Global Water Partnership South Asia

Water and Climate Resilience Programme (WACREP)

2019

GLOBAL WATER PARTNERSHIP SOUTH ASIA (GWP SAS)

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Global Water Partnership South Asia

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ACRONYMS AND ABBRIVATIONS

AWP	Area Water Partnership
CCA	Climate change adaptation
CEGIS	Center for Environmental and Geographic Information Services
CWPs	Country Water Partnerships
DRR	Disaster Risk Reduction
FGD	focus group discussion
FO	Farmer Organisation
GWP	Global Water Partnership
GWP SAS	Global Water Partnership South Asia
IWRM	Integrated Water Resource Management
IWMI	International Water Management Institute
LGED	Local Government Engineering Department
NEA	Nepal Electrical Authority
RBM	River Basin Management
RRDI	Rice Research and Development Institute
RWH	Rain Water Harvest
SDGs	Sustainable Development Goals
WACDEP	Water and Climate Development Programme
WACREP	Water and Climate resilience Programme
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Authority
WAPCOS	Water and Power Consultancy Services (India) Limited

EXECUTIVE SUMMARY

The population of South Asia is nearly 1.9 billion and it is the home to one fourth of the world's population. The cities of South Asian have already started feeling the pressure of population growth and urbanisation. Region is highly vulnerable to climate-induced disasters and extreme weather events burdening poor and vulnerable groups excessively. In August 2017 alone, intense monsoon rains affected 40 million people in Bangladesh, India and Nepal, claiming nearly 1,300 lives and putting 1.1 million people in relief camps. Climate change and increasing demand for water put stress on the region's groundwater resources, as the availability of surface water is affected by increasing climate variability. The hydrological changes induced by climate change imply major risks for society, not only directly through alterations in the hydro meteorological processes that govern the water cycle, but also indirectly through risks for energy production, food security, economic development and social inequalities. Climate change adaptation (CCA) and mitigation through water management is therefore critical to sustainable development, and necessary to achieve the 2030 Agenda for Sustainable Development, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction (DRR).

Although the accelerated melting of glaciers may locally and temporarily increase streamflow, the reduction of glacier cover tends to lead to more variable river flows and reductions in base flow in the long term, as well as changes in the seasonal timing of peak streamflow. Combined with a more erratic and uncertain supply, this will aggravate the situation of currently water-stressed regions, and generate water stress in regions with currently abundant water resources. The urban water supply is particularly vulnerable due to high population density of cities and increasing urbanisation. It is estimated that by 2050, 685 million people living in over 570 cities of the world will face an additional decline in freshwater availability of at least 10 percent, due to climate change. Convergent results are showing that climate change will fundamentally alter global food production patterns as a function of water availability. Crop productivity impacts are expected to be negative in low-latitude and tropical regions but somewhat positive in high-latitude regions (UNESCO, 2020).

The current trends and future projections indicate major shifts in climate, and more extreme weather events in many parts of the world. Groundwater use in the region could increase by 30 percent by 2050. It is therefore paramount that water resources managers consider the potential impacts of the changing climate for managing water as a resource for society that is fundamental to sustainable development (UNESCO, 2020).

As they confront the exorbitant cost of disasters, the decision makers in South Asia have begun to realise the benefits of building resilience to climate change - to become climate-resilient, the region needs to adopt ambitious policies and should strengthen planning.

With this given background, GWP South Asia launched its Water and Climate resilience Programme (WACREP), which is a regional water and climate initiative under Water and Climate Development Programme (WACDEP). WACREP was formulated to improve the climate resilience of South Asian countries to withstand the impact of climate change. It is a collaborative programme partnering with respective governments and stakeholders to achieve the common objective to support countries to

- Develop and integrate "no regret'" water security and climate resilience investments in to their development plans, budget and programs.
- Identify solutions addressing critical water security challenges to enhance the climate resilience of countries and communities.
- Built knowledge and capacity to enhance water security and climate resilience.
- Operationalize the GWP network with strategic allies and stakeholders to integrate water security and climate resilience in development process.

WACREP is implemented under the theme of 'Climate resilience and water security' while contributes to other themes such as food, energy, ecosystem and urbanisation that contributes to GWP South Asia vision, "a water secure South Asia".

WACREP IMPLEMENTATION IN 2019

GWP South Asia launched the WACREP in 2013 with the aim of developing resilience among communities to withstand climate change. Since then, the Country Water Partnerships (CWPs) as well as the Regional Office of South Asia worked in collaboration with the respective partners and played a catalytic/facilitative role to implement climate smart activities though the programme. WACREP activities were designated around GWP's three Strategic Goals of GWP strategy 2016-19; catalyse change in policy and practice, generate and communicate knowledge and strengthen partnerships.

