

## NETWORK PROGRESS REPORTS - 2016

### Name of the Network

CapNet Lanka

### Period covered by the report

Annual progress

Mid year progress

Host Institution and address Post Graduate Institute of Agriculture,  
University of Peradeniya, Peradeniya, Sri Lanka

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Network Website: [www.capnetlanka.lk](http://www.capnetlanka.lk)

### Core support contract number:

### Network Management

During the reporting year of 2016, Prof. E.R.N. Gunawardena and Ms. Tharanga Randunu served as a Country Coordinator of CapNet Lanka and Administrative Assistant / Secretary respectively.

The host Institution, the Post Graduate Institute of Agriculture continued to provide office space and all other logistical arrangements for the CapNet Lanka Secretariat to continue its activities. A printer was procured to the CapNet Lanka Secretariat during 2016.

The Country Coordinator represented various forums and represented CapNet Lanka. He delivered a presentation on "Capacity Development in Water Resources Management: Sri Lankan Context" at the World Water Day organized by the Natural Resources Management Center of the Department of Agriculture at the PGRC, Gannoruwa.

During the year 2016, documentation with regard to the functioning of CapNet Lanka since its inception in 2003 has been compiled.

After a long delay, the CapNet Lanka website has been updated. The materials to be uploaded will be taken from the compiled information described in the previous paragraph. It is expected to complete the website during the first half of 2017.

A total of 19 new members were added to Cap-Net Lanka family in year 2016. The list of all the CapNet Lanka members as at present is given in Annex 2.

## Summary of network activities

### 1. Training Workshop on Rainwater harvesting to cope with the impact of Climate Change on Water Resources

The above training programme was held from 16-17<sup>th</sup> June 2016 at the Rain Water Harvesting Forum in Colombo to disseminate the knowledge on climate change impacts on water resources and rainwater harvesting as an adaptation measure among front-line officials in the water sector institutions, representatives of water supply schemes and community based officials and to provide a forum for the institutions and individuals to share the knowledge gained.

A total of **34** participants attended the training workshop and 9 were female and the rest were male. Following each presentation participants were allowed to discuss their views and clarifications. There was a very active discussion session after each presentation. Overall all the participants expressed that this training is very relevant to their work. Almost all the participants said that the workshop gave good knowledge and it was useful to their official activities related to climate change impacts, groundwater quality and health hazards and rainwater harvesting. Further the participants made a note that the adaptation for rainwater harvesting is very low among the rural people due to misconceptions. It was also discussed that the government interventions are prominent only after the disasters to provide relief but not for long term sustainable solutions. Therefore the policy makers should be made aware of these climate change impacts and plan for the needs of the community of the dry zone areas on safe drinking water and floods and landslides in the wet zone areas respectively. Further it was also highlighted that the rainwater harvesting is a good option for wet zone too where large volume of rainwater from roofs are discharged to the roads and canals which make flash floods and water logging. Therefore in wet zone the people should be encouraged to store the water coming from their roof during rainy season for various purposes.

All the participants agreed to take the knowledge gained to their respective departments and institutions and educate other officers too on the impact of climate change on water resources, groundwater quality and health aspect and the need for rainwater harvesting and the design, operation and maintenance of these RWH systems.

Lanka Rain Water Harvesting Forum, The Open University of Sri Lanka and the CapNet-Lanka of the Postgraduate Institute of Agriculture organized the training programme.

### 2. Capacity development of farmer leaders in medium irrigation schemes empowering them on participatory decision making

Since CapNet Lanka works as a network of partners, it was decided to facilitate an activity suggested by the Sri Lanka Water Partnership. Accordingly, the CapNet Lanka liaised with Sri Lanka Water Partnership (SLWP) and Global CapNet to facilitate the organization of farmer training programme on Climate Change Adaptation. Two programmes were organized by SLWP and held in collaboration with the Irrigation Department on 23<sup>rd</sup> and 24<sup>th</sup> March 2016 for farmers and officers of the Irrigation Department at Angunakolapelle to mark the World Water Day. The other two programmes were conducted for Farmer Organisation Leaders of Medium and Minor irrigation schemes in Kurunegala District at Batalagoda and Wariyapola on

9<sup>th</sup> May and 24<sup>th</sup> May 2016 respectively. This activity was coordinated by Ms BadraKamaladasa and Mr RanjithRatnayake.

