The SOUTH ASIA WATER INITIATIVE (SAWI) Multi-Donor Trust Fund

ANNUAL REPORT



Prepared by the World Bank for the 2nd Annual Meeting of SAWI Development Partners

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I. Introduction:

This is the Annual Report (2009) for the South Asia Water Initiative (SAWI), prepared in draft form in advance of the 2nd Annual Meeting of SAWI Development Partners held in Kathmandu, Nepal in September 2009, and finalized upon receipt of extensive comments in November 2009.

The report provides an overview of progress made on the core activities supported by SAWI, as defined in the SAWI Concept Note and in the first year work program agreed at the 1st Annual Meeting in November 2008. The report also presents the overall financial status of fund commitments by donors, based on total allocation and corresponding usage. All figures regarding the status of SAWI funds reflect information updated in September 2009.

II. SAWI Objectives:

The objective of SAWI is to promote the goals of poverty reduction, economic development, mitigation and adaptation to climate change, and water security through significant and measurable improvements in water resources management and development at the regional, international basin and national levels in South Asia. In particular, SAWI aims to address some of the seemingly intractable challenges in the region which persist due to their complexity or sensitivity, but which otherwise resolved would promote these goals. To achieve these objectives, SAWI promotes work that is inter-disciplinary and intersectoral, cutting across traditional and political water divides to meet the growing challenges of water scarcity, poor water quality, and the uncertainties of climate change. It also develops new areas of focus, including high-level policy and parliamentary dialogue, civil society engagement, improved scientific understanding of the water/climate nexus, and intra-national and inter-jurisdictional cooperation and dispute resolution.

III. Building the SAWI Program - Three parallel building blocks:

SAWI is a multi-donor partnership based on three parallel building blocks: **Regional, International River Basin,** and **National Water Resources** activities. Each block involves a number of activities ranging from analytical work and capacity building to substantive dialogue with riparian countries, on both transboundary and national level opportunities in the water sector. The SAWI program targets specific outcomes including but not limited to: (i) development of a cooperative and knowledge-based partnership on the Himalayan River systems; (ii) promotion of international river basin and national water resources activities with the potential for significant cross-border cooperative benefits and opportunities; (iii) improved understanding of the impact of climate change on the water resources of different river basins; and, (iv) strengthened institutional and human capacity to manage inter-jurisdictional water resources with active stakeholder participation across the region.

Over the past year, SAWI has continued to make progress at each of these three levels, setting the stage for a stronger consolidated agenda and associated impacts in the coming years. In particular, this past year SAWI has moved the Abu Dhabi Dialogue (regional level), the Ganges Strategic Basin Assessment (international basin level), and new water resources activities with regional dimensions in Afghanistan, Bangladesh and India (national level).

Outlined below, for each of the three building blocks, are: (i) associated activities; (ii) objectives; (iii) highlights and progress; (iv) program challenges; and (v) next steps.

A. Regional Water Cooperation in South Asia (The "Abu Dhabi Dialogue")

Rapidly increasing populations, economic growth and climate change are putting a serious strain on South Asia's water resources. Booming national populations with rising demand levels are competing for limited water resources, leading to a decrease in per capita and per hectare availability, and an increase in conflicts over water at all scales; from the farm to the national and international levels. Rapid and unregulated industrialization is increasing pollution in both groundwater and surface water bodies. Climate change in South Asia is predicted to amplify current levels of hydrological variability, and may fundamentally change some hydrological systems. For example, the glaciers of the greater Himalayas the 'water tower of Asia' that contains the largest body of ice outside the polar regions and provides critical water storage and dry season base flows to river basins in which 1.5 billion people live - are retreating more rapidly than those in any other major mountain range. Moreover, they form a 'white spot' ('no data') in the 2007 report of the Inter-governmental Panel on Climate Change (IPCC) due to inadequate observation networks and lack of regional cooperation. Climate change predictions indicate that there could be extremely serious implications for temporal and spatial changes in water availability in the floodplains of these great rivers. Although models and current studies finding differ, it is likely that the impact of rising temperatures on urban and agricultural water requirements would amplify and exacerbate the annual and seasonal water availability issues.