The programme was implemented for last seven years staring from 2013 and this is the winding up year of the successful climate programme. This programme initiated at a larger scale with sufficient funding and reduced gradually expecting those piloted projects could have been influenced the counterparts within the water sector to incorporate CCA and climate smart techniques into their respective annual workplans or strategies. As a result, as well as the limited grant allocations made in 2019, the number of activities to ten in South Asia. In addition, CWPs and Regional Office were geared towards mobilising resources locally around targeted activities in view of achieving climate resiliency objectives among vulnerable communities. The countries were successful in meeting the resource mobilisation targets, were able to secure contributions to ongoing CORE activities and managed to mobilise private sector and UN Agencies for specific projects to a certain extent. Most importantly, CWPs' continuous efforts were able to internalise some of the expected targets in the agendas of the local institutions for the coming years.

Surprisingly most of officials working on water and agriculture sectors are not fully aware about climate change and possible applications for mitigation. GWP Bangladesh, observed this gap and conducted a capacity building training on CCA for 14 different government institutions.
According to the United Nations World Water Development Report 2020, South Asia is highly vulnerable to climate-induced disasters and extreme weather events, which are disproportionately burdening poor and vulnerable groups. In August 2017 alone, intense monsoon rains affected 40 million people in Bangladesh, India and Nepal, claiming nearly 1,300 lives and putting 1.1 million people in relief camps. It further said that in 2030 floods in South Asia could cost US$215 billion each year by 2030 (UNESCO, 2020). We often forget to document the lessons learnt and good practices of these given circumstances that are important for effective planning. Therefore, GWP India conducted a study on community resilience to water induced disasters and climate change and in selected river islands of the Brahmaputra River Basin, Assam.

GWP Nepal conducted the annual dissemination workshop on WACREP/Core projects in 2019.

The impacts of climate change is prominent in rural Pakistan given the extreme dry conditions in Thar Dessert as well as the high dependence on local agriculture including crop production and animal husbandry for food security of the local communities. These circumstances led GWP Pakistan again this year to focus on diverse activities but in turn, that raises awareness on climate change adaptation and climate smart actions. They have engaged in promoting climate resiliency in existing water and agriculture programmes in achieving the SDG 6: Water Goal. Promoted the engagement of youth and marginalised on water resources management as the most effective investors for a water secure world.

Documentation of good practices and knowledge sharing is vital for sustainable development. As the next step of sharing knowledge, GWP Sri Lanka translated the booklets written on CCA practices in English to national languages enabling them to be distributed among local level officials of the government institutes and farmer organisations. GWP Sri Lanka also continued organising training programmes on CCA, water conservation and techniques for rain water harvesting (RWH) for Agency Staff, Leaders of the Farmer Organisations and the Farmers who depends on irrigated agriculture.

CHAPTER 1 – GWP BANGLADESH (BANGLADESH WATER PARTNERSHIP)

GWP Bangladesh (Bangladesh Water Partnership) was established on 30 September 1998 to foster integrated water resource management (IWRM) by maximising economic and social benefits without compromising the sustainability of vital ecosystems through an experts group meeting under the initiative of Late Mr Quamrul Islam Siddique, Former Chief Engineer of Local Government Engineering Department (LGED). Since its establishment, LGED has been supporting GWP Bangladesh as the host institution and Md. Moshiur Rahman, the President of GWP Bangladesh is the Head of the Executive Committee who leads the activities carried out by GWP Bangladesh.

GWP Bangladesh plays an important role on issues related to flood management, CCA and transboundary water co-operation in the country and the region. Its initiative and leadership for developing preparedness plans and frameworks for action have influenced policies and promoted best practices, advocacy and knowledge sharing. Promoting IWRM related dialogues at all levels through provision of platforms within the country and using existing regional and global forums have made it an acknowledged and visible water sector proponent by the government, and donors.

Under WACREP 2019, GWP Bangladesh conducted one activity, Activity 1 (BWP): Capacity Building Training on Climate Change Adaptation in the Water Sector.

Activity 1 (BWP): Capacity Building Training on Climate Change Adaptation in the Water Sector

Goal 2 – Generate and communicate knowledge

Partners: Center for Environmental and Geographic Information Services (CEGIS)

The five days training was conducted from 8-12 December 2019 at CEGIS, Dhaka, Bangladesh with the participation of 14 government officials from the water resources management, CCA and natural resources planning and management sectors.

The government institutes that were represented at the training:

- Ministry of Water Resources (MoWR)
- Bangladesh Water Development Board (BWDB)
- Bangladesh Inland Water Transport Authority (BIWTA)

- Water Resources Planning Organization (WARPO)
- Department of Bangladesh Haor and Wetland Development (DBHWD)
- Local Government and Engineering Department (LGED)
- Joint River Commission (JRC)
- Bridge Division, Roads and Highway Division
- Agricultural Ministry
- Planning Commission
- Department of Agricultural Extension (DAE)
- General Economics Division (GED), Planning Commission
- Bangladesh Agricultural Research Institute (BARI)
- Department of Fisheries
- Department of Forest
- Department of Environment
- Bangladesh Rice Research Institute (BRRI)
- Department of Public Health Engineering (DPHE)

The objective of this training was to enhance the knowledge and experience of professionals working on water resources management, on concepts of climate change and familiarise them and its application at project planning, design and implementation. The training was based on real life conditions and challenges faced by water managers in the context of climate change in the country. GWP Bangladesh is being finalising the report.