3. Awareness Programme on Climate Change Adaptation (CCA) for Farmers and Officers in Irrigated Agriculture.

Sri Lanka Water Partnership(SLWP) has been conducting CCA programmes focused on rural farming communities especially in dry zone irrigated agriculture areas since 2013 under a GWP initiative supported by DFID. Funding has reduced considerably in 2015 and 2016 and SLWP sought the assistance of Cap-Net for support to conduct a programme for officers and farmers in Monaragala. This programme was tied to World Water Day (WWD) activities of SLWP.

A programmes for 24<sup>th</sup> March 2016 for officers of the Irrigation Department were conducted at the Field Crop Research Station Angunakolapellessa of the Department of Agriculture. Considering the cost outlays and timelines for meeting contractual obligations it was decided to reprogramme the Farmer activity for Farmer Organisation Leaders of Medium and Minor irrigation schemes in Kurunegala District. As a linked programme a concomitantly a programme for Irrigation Department (ID) and Department of Agrarian Development officers in North Western Province and North Central Provinces was arranged at the Rice Research and Development Institute Batalagoda. The Batalagoda programme was held on 9<sup>th</sup> May 2016 and the Farmer Programme at the Wayamba Training Institute Wariyapola on 24<sup>th</sup> May 2016.

The **35** participants (27 male and 8 female) included Engineers, Engineering Assistants, Development Officers and Field Assistants of the ID. This programme was part of SLWP World Water Day Programme and was implemented as a SLWP and Cap Net Lanka joint activity.

Main objectives of this programme were to make aware participants on;

1. value of water and water management in agricultural practices specially under water crisis situations,
2. improve the knowledge on the impacts of climate change in productivity and rural livelihoods,
3. upgrade the knowledge and skills to manage and,
4. conservation of water to mitigate the climate change impacts and technological options which could be adopted to face the climate change challenges.

4. Workshop on Agronomic Practices in Paddy Cultivation to Cope with Climate Change.

A programme on the above for Technical Officers of the Irrigation Department (ID) and Department of Agrarian Development (DAD) working with farmers in medium and minor irrigation systems was held at the Rice Research and Development Institute (RRDI) Batalagoda on 9<sup>th</sup> May 2016. 32 officers of the ID from NWP and NCP with 4 engineers from the ID head office attended the above programme along with 8 officers including a District Engineer of DAD from Kurunegala and Puttalama District. Regional Director Irrigation based in Kurunegala also attended the sessions. Total participation was **40**.

Main objectives of this programme were to make aware the participants on;

- Importance of water management in Paddy cultivation and new research findings
- Impact of possible climate change on paddy crop, yields and quality

- Taking new technology on water saving mechanisms to farmers through officers
- Conserve water to mitigate the climate change impacts and technological options which could be adapted to face the challenges
- Upgrade the overall knowledge on Irrigated Agriculture and improve the skills

This programme is a follow up activity to the general Climate Change Adaptation Programme of the Sri Lanka Water Partnership (SLWP) and aims at capacity building of such staff to cope with climate change issues impacting on irrigated agriculture especially with Paddy and Other Field Crops. The session at RRD1 focused on paddy cultivation and especially on farm water management as these officers were already familiar with system management.

5. Awareness Programme on Climate Change Adaptation (CCA) for Farmer Leaders of Medium and Minor Irrigation Schemes in Kurunegala District.

