coordinate activities with the global program of Cap-Net. Participants also should be made aware of the importance of tracking their outcomes, of communication with the network and responses to surveys. Guidance for 'Outcome of the course and expected contribution from the participants' should be a necessary part of any training course.

It is important to review the questions used in the monitoring exercise. When analyzing the content of the answers given by respondents to the four questions, use of knowledge (first question), sharing (second question) and personal development (third question) cannot be separated from each other. When the participants are from a government or non-government institution other than an academic one, it is easy to separate the improved performances of their own organization and the sharing of acquired knowledge outside the organization. Participants who are in academic professions would have face difficulty in demarcating the information under the questions we ask because use in teaching is the same as the knowledge sharing. However, this can be discussed further and beyond the framework that we have already adapted to shift to another approach of questioning to capture outcomes. During the above analyses, it was experienced in fact that information is insufficient for outcome mapping. A basic principle is that monitoring should not be an unnecessary burden on the individuals/ organizations (Simister & Smith, 2010), but it is very difficult to capture the outcomes without their commitment to answer the question. So this is a debatable question in designing any monitoring and evaluation survey.

A low responses percentage implies that either Cap-Net outcomes are difficult to measure by questioning participants even though it has contributed to the knowledge and capacity development of the IWRM or Cap-Net has not made an impact through non-responding participants. Although the 2012 questionnaire is a development of the 2011 questionnaire, it might be more comprehensive for respondents and could be a reason for the low percentage of responses. Therefore this monitoring exercise provides Cap-Net with strong evidence to be more attentive to reviewing the questions, developing more systematic procedures and templates to be used in the process of contracting and delivering capacity development events. Participants should be informed and made aware on the MELP of the expected outcome by them into the system at the program commencement itself.

4. Conclusions and recommendations

The aim of Cap-Net through its capacity development programs is that course participants contribute to IWRM implementation with their acquired knowledge. However, outcome monitoring to assess the impact has its own uncertainties regarding the gathering of required data and results depend on contributing factors that determine how course participants make use of their acquired knowledge. This is demonstrated by the low percentage of respondents to the impact assessment when applying the MELP. Importantly, the results show that the outcome and impact of capacity development efforts are long term, but very difficult to capture. Impact mostly depends on changes of beneficiaries and their institutions.

Cap-Net courses have made an impact on water resources management in various ways and have also contributed to policy level decision making. The majority of the respondents have improved their knowledge and competency in IWRM, used the knowledge in their work and widely shared the acquired knowledge. A considerable number of participants have applied the knowledge at basin level management, pollution management, climate change adaptation, groundwater management and water supply and sanitation. Efforts have been made to influence other stakeholders in IWRM, mainly through research or knowledge sharing. Some respondents actually made efforts to integrate the knowledge in their work, but were constrained by lack of motivation of other parties involved. It is important to maintain and update participants' records and their further training needs and technical assistance required by the partner networks. Outcome monitoring provides lessons for course delivery as well. Changes in behavior, relationships, actions and activities of the regional and country networks affect the overall contribution of Cap-Net to water resources management. Therefore, it is important to encourage networks to develop their own strategic plans and monitoring systems. It is equally important to standardize processes and reporting on capacity development delivery and create awareness among participants regarding goals and expectations. In assessing capacity development outcomes and impacts it is very important that the partner networks and their members are actively involved in the process.

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