CHAPTER 2 – GWP INDIA (INDIA WATER PARTNERSHIP)

Global Water Partnership South Asia
GWP India

GWP India (India Water Partnership) is a non-profit organisation with a goal of promoting IWRM in India. GWP India is hosted by WAPCOS, a public sector undertaking under the Ministry of Water Resources, River Development and Ganga Rejuvenation. The CWP is Chaired by Mr R.K. Gupta. Chairman-cum-Managing Director of WAPCOS Limited.

Under WACREP 2019, GWP India conducted an activity called Activity 1 (IWP 2019): Community resilience to water induced disasters and climate change: A study and documentation of good practices in selected river islands of the Brahmaputra River Basin, Assam.

Activity 1 (IWP 2019): Community resilience to water induced disasters and climate change: A study and documentation of good practices in selected river islands of the Brahmaputra River Basin, Assam

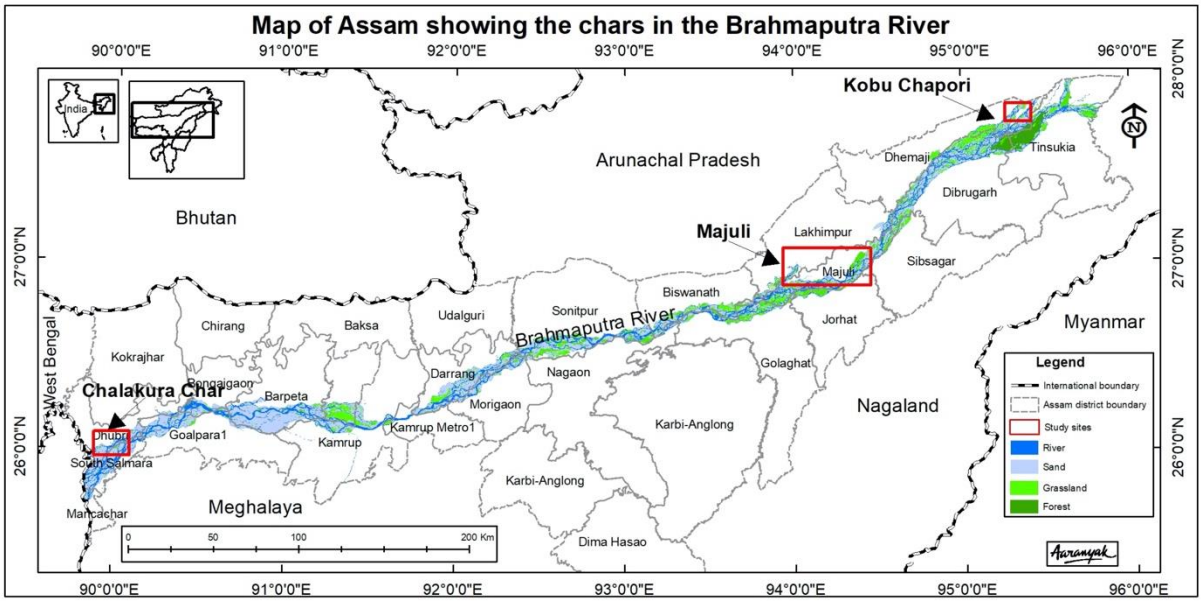


Figure 1: Location of the three study sites (river islands) in the Brahmaputra River, Assam