The SLWP conducted the above awareness programme with the following main Objectives;

- Create awareness on climate changes and present situation
- Make FO leaders understanding on Climate change impacts to Irrigation and Agriculture
- Highlight the importance of water saving, water management and water conservation
- Create awareness on new Agricultural practices and irrigation techniques in paddy and OFC cultivation
- Make aware the importance of FO involvement in mitigating impacts of possible Climate Change

While SLWP has held a majority of CCA programmes for agency staff and Farmer leaders of major and some medium schemes under the Irrigation Department (ID) since 2013, this programme held on 24<sup>th</sup> May 2016 at the Wayamba Training Institute Wariapola was significant in that Farmer Leaders of Minor Irrigation Systems under the Department of Agrarian Development (DAD) were included for the first time. Minor schemes are significantly more vulnerable to climate change impacts and play key role in mitigating the impacts of possible climate change effects. This programme was a sequel to the agency staff CCA programmes for ID and DAD that were held at the Bathalagoda Rice Research and Development Institute on 9<sup>th</sup> May 2016 and 31<sup>st</sup> August 2015.

Notwithstanding the disaster situation with respect to flooding and landslides in Sri Lanka including in the Kurunegala District and heavy floods especially in the lower reaches of the Deduruoya and also the heavy rain prevailing, over 60 FO Leaders and a further 8 Development Officers (4 from ID and 4 from DAD) in charge of the FO development activities in these systems attended the programme. Total participation was **75** including the resource persons.

6. Symposium on Groundwater Availability and Use in the Dry Zone of Sri Lanka on 22<sup>th</sup> July 2016

This symposium was organized to disseminate the latest information available on groundwater availability and management and related issues in Sri Lanka among targeted audiences and produce the proceedings of the symposium.

Dr. S. Pathmarajah of the Board of Study in Agricultural Engineering coordinated the event which attracted more than **75** leading groundwater professionals from various institutions such as Water Resources Board, National Water Supply and Drainage Board, Irrigation Department, Department of Agriculture, IWMI and Universities attend the event. About 40 % of the participants were females.

The symposium included a panel discussion on “Groundwater Policy and Governance”. The panel included Prof. Atula Senaratne (former Vice-chancellor and a leading groundwater professional), Ms. Janaki Meegastanna (Director, Water Management Division, Irrigation Department), Dr. H. Manthirithilake (Head, Sri Lanka Development Initiative, IWMI), Mr. R.S. Wijesekera (Chairman, Water Resources Board), Mr. R.S. Wijesekera (Director, Extension and Education, Department of Agriculture). Dr. Manthirithilake chaired the session.

An invited speech on “Water Quality and Health” by Prof. R.L. Rohana Chandrajith of the Department of Geology, Faculty of Science, Peradeniya and 11 research papers grouped under three thematic areas namely Groundwater Policy and Governance, Groundwater Availability and Suitability, and Remedial Measures for Groundwater Related Issues were presented and discussed. In addition to the health issues associated with anthropogenic activities, seriousness of the issues like dental and skeletal fluorosis associated with natural causes were highlighted by the invited speaker. He further raised the issue of poor quality drinking water on domestic and wild lives.

The discussions revolved mostly around groundwater pollution due to Fluoride and Nitrate and associated problems that are apparent in many parts of the country. Further, saline water intrusion and problem of CKD were the other issues that were discussed. Active involvement of the extension services of the Department of Agriculture (DoA) in determination of water saving techniques in agriculture was also felt as a priority area. The unresolved issue of absence of groundwater policy and an organization to coordinate and regulate the use of groundwater were highlighted. It was proposed to advocate at appropriate level to expedite the formulation of the much needed groundwater policy. Further, lack of legal protection and political will, lack of integration between different sectors, non availability of a proper institutional arrangement, lack of updated information and unawareness of common people were highlighted as the governance issues that are seriously hindering the management of groundwater in this country.