In contrast to most other regions of the world, there is almost complete lack of cooperation on South Asia's international rivers. Conflicting demands on these international waters, and consequent tensions, already exist – both within and between countries, and will undoubtedly intensify as the populations and economies of countries grow. In contrast to the current "stalemated river diplomacy", regional cooperation on international waters is an important objective and a regional (even global) public good that will support growth and peace.

Activities	Objectives	Milestones and achievements	Next Steps
Abu Dhabi Regional Dialogue (ADD)	Foster cooperation on the Rivers of the Greater Himalayas	 Successful organization of the 3rd ADD & associated Knowledge Forum in 2008; Joint Learning seminar on international waters organized for ADDG members; Completion of study on glacier retreat in the Nepal Himalayas; Completion of a large, regional workshop on 	 Organization of the 4th ADD in October 2009; Launch of the Cooperative Knowledge Grants Program¹; Follow-up meeting for the established regional working group on sediment.
		sediment management.	

Table 1: Overview of Regional Level Activities.

 $^{^{1}}$ The delay in launching the cooperative knowledge program resulted partly from the delay in funds transfer to SAWI. In addition the slow start of this activity was also due to the time spent in identifying a reliable recipient institution to implement the program. ICIMOD has been finally chosen to coordinate this activity.

1.1 The Abu Dhabi Dialogue (ADD)

The "Abu Dhabi Dialogue" (ADD) is a non-formal consultative process designed to foster cooperation on the Himalayan Rivers and on the shared problem of climate change and its future impacts on both the headwaters and the economies of the floodplains. At the request of the Abu Dhabi Dialogue Group (ADDG), the World Bank has supported and facilitated the 2nd and 3rd Abu Dhabi Dialogues (in 2007 and 2008), with very senior political and non-governmental participation from Afghanistan, Bangladesh, Bhutan, China, India, Nepal and Pakistan. In the quest for convergence and common ground, the Abu Dhabi Dialogue adheres to several 'rules of the game' including non-representative and non-formal participation, no focus on particular rivers or disputes, no attribution, and no requirement for a consensus outcome. Nevertheless, a consensus vision has emerged for a future "cooperative and knowledge-based partnership of states fairly managing and developing the Himalayan river systems to bring economic prosperity, peace and social harmony, and environmental sustainability from the source to the sea."

The uncertainty about the impacts of climate change on the Rivers of the Greater Himalayas is the unifying concern for the seven ADD countries participating in the Dialogue, which has retained its focus on fostering regional cooperation on addressing this common challenge.

1.2 Key highlights and progress of the ADD

The "3rd Abu Dhabi Dialogue" (ADD) on the *Rivers of the Greater Himalayas* was held in Singapore from June 23-25, 2008. The Dialogue included senior political, government and academic/non-government ADD participants from Afghanistan, Bangladesh, Bhutan, China, India, Nepal, and Pakistan and several international resource persons, and was facilitated by the World Bank. The primary focus of the 3rd Dialogue was to agree on ways in which the ADD might move beyond dialogue and shared learning towards more institutionalized cooperation, including knowledge generation, and, possibly, a formal partnership of states. The main milestones from the 3rd Abu Dhabi Dialogue were:

- Reviewing the journey so far, participants from each country briefed the Group on the countrylevel activities undertaken since the 2nd Abu Dhabi Dialogue.
- Shared learning sessions were organized around the theory and art of negotiation, and on clean-up of the Danube River and the Baltic Sea.
- Building on the consensus actions developed in the 2nd Dialogue and the ideas generated in the 3rd Dialogue, an action plan was developed. The plan separates concrete outputs feasible over the next 6-12 months from institutional outcomes, some of which might only be developed over the longer term.
- The agreed short-term outputs of the action plan include initiating high-quality socio-economic research on the benefits and costs of cooperation; capacity building, training, practitioner networking, and an education program; knowledge sharing and communication initiatives.
- The World Bank committed to providing long term support, including mobilizing significant funding in partnership with other donors. The World Bank's funding and facilitation role will diminish as governance arrangements for the partnership of states are developed and commitment is developed across the region.
- The participants agreed to retain the name "Abu Dhabi Dialogue", and briefed the Government of Abu Dhabi on this initiative, to preempt any misunderstanding and to seek possible endorsement and support. The Government of Abu Dhabi has endorsed the use of their name and offered to facilitate the 4th Abu Dhabi Dialogue in Abu Dhabi, in October 2009.