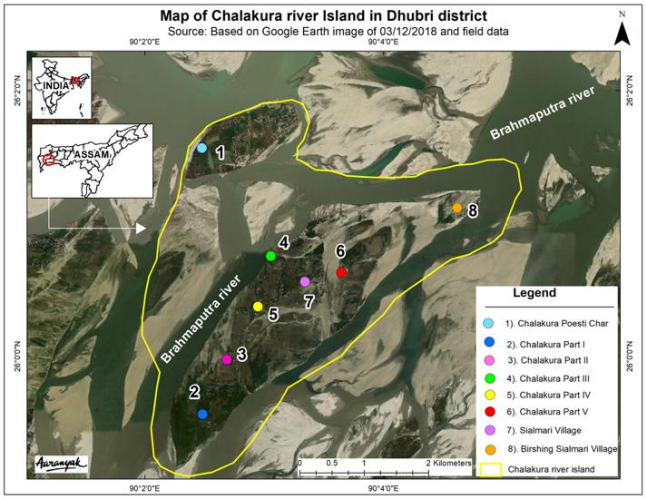
Partner: Aaranyak

Project areas: State of Assam, Northeast India

Chalakura Char (Seven villages), Dhubri District

Salmora Mouza (Two villages), Majuli District

Kobu Chapori (Four villages), Dhemaji District



District Figure 3: Map of Kobu Chapori, Dhemaji District

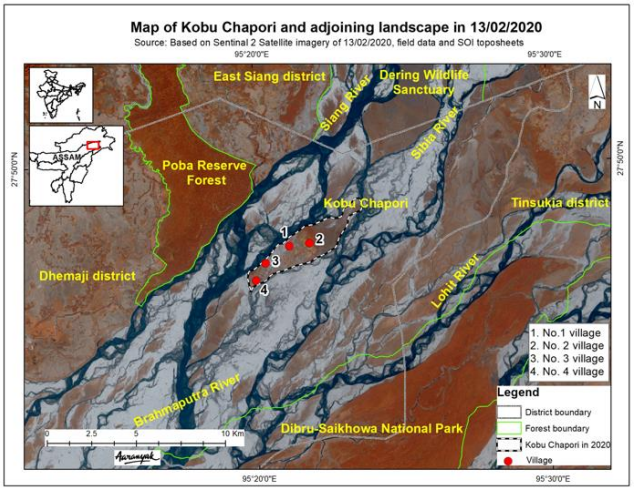


Figure 2: Map of Chalakura Char, Dhubri

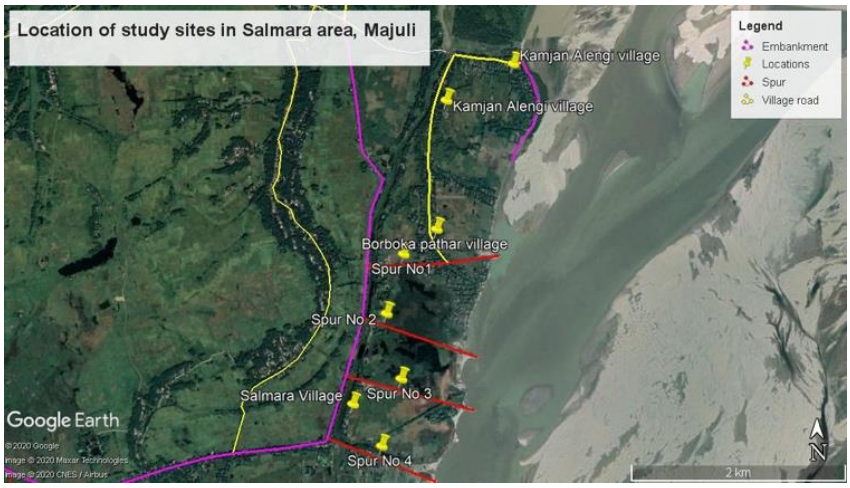


Figure 4: Location of the Borboka Pathar and the Kamjan Alengi villages of Salmora

Objectives of the study:

- Study the socioeconomic and environmental conditions in the selected villages of the three project sites that are mentioned above
- Examine community's perception about impact of water and climate induced hazards and climate change on their lives, livelihoods and society in the three study sites and understand their vulnerability
- Study and document the resilience practices of the communities living in three river islands
- Study and document policies and programmes of Government and Non-government agencies, if any, and their impact on people's vulnerability and resilience.

- Recommend strategies for reduction of disaster risk and improvement in adaptation to climate change effects in the study sites as well as for all river island and flood plain dwellers of Assam.
- Organise a dissemination workshop with important stakeholders (communities, CSOs, government) for sharing project results and finalising project report

Approach and methodology:

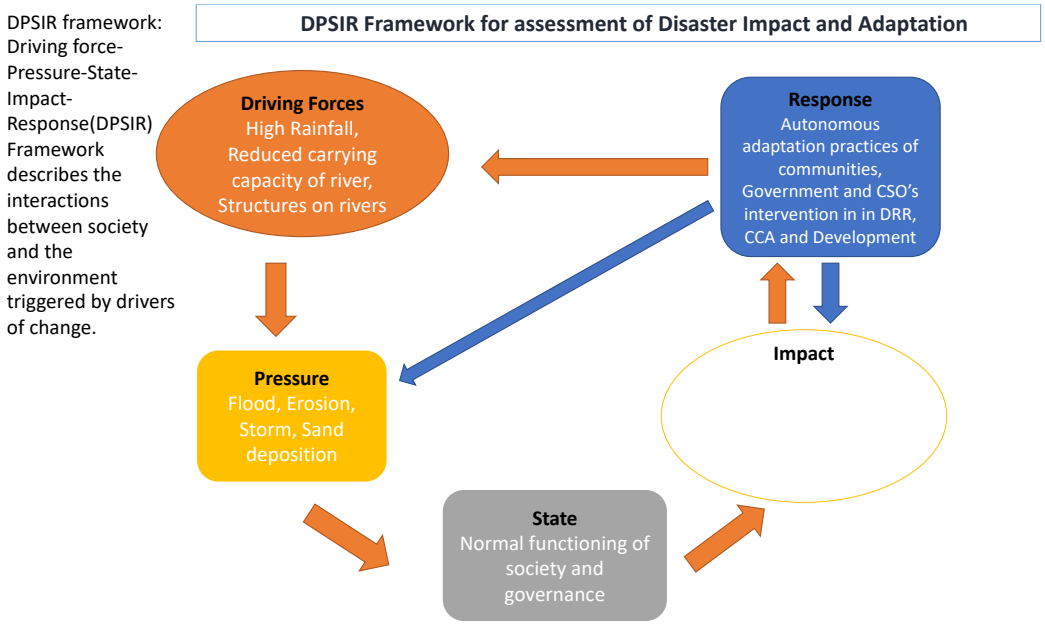


Figure 5: Conceptual Framework for assessment of impact of water induced disaster and climate change

Data and information were collected by deploying both primary and secondary research methods. Empirical information was collected by using PRA (Participatory Rural Appraisal) techniques such as focus groups, key informant interview, participatory landscape mapping, transect walk, historical timeline etc. Semi-structured questionnaires were used to collect socioeconomic information, identifying sources of vulnerability and documenting good practices of adaptation.