The discussions highlighted more towards groundwater quality issues than quantity. At the end, it was felt that more work needs to be carried out to assess the groundwater availability in different parts of the country in order to manage the water scarcity arising from urbanization, industrialization and climate change. Efficient use of water in agriculture to prevent excessive losses and groundwater pollution resulting from leaching of agricultural chemicals were felt as important areas that need to be attended.

This symposium was organized by the Postgraduate Institute of Agriculture (PGIA) in collaboration with the International Water Management Institute (IWMI), Colombo

### 1.1 Water Professionals Day Symposium 2016

The Water Professionals’ Day 2016 was organized by Cap-Net Lanka with the collaboration of Postgraduate Institute of Agriculture (PGIA), University of Peradeniya and Geo-Informatics Society of Sri Lanka. The theme of the Water Professionals’ Day 2016 was **‘Safe Food – Safe Water’**. The main objectives of this symposium

were to disseminating the knowledge generated by the researchers and water managers in terms of the connectivity between water, food production and ecosystem management.

The symposium consisted of an inaugural session, a panel discussion and three technical sessions. The panel discussion was conducted on the theme of the symposium; 'Water – Food - Ecosystem Nexus: Understanding the inter-sectoral linkages for sustainable water management. The three technical sessions were on 'Climate Variability, Water & Society; Water and Ecosystems and Water Quality and the Environment'. Twelve research papers were presented in these three sessions. The symposium attracted **96** participants including, researchers, policy makers, academics, water managers, administrators and students representing, universities, government, corporate and non-governmental sector institutions.

### 1.2 PGIA Junior Water Awards for Innovations and Knowledge Management (Aqua Republica) – 2016

The series of activities on the above were conducted between 1<sup>st</sup> September to 1<sup>st</sup> October 2016 was conducted to train school children to undertake innovative solutions to address issues related to water resources management through group activities and impart knowledge to appreciate the nexus of food, energy, ecosystems etc in sustainable water resources management through internet based computer games (*Aqua Republica*) that reflects the real world difficulties and challenges of water management. In doing so, they were expected to gain hands on experience of integrated water resources management. (IWRM).

A total of 7 schools in the Central Province of Sri Lanka were selected for the above. Prof. M.I.M.Mowjood along with Postgraduate students following the Integrated Water Resources Management programme at the Board of Study in Agricultural Engineering at the PGIA visited those 7 schools. During school visits students were provided with knowledge to conduct their school projects. In addition they were given hands-on experience to play the *Aqua Republica* computer game. These students (a total of **33**) and **7** teachers representing 7 schools were invited to the Computer Laboratory of the PGIA on 14<sup>th</sup> September 2016 for further training on *Aqua Republica*. During this training, students and teachers were provided with additional information on how different aspects of water resources management interact with each other.

These students were again invited to the Computer Laboratory of the PGIA on 28<sup>th</sup> September for completion. They were given 30 minutes to complete one round of *Aqua Republica* game and the winners were decided on the individual scores obtained. The highest score obtained was 12600.

The students were provided an opportunity to present their school projects in front of an audience of water professionals in Sri Lanka on 1<sup>st</sup> October 2016. Four best projects, listed below, were selected for the presentation.

School	Name of the Project
Dharmaraja College, Kandy (Boys College)	Mr Gardener: Fully automated home garden that supplies its water and fertilizer by itself
Mahamaya Girls College, Kandy	Phyto-remediation and waste water treatment

(Girls' College),	
Peradeniya Central College, Peradeniya. (Mixed School)	Automatic Water Controlling System to prevent wastage of water
St. Sylvester's College, Kandy (Boys Colege)	Ayurvedic Water Filtering System to purify drinking water

The winners of school projects and *Aqua Republica* computer game were awarded prizes, sponsored by the private sector, at the Water Professionals Day.