The Abu Dhabi Dialogue Group's Knowledge Forum led by the ADDG and administered by the International Centre for Integrated Mountain Area Development (ICIMOD), convened more than 50 participants — in addition to the ADDG members — from leading knowledge institutions across the

region. The *Knowledge Forum* was organized immediately following the 3rd Abu Dhabi Dialogue, with the objectives of discussing the state of knowledge on the multiple aspects of the Rivers of the Greater Himalayas, and establishing partnerships for long-term regional cooperation on building and sharing knowledge. The Forum agenda included facilitated group work sessions to identify critical areas for cooperative knowledge building, mechanisms for a potential research partnership, potential outputs (e.g. shared papers, country visits, action plans, scenario building), specific fields where quick-wins are readily identifiable (e.g. flood management information systems), and criteria for prioritization of suggested knowledge activities.

The Abu Dhabi Dialogue Group's Country Activities have broadened participation in each country by adding new members to the Group, holding policy-level meetings, organizing large national or provincial workshops for debate and discussion, sensitizing parliaments, identifying key knowledge institutions or forming country-level working groups. While different countries have taken up different approaches, there was strong consensus that all countries will be deeply affected by climate change and that widening the dialogue to make it more inclusive is a necessary next step. For example, in Bangladesh, in-country activities have fostered broad understanding and awareness on the region's vulnerabilities, thus leading decision makers to further take decision on rehabilitating and improving the overall hydrological network and associated and early warning system.

Joint Learning on International Waters (Washington DC, February 2009): Building on the on-going ADD consensus, a three day course on International Waters was held in Washington, DC from February 23-25, 2009 and co-financed by SAWI. The course was attended by about 20 Bank staff and 12 external participants, mostly members of the ADDG. The objective of the course was to provide ADDG members with the skills needed to foster cooperation on international waters and to manage waters across international boundaries with all the legal, administrative, political, and cultural complexity this entails. Topics covered during the course included: international water law, negotiation, conflict in water, economics of water resource management, benefit-sharing on international river basins, and listening skills. Examples were discussed in the context of the US and Canada. An informal panel discussion which was led by specialists from the Bank detailed experiences on the Nile, Niger, and Senegal River Basins. All those examples contributed to not only provide to ADD members cooperation models on international water but also to set the scene for their understanding of potential opportunities which they would further want to explore within the ADD framework.

Assessing the impact of climate change in the Himalayan Glaciers: An important Scoping Study on Himalayan Glaciers and Climate Change entitled Glacier Retreat in the Nepal Himalaya: The Role of Glaciers in the Hydrologic Regime of the Nepal Himalaya was conducted in 2008-09 with SAWI financing. The study was carried out by a team of glaciologists from the University of Montana led by Prof. Donald Alford and Richard Armstrong. The study team used a combination of hydrologic modeling and spatial analysis techniques to determine the current contribution of glaciers to the Ganges basin stream flow, and examined the impacts of climate change on the glaciers. The study found that the contribution of glaciers was only about 2-3% of the annual stream flow into the Ganges basin from the Nepal Himalayas, whose hydrology is dominated by the monsoon rains. The study also indicates that neither stream flow timing nor volume of the rivers flowing into the Ganges Basin from Nepal would be materially impacted by glacial retreat due to climate change. The study is expected to be useful in contributing to an analytical approach to examining the spatially-differentiated implications for climate change on the Himalayan system. A similar approach could also be used in the western Himalayas and Karakoram where, in contrast, glacial melt is expected to contribute much more significantly to the river stream flows in the Indus and other systems. The study identified a number of areas where further study would help to fill important knowledge gaps and to operationalize the results from this study.