Secondary data (e.g. census data, socioeconomic data) were used to understand the socio-economic and demographic situation. Landscape analysis was done by using high-resolution satellite data on standard remote sensing and GIS platforms as well as topographic sheets to get an idea of the environmental status of the project areas and changes in land use and land cover over the last three to four decades.

Secondary information was also retrieved from research papers, technical reports, books, and grey literature like newspapers. Awareness meetings and consultation with communities were conducted to sensitise them about pertinent issues of water and climate induced hazards and their impact and also for exchange of information and views.

Outcome:

- The study documented the sources of vulnerability of the communities living in the three study sites as well as their good practices, coping mechanisms and adaptation to natural disasters and climate change.
- The study has highlighted different aspects of governance including policies, institutions and programmes in the sectors of Disaster Risk Reduction(DRR), Climate Change Adaptation (CCA) and Rural Development(RD). These details would help decision makers to identify gaps for formulating and implementing policies, lacunae in development schemes and need of institutional reforms.
- The study helped for sensitising communities and other key stakeholders about various aspects of vulnerability, adaptation, disaster risk, climate change impact and existing development policies and programmes meant for risk reduction and resilience building.

Interaction with communities in Chalakura Panchayat

Riverine landscape of the Poesti Village of Chalakura Char

Widespread sand deposition on agricultural land in Chalakura

People live in stilted house to avoid flooding

Floods in Kamjan Alengi

Erosion in Salmora area in Majuli

Traditional pottery a women-centric enterprise a major livelihood

Life on boats during floods

Shelter on high grounds

Floods in 2019 in Kobu Chapori

FGD at Kamjan Alengi village

Awareness meeting cum FGD with women in Kobu Chapori

Mapping at Borboka Pathar

CHAPTER 3 - GWP NEPAL/JALSROT VIKAS SANSTHA (JVS)

GWP Nepal/Jalsrot Vikas Sanstha was established in July 1999, as a partner of GWP to promote IWRM. Members of GWP Nepal have consensually decided to designate JVS as the host institution for GWP Nepal. This decision was guided by concerns of sustainability and the significant networking characteristic of the Country Water Partnership (CWP). The CWP was Chaired by Dr Ms Vijaya Shrestha.

In 2019, under WACREP, GWP Nepal conducted an activity called Activity 1 (GWP Nepal): Conduct dissemination workshop on WACREP/Core projects

Activity 1 (GWP Nepal): Conduct dissemination workshop on WACREP/Core projects

This annual event was conducted by GWP Nepal since 2017 under **Goal 2: Generate and communicate knowledge.**
Date: 15 December 2019
Venue: Hotel Yak and Yeti

Objectives:

- Informing the participants about the different activities of GWP Nepal undertaken in 2018/19 and solicit their inputs
- Provide a platform for the young water professionals and students to interact with policy makers
- Inform participants about the Cross-Border Electricity Trade and Future Prospects

Participants: Academicians, researchers, young water professionals and law and governance experts representing different sectors.

The research findings of two GWP Nepal activities, Localisation of SDG-6 at Sub-National level and Integration of climate change into the local planning process were shared among the participants by Ms Neha Basnet. The brief summary of the study and the conclusions draw attention of the water professionals and also their constructive feedbacks were provided to improve the relevance and quality of the report.

In addition to these presentations on GWP Nepal activities, there was a special lecture on Cross-Border Electricity Trade and Future Prospects by Mr Prabal Adhikari, Director of Power and Trade

Department, Nepal Electricity Authority (NEA). He presented about different hydropower prospect plans being implemented and under study to meet the electricity demand of country and how they would generate sufficient energy in the days to come. He discussed about the existing power generation status, institutional issues and different independent power projects being implemented in the country. Meanwhile he emphasised on integrating climate change and its impact to assess the theoretical potential of hydropower development. Mr Prabal Adhikari concluded the speech discussing about the possibilities of capacity enhancement to facilitate developments in hydro-energy production through policy implementation and proper coordination and governance to maintain energy security.

The new GWP Strategy 2020-2025 was also launched on the day.

CHAPTER 4 – GWP PAKISTAN (PAKISTAN WATER PARTNERSHIP)

Global Water Partnership South Asia
GWP Pakistan

The GWP Pakistan established in February 1999, as a Country Water Partner of GWP mandated to provide a neutral platform to all water stakeholder institutions, organisations, departments and individuals for discussing national, sub-national and local water issues to build consensus at different levels. It promotes the concepts and principles of IWRM in the country in order to meet the growing scarcity of water resources, increasing deterioration in water quality and the looming threat to environmental sustainability. Chair GWP Pakistan was Mr Ragib Abbas Shah.

GWP Pakistan committed on four activities in 2019 that included,

- Activity 1 (PWP): Provide technical support and knowledge products to promote climate resiliency in existing water and agriculture programme.

- Activity 2 (PWP): Youth engagement in rural areas for mobilising support for SDG implementation.
- Activity 3 (PWP): Strengthen partnership linkage with ministries
- Activity 4 (PWP): Strengthen partnership through provincial level assistance.

Activity 1 (PWP): Provide technical support and knowledge products to promote climate resiliency in existing water and agriculture programme.

Goal 2 – Generate and communicate knowledge

In February, GWP Pakistan attended a meeting organised to get the Farmers views on "Launched Government policies to shift towards low water requiring crops - implications on cropping pattern, cropping intensity and crop rotation"
Venue: Chishtiyan, Southern Punjab.

Highlights of the discussion were,

- The village community is well versed in agriculture and getting higher yields.
- Farmers requested trainings on improved water management, soil testing and managing soil fertility.
- Organic farming, storage facilities with cold stores for perishables, maize seed fit for dry land and new technology and producing crops for international market.
- Agreed on importance of developing knowledge products on irrigation management and involving youth for information dissemination in Southern Punjab.

In March, GWP Pakistan team organised focused group discussions to raise Farmer awareness to meet the water stress in agriculture due to climate change at Mian Channu, Southern Punjab.

Mian Channu Village is facing severe drinking water pollution and they were introduced with two types of filters, a bio-saline and a solar filter. Further, GWP Pakistan is currently exploring the possibility of financing installation of a water pump to divert water from a local irrigation canal to the village. In addition, with the request made by Farmers, GWP Pakistan arranged a water testing for arsenic for the village with the technical support of Quaid-e-Azam University.

Other concerns of the Farmers i.e. water shortage and the methods that they currently practicing to cope up issues in growing wheat, canola, cotton and fodder were also discussed at the meeting.

Highlights of the meeting were,

- There is high salinity in water.
- Highly volatile weather - lack of timely rainfall and high intensity of rainfall may require changing cropping pattern and the cropping cycle.
- Farmers informed that they are already started practicing raised bed farrow plantation for cotton, maize and potatoes by saving 25-30 per cent of water.
- GWP Pakistan introduced a new wheat cultivation technology (4kg/acre) that reduces the watering from 4-5 times to 2.

In April, a dialogue on confronting challenges faced due to drought conditions in District Pashin-Balochistan was organised by GWP Pakistan to assess the status of agriculture and water availability with special reference to current drought conditions in the area.

Another meeting on “Addressing drinking water challenges in highly degraded environment of Ziarat District, Balochistan was organised by Quetta Area Water Partnership (AWP) and Sarawan AWP at District Ziarat. Main concern of the participants was deforestation of Zairat Juniper Forest as firewood and construction materials that leads to rapid depletion of the water table in the valley. Further challenges faced in farming including lack of sufficient irrigated water, financial barriers, lack of new technology and marketable cash crops were discussed. It was proposed to construct canals in the valley to convey water from surplus to deficient areas and to plant trees along the bank of the canals to improve the groundwater recharge.

Activity 2 (PWP): Youth engagement in rural areas for mobilising support for SDG implementation

Goal 2: Generate and communicate knowledge

The first awareness-raising workshop for youth on challenges and possible solutions against water stress in agriculture was held in February at Haroonabad-Southern Punjab. Rainwater harvesting (RWH) and groundwater recharging for sustained agriculture were the topics discussed at the workshop. It was concluded that engaging youth for information dissemination is a good suggestion and RWH and dug wells for groundwater recharge are best solutions to improve

water availability. Farmers are prepared for crop diversification (shift from higher water demanding crops to lesser demanding crops) with ensured support from the government for substantial economic returns for the newly selected crops.

Sarawan AWP organised a World Water Day workshop in collaboration with the Education Department of District Mastung, Balochistan on 22 March.

In March, an awareness-raising workshop on climate change and its impacts was organised by Quetta AWP at the Government School Quetta. Students from primary and middle level classes were sensitised on benefit of water and water management. The need for introducing water and climate change adaptation to school curricula was highlighted at the discussion. Lengthy discussion on grey-water recycling and using at school gardens and home gardens, provision of safe drinking water facilities and planting trees for shade in the school were discussed as emerged priorities.

A meeting with youth in Tehsil (administration division) Nagarparkar, Tharparkar District was held on 14 June to discuss the challenges in achieving SDGs in relation to climate change. The approaches to reduce drought and heat stress, role of technology in addressing impacts of climate change and need for developing skill oriented climate change agenda were the other topics discussed at the meeting. It was emphasised the importance of developing youth leadership to achieve SDGs.

Activity 3 (PWP): Strengthen partnership linkage with ministries

Goal 3: Strengthen partnerships

Capacity Building of Water and Power Development Authority (WAPDA): WAPDA is a financial partner of GWP Pakistan. WAPDA observed that its productivity was at declining stage due to lack of capacity at all tiers of the organisation including at the levels of management and professionals. Therefore, WAPDA invited GWP Pakistan's expertise to improve the organisational capacity. That was directed to GWP Pakistan mainly because of Sardar Muhammad Tariq, who was instrumental at the water sector development in Pakistan and was involved in Indus Basin Projects for decades.

A meeting to develop a proposal for building capacity of WAPDA on water engineering, finance and human resource management was held at Lahore in July 2019. The meeting was chaired by the Chairman of WAPDA while co-chaired by Sardar Muhammad Tariq, CEO of GWP Pakistan.

Based on the proposal, the first workshop was organised in August, on capacity building and preparation of master plans for hydropower and storages held at WAPDA House Lahore. The second workshop was held at the WAPDA administrative staff college Islamabad. The workshop title was "capacity building of senior and junior management officers/engineers of WAPDA on Integrated Water Resource Management (IWRM) and national water and food security". The workshop explained the concept of IWRM and potential applications under National Water Policy. Further, Pakistan water issues and suggestions to resolve those problems were discussed. The last workshop for the year was held at the WAPDA administrative staff college, Islamabad in December 2019. Main objective of the workshop was to explain water security issues, solutions and way forward in Pakistan.

A workshop on water crises conservation and solutions was organised by Corps Headquarters (Military) and Balochistan Water and Sanitation Authority (WASA) at Quetta, Balochistan in August. Mr Ghulam Jan Mengal, President, Sarawan AWP addressing the participants highlighted the importance of reservoirs for water storage that reduce water shortage.

The workshop participants

On 24 September 2019, Pakistan hit by an earthquake with an epicentre at Azad Kashmir with a magnitude of 5.6 Mw and a maximum felt intensity of VII (very strong). Later, with the invitation of the Mangla Dam Project Authority, Sardar Muhammad Tariq visited Mangla Dam to review the structural performance of the dam, as the earthquake was in the close vicinity of the project.

Activity 4 (PWP): Strengthen partnership through provincial level assistance.

Goal 3: Strengthen partnerships

GWP Pakistan Team visited Dajjal in Thesils of Rajanpur District in February. The village is facing extreme shortage of water having very poor quality of drinking water facilities. During the field visit, it was observed that the hilly terrane landscape provides a good natural environment to develop water storage facilities. GWP Pakistan has decided to raise the fact at the policy planning level. Further, a discussion on launching the Rajanpur AWP was held during the field visit.

Prolong periods of droughts at Tehsil Dahli in Tharparker badly affected living standard of the community, especially women and children in the village. Faroozan AWP in collaboration with Friends of Humanity International, Dua Foundation and Dhoraji Youth Service Foundation distributed food rations among the community in March.

GWP Pakistan assisted the Faroozan AWP and the collaborators again in May to distribute dry food rations to the same community in Tehsil Dahli at District Tharparker.

In addition, GWP Pakistan assisted Faroozan AWP and Farozaan Environmental Protection Organisation to hold a vulnerability assessment to identify the most affected communities to climate change in coastal village Gul Muhammad Aplano in Karachi. Based on the assessment, in May 201, 300 households in Shah Bandar (Gul Muhammad Aplano in Karachi) were donated with dry food rations by the friends of Farozaan network. The donations continued since last five years as the village is highly affected by coastal erosion that eroded a vast area of cultivable land. Further, the fisher folk experiencing diminished fish harvest.

In June, GWP Pakistan visited the communities in Tehsil Dali (village) to observe the small submersible pumps donated to pull water. The pumping systems now have replaced the traditional camel/donkey pulled Persian Wheel System with major improvements in output and reliability. The small tank built just next to the well is serving as temporary water storage tank. Human and livestock population in the area are benefiting equally through the new pumping system and it has assured the water supply to population. The villagers from neighbouring villages have also started coming to Tehsil Dali to fill their water carts and cans.

GWP Pakistan completed a large well in a village in Nagarpakar with the participation of the community and handed over to the villages in June. More than 300 households (nearly 2,500 individuals) are benefitting through the project. By observing the progress of the project through social media, two donors have committed themselves for financing similar projects. The current water

rate in the area is Pakistani Rupees 75 for seven litres and the poorest segment of society are overwhelmed with the price escalation.

The Kanjeer AWP in Thatta (Thatta is a city in Sindh Province, Pakistan) was launched on 16 June 2019. A set of enthusiastic youngsters have taken the initiative of taking the mission forward.

Sardar Muhammad Tariq, Chief Executive Officer and Dr Pervaiz Amir, Board Director, GWP Pakistan attended the 4th Karachi International Water conference as key speakers. Participants of the conference were from Pakistan, South Asia and across the globe. The theme of the conference was "Water-Energy-Food Nexus: Pakistan's Agenda for the 21st Century". It discussed the future of water mainstreaming youth, women, marginalised groups and poor. Dr Arif Alvi, President of Pakistan attended the conference as the Chief Guest informed the participants the need to reinforce inter-provincial coordination to mitigate water crisis and food insecurity in Pakistan and provincial consensus on implementation of water policy to meet growing demands of food, water and energy in Pakistan. While showing concerns on implications of global warming, he said creating a network of partnerships for water and food security is the need of the hour involving private sector, government, civil society, media and people of Pakistan. "We live at a time, where our children are rightfully holding

us accountable for our mistakes in failing to take care of the environment. They expect us to protect natural resources and leave them a legacy on which to build a water and food sufficient society", he added.

CHAPTER 5 – GWP SRI LANKA (SRI LANKA WATER PARTNERSHIP)

Global Water Partnership South Asia
GWP Sri Lanka

GWP Sri Lanka (Sri Lanka Water Partnership) is an independent non-profit association of institutions with the goal of promoting IWRM. It facilitate setting up AWPs, youth and gender networks and other basin level institutions to support River Basin Management (RBM) and IWRM in Sri Lanka. AWPs provide the local institutional base for representation and action at local level while the CWP and associated CEO panel provides the forum for policy level dialogue of these issues for consideration at national level. Both these levels encourage close interaction among groups of stakeholders for harmonizing approaches and integrating issues. Jayatissa Bandaragoda, a former senior Public Servant of Sri Lanka, chairs GWP Sri Lanka.

In 2019, GWP Sri Lanka conducted three activities under WACREP.

1. Activity 2A (SLWP 2019): CCA programme for Agency Staff/FO Leaders/Farmers in irrigated plantation agriculture (PM 1.2)
2. Activity 5A (SLWP 2019): Technology Options for CCA Including Water Conservation & RWH Activities (PM 5.1)
3. Activity 7C (SLWP 2019): Media Activity / Road Shows / Talk Shows and Publication in CCA (PM 7.1)

Activity 2A (SLWP 2019): CCA programme for Agency Staff/FO Leaders/Farmers in irrigated plantation agriculture (PM 1.2) and Activity 5A: Technology Options for CCA Including Water Conservation and RWH Activities (PM 5.1)

Strategic goal 1: Catalyse change in policy and practice

Climate Change Adaptation for Improved Export Crops: GWP Sri Lanka in collaboration with the Department of Export Agriculture and the Village Awakening Programme (*Gami Pubuduwa*) of Hatton National Bank (HNB) conducted an awareness-raising programme on "Improved livelihood security with climate change adaptation for export crops farmers", on 22 February at Narammala, Sri Lanka. Sixty-five farmers attended the training. There were sessions on pepper and betel cultivation for export, impacts of climate change on those crops and financial literacy (including savings and investment on business). The most common questions were on issues related to irrigation and pest control in the context of climate change.

The next CCA programme for agricultural field staff and farmer leaders in Jaffna was organised by GWP Sri Lanka in collaboration with the Jaffna District Secretariat coordinated by the Jaffna District Director for Agriculture and Chief Secretary, Northern Provincial Council. The programme was held on 18 March in Jaffna. The programme was conducted in Tamil (local language). Altogether 64 participated the training including 41 Officers and 18 Farmer Leaders. The Programme had a field visit to Thirunaveli Agriculture Research Station to observe farming technology options for coping climate change.

The field visit to Thirunaveli Agriculture Research Station

Training at Killinochchi District

Third programme was organised by GWP Sri Lanka in collaboration with the District Secretary, Killinochchi coordinated by District Director Agriculture on 19 March at the District Agricultural Training Centre, Veddakachchi. Altogether 60 participated the programme, among them were 27 Farmer Leaders and 28 Officers. It was emphasised that assistance through major irrigation systems is important for Kilinochchi District in considering CCA.

The fourth CCA programme for Irrigation Department field staff serving at Gampaha Division (Gampaha and Kegalle Districts) was organised on 13 June at Nittambuwa. The Irrigation Department field staff including Engineering Assistants, Development Officers and Work Supervisors attended the workshop. Although 69 attended training while the programme was funded by CAPNET Lanka.


A CCA programme for the Leaders of Farmer Organisations (FO) of Bathalagoda, Hakwatuna Oya and Kimbulwana Oya major irrigation schemes was conducted at the Rice Research and Development Institute (RRDI), Bathalagoda on 22 July 2019. A total of 81 (including 63 FO Leaders, Development Officers of the 3 schemes and Resident Project Manager Batahalagoda, four Post Graduate Students from the Faculty of Agriculture) participated the Programme. The training was organised by GWP Sri Lanka on request of Irrigation Management Division of the Ministry of Irrigation and the Department of Irrigation with collaboration of CapNet Sri Lanka. The programme consisted of a field visit to RRDI.

Activity 7C (SLWP 2019): Media Activity/Road Shows/Talk Shows and Publication in CCA (PM 7.1)

Goal 2 – Generate and communicate knowledge

Re-printing booklets - 1, 000 booklets on CCA for farmers and 500 booklets on paddy cultivation in the midst of climate change in Sinhala