It was found during the discussion with students that they grasped *Aqua Republica* without any difficulty. Some have even ventured in to level 2 and 3. As reported by students, the *Aqua Republica* game provided practical training on water resources management compared to exam based teaching. The teachers reported that positive part of this game is unconscious learning that takes place in an online environment and, while playing the game, the students use what they gain from the school (the theory) in the practical platform. So, they believe this form of games is the best way of teaching and learning practices of 21<sup>st</sup> Century education. Their conclusion was to encourage the respective organizations to create more online platforms where school children will be able to learn themselves the theory in practical manner.

In conclusion, the school children as well as teachers were very enthusiastic about both activities and wanted to continue the same for next year as well. As reported in the evaluation, they indicated their learning achievements and also highlighted some improvements for the development of the game

### **Main partners of the network**

The key partners that have worked with CapNet Lanka during 2016 is given below.

- SLWP (Sri Lanka Water Partnership)
- IWMI (International Water Management Institute)
- RWHF (Rain water Harvesting Forum)
- (OUSL) Open University of Sri Lanka
- UJ (University of Jaffna)

### **Results**

A total of 238 individuals (excluding the number of people trained by the SLWP through CapNet direct funding) were trained through the activities conducted by the CapNet Lanka during the year 2016. The trainees include diverse group of people as indicated in Table 2. As indicated in the financial report, a substantial support was provided by the network partners and host institution.

### **Financial report**

The following Annexes show the financial summary for year 2016, US \$ 4000 was received in March 2016 for the network management. Expenditure up to 20<sup>th</sup> November including foreseen expenses for the next two months was US\$ 8116.26. Therefore, US\$ 4116.26 requested from Cap-Net as a reimbursement.

To conduct three activities no advance was taken from the Secretariat for which US \$ 4,300.87 is due from the Cap-Net to settle the accounts.

Therefore, a total of US \$ 8417.13 is due from the CapNet to settle the accounts for year 2016.

For details of expenditure, the following financial statements are annexed.

Annex. 1. Financial Statement and MELP for Network Management 2016

Annex. 3. Cap-Net Lanka – PGIA Junior Water Awards - 2016

Annex. 4. Symposium on groundwater availability and management in the dry zone of Sri Lanka

Annex. 5. Training workshop on Rainwater harvesting to cope with the impact of Climate Change on Water Resources



**Table 1: Summary of the activities (January to December 2016)**

Topic	Date & Place	Organizer	Partner/ co-organizer	Participants			Month planned for outcome monitoring	Leverage Effect of financial contribution			List the Cap-Net training materials OR network's training materials used in the activity
				Male	Female	Total		Cap-Net financial contribution	Partners financial contribution	In-kind partner contribution	
(1) Training Workshop on Rainwater Harvesting to cope with the impact of Climate Change on Water Resources	16-17th June 2016- "Rain Centre", Lanka Rain water Harvesting Forum, Pelawatta	Sri Lanka Rain Water Harvesting Forum, (LRWHF) Battaramulla, Oepn University of Sri Lanka (OUSL) and Cap-Net Lanka, PGIA, University of Peradeniya	(Funded by LRWHF and Cap-Net Lanka Project)	25	9	34	-	981.58 US\$	1344.82 Us\$	-	
(2) Symposium on Groundwater Availability in the Use of Dry Zone Area	22nd July 2016- Appadurai Auditorium, University of Peradeniya	International Water Management Institute (IWMI), Colombo, and Cap-Net Lanka, PGIA, University of Peradeniya	(Funded by IWMI and Cap-Net Lanka Proejct)	48	20	68	-	Us \$ 1667.00	US\$ 1824	-	-
(3)Cap-Net Lanka-PGIA Junior Water Awards for Innovations &	1 <sup>st</sup> October 2016 - Appadurai Auditorium, University of Peradeniya	Cap-Net Lanka Project, PGIA, University of Peradeniya, GISSL University of	(Funded by Cap-Net Lanka Project and in-kind contribution)	28	11	39	-	U S\$ 1600.33	US \$ 61.61 (Bank of Ceylon)	US \$ 2019.29	-