Forging regional cooperation on sediment management: SAWI sponsored a regional workshop on sediment management for hydropower and multipurpose water resources projects on July 16-17, 2009. The workshop provided a unique opportunity for practitioners to explore common problems together and learn about each others' individual experiences for the first time. The workshop also brought experts from Switzerland, Norway, France, Japan, Germany, and China to share lessons and best practices with practitioners from South Asia. The following next steps were identified:

- to establish a regional platform where hydropower professionals across the region could meet to address common challenges and learn from each other on hydropower development and sediment management;
- to anchor the regional platform in a regional institution that would ensure that it will be operationalized. Some institutions such as South Asian Association for Regional Cooperation (SAARC) Secretariat in Nepal and ICIMOD were suggested as potential hosting institutions. ICIMOD has expressed strong interest in hosting this platform. In addition, officials from Nepal have also suggested the creation of a regional hydropower center which might host the regional platform at a later stage;
- a working group of 16 people composed of representatives from the power companies/utilities and the hydropower industry as well as authorities will follow up on the workshop outcomes; and
- to consolidate these outcomes and to define a road map with agreed actions by the working group. Additional funding has been requested to that end through the World Bank's Energy Sector Management Assistance Program (ESMAP).

1.3 Program Challenges & Next Steps

The key challenge for the ADD is to continue making steady progress towards formalizing the knowledge-based partnership of states and in helping member countries to bridge the technical gaps and explore institutional mechanisms that would help break the deadlocks for meaningful undertakings on the regional water agenda. This requires strengthening the ownership of this agenda through Track 1 diplomacy, by the governments of the participating countries. Country-level activities are essential to achieving this objective. A parallel challenge is to initiate the process of envisioning and developing the concept for a possible regional cooperative project, so that Track 1 discussions with participating countries can be substantive and specific. This is sensitive given the history of non-cooperation on water in the region. However, given the momentum of the ADDG and relatively favorable political climate, a carefully structured exercise could be very valuable in exploring the envelope of possibilities on water cooperation. The next steps towards moving forward the regional cooperation in South Asia are the following:

- The 4th Abu Dhabi Dialogue is provisionally scheduled for October 2009 in Abu Dhabi, and the Government has agreed to host the meeting.
- With the initial and interim arrangements for the Abu Dhabi Knowledge Program agreed, the Abu Dhabi Dialogue Group's Cooperative Knowledge Grants Program will be launched at the 4th Dialogue.
- The 4th Abu Dhabi Dialogue will also focus on developing a vision for a possible regional cooperative project that could provide an institutional framework for regional water cooperation.
- Dedicated high-level Abu Dhabi Dialogue Group workshops are proposed in countries which have not held in-country consultations on this agenda thus far, including China and Bhutan.
- Depending on the outcome of the 4th Abu Dhabi Dialogue, specific country consultations will be organized to further develop the cooperative project vision.

B. International River Basin Activities: the Ganges Basin Strategic Assessment

In South Asia, there is no common knowledge base or analytical framework to explore options and facilitate cooperative planning, nor is there an effective institutional mechanism for basin-wide riparian dialogue and cooperation. To begin to address these issues, SAWI has begun to explore options to inform and facilitate a dialogue on regional cooperation at the international basin level. In its first year, SAWI has focused on the Ganges Basin in particular. The flagship for this work is the Ganges Strategic Basin Assessment (SBA) which aims to provide an information base and an opportunity for constructive multiparty dialogue among the three riparians. The main objective is to build knowledge and promote dialogue on the risks and opportunities of cooperative management in the Ganges.

The centerpiece of this regional research/technical assistance work is the development of a shared Ganges Basin knowledge base and set of nested hydrological and economic river basin models that will be used to examine alternative scenarios across a range of future potential scenarios for the Ganges. The models will be of adequate reliability and detail to facilitate an informed discussion, and help focus efforts towards international cooperation. Consultations will be held in Bangladesh, India and Nepal and will be structured to promote broad dialogue within the ADDG on alternative management and development paths, as well as to refine the analyses and scenarios before drafting a final consolidated report.

A planned third major component of this work (in addition to the water systems and economic analyses) will focus on social analysis, more specifically the social dimensions of climate change. It will seek to develop an integrated social model, preparing a set of supporting studies using a mix of quantitative and qualitative approaches, comprising e.g., assessment of climate-related migration trends, poverty assessments, livelihoods assessments, and longitudinal case studies. These preliminary findings may help riparians determine adequate adaptation policies to tackle climate change issues. Table 2 shows the status of activities for the Ganges SBA.

Activities	Objectives	Milestones and achievements	Next Steps
Ganges Strategic Basin Assessment	Build knowledge on the risks and opportunities of cooperative management in the Gauges	 Initiation of following activities: Stakeholders consultations; Water system model; Economic system; Social system analysis; and 	 Validation of findings and consultations of the key initiated activities.
	Guirges.	 Inception reports. 	

Table 2: Overview of International Basin Level Activities.

2.1 Key highlights and progress

The Ganges SBA is being led by a multi-sectoral core team of World Bank staff and external consultants. The activity is anticipated to continue over the coming 12-18 months. To date, members of the Ganges Strategic Basin Assessment Team have travelled to Nepal, Bangladesh, and India on several occasions to brainstorm on the outline of the Ganges SBA and its activities. Contracts have been initiated with a combination of key individual consultants (for guidance on the water systems and socio-economic studies) and reputed regional consulting firms (to carry out work related to water balance and basin modeling, flood assessment, and pollution analysis in the Ganges basin).

The outcomes of a recent mission to Nepal, Bangladesh and India in July 2009 include:

Consultations begun with Key Stakeholders: The team met with a range of Government representatives, researchers and opinion-makers in all three countries. Key messages from these consultations across the three countries confirmed strong interests in regional undertaking including benefits sharing, exchange of data, knowledge on water systems, and growing commitment towards cooperation on the Ganges.

Initiated Development of Water systems Models: A set of analyses including basin and hydro-dynamic modeling by the Institute for Water Modeling (IWM) in Bangladesh, basin SWAT modeling and pollution review by an IIT-Delhi incubated company (INRM), and a flood damage assessment and analysis toolkit by RMSI, Inc., are in various stages of contracting and expected to provide early results by the end of FY 2009. There was discussion of beginning collaboration with CSIRO Australia on climate change scenario analysis for the Himalayan basins, and groundwater-irrigation linkages; with IWMI on modeling work they have initiated, especially on irrigation systems; and with the Bank's GW-MATE on groundwater analysis. The mission held extensive discussions with IWM researchers on the status of the Ganges water systems being modeled (including modification of the schematic for the Mike-Basin model being developed), the projects and scenarios to be considered, and issues of calibration and validation of the models. To support the analysis, the Bank has facilitated acquisition of information from the rest of the Basin where accessible. A basic knowledge base on the Ganges basin is being collated to support the analysis.

Economic Systems Work Being Initiated: The economic analysis builds upon the water systems modeling and is therefore intentionally lagged. Two economic models are now being developed for the Ganges basin, a simulation model and an optimization model. The team is working to structure the two models conscious of significant data constraints and with an aim to maintain consistency in both hydrology and valuation. The simulation model will be used to examine baseline projections, while both models will be used to define and explore the economic implications of alternative future scenarios.

Social Systems Work Being Initiated: This work will focus on social analysis, more specifically the social dimensions of climate change. It will seek to develop a related social model, preparing a set of supporting studies using a mix of quantitative and qualitative approaches, comprising e.g., assessment of climate-related migration trends, poverty assessments, livelihoods assessments, and longitudinal case studies.

2.2 Ganges SBA Challenges & Next Steps

The main challenges in the Ganges Basin are long-standing, and deep rooted suspicions and sensitivities with regard to transboundary issues remain. These dynamics are risks that need to be understood and managed within the context of the SBA as the team moves forward in defining model scenarios and planning and undertaking consultations. Secondly, the work that is being undertaken for the SBA is highly data intensive, yet the reality in the region is one where data is sparse, secret and unreliable. The team is making every effort to find