Knowledge Management (Aqua Republica) – 2016		Peradeniya,										
(4) Water Professionals Day Symposium	1 <sup>st</sup> October 2016 - Appadurai Auditorium, University of Peradeniya	PGIA, University of Peradeniya, GISSL University of Peradeniya		64	33	97	-	-	US \$ 61.61 (Bank of Ceylon)	US \$ 2647.30	-	
<b>TOTAL</b>				<b>165</b>	<b>73</b>	<b>238</b>	<b>-</b>	US\$ 4281.91	US\$ 3230.43	US\$ 4666.59	<b>-</b>	
<b>Capacity development trainings</b>												
<b>Educational and innovative learning and sharing activities</b>												
<b>Total</b>												
<b>Knowledge development (Case Studies/ training material/publications)</b>												
<b>Topic</b>	<b>Date &amp; Place</b>	<b>Organizer</b>	<b>Partner/ co-organizer</b>	<b>Description on the product and links to download</b>			<b>Plan for outcome monitoring</b>	<b>Cap-Net financial contribution</b>	<b>Partners financial contribution</b>	<b>In-kind partner contribution</b>		

(1 USD = 145.93 SLRS)



**Table 2: Types of stakeholders reached through the capacity development activities throughout the year**

(2.1) Training Workshop on Rainwater Harvesting to cope with the impact of Climate Change on Water Resources

<b>Type of profession</b>	<b>Number</b>	<b>Percentage</b>
Water manager	3	8.8
Academics/ researcher	8	23.5
Policymaker/ Executive level officer	5	14.7
Technical / social / government officer	12	35.3
NGO official	6	17.7
Journalist	-	-
Community members	-	-
Other..(Final yr. student, undergraduate, Computer Instructor, )	-	-
<b>Total</b>	<b>34</b>	<b>100%</b>

(2.2) Symposium on Groundwater Availability in the Dry Zone Area

<b>Type of profession</b>	<b>Number</b>	<b>Percentage</b>
Water manager	9	13.6
Academics/ researcher	40	6.
Policymaker/ Executive level officer	10	6
Technical / social / government officer	7	15.1
NGO official	-	10.6
Journalist	-	-
Community members	-	-
Other..(Final yr. student, undergraduate, Computer Instructor, )	-	-
<b>Total</b>	<b>66</b>	<b>100%</b>

(2.3) Cap-Net Lanka - PGIA Junior Water Awards for innovations in Schools/participants trained

<b>Type of profession</b>	<b>Number</b>	<b>Percentage</b>
Water manager	-	-
Academics/ researcher	-	-
Policymaker/ Executive level officer	-	-
Teachers	4	10.3
NGO official	-	-
Journalist	-	-
School Students		-
Other..(Final yr. student, undergraduate, Computer Instructor, )	35	89.7
<b>Total</b>	<b>39</b>	<b>100%</b>

(2.3) Water Professionals' Day Symposium 2016

<b>Type of profession</b>	<b>Number</b>	<b>Percentage</b>
Water manager	8	8.2
Academics/ researcher	40	41.2
Policymaker/ Executive level officer	6	6.1
Technical / social / government officer	4	4.1
NGO official	6	6.1
Journalist	-	-
Teacher & School Children	27	27.8
Other...(Final yr. student, undergraduate, Computer Instructor, )	6	6.1
<b>Total</b>	<b>97</b>	<b>100%</b>

### **Assessment of network management**

The MELP report was already forwarded to the CapNet by the MELP Coordinator, Prof. M.I.M.Mowjood.

### **Work plan for year 2017**

Attached.

### **Conclusion**

In spite of the financial constraint, the CapNet Lanka was able to conduct many activities with reasonable output mainly due to the active participation of members, network partners, host institution in addition to the contribution from global CapNet. It is expected to strengthen this synergy during the coming year in order to carry out the proposed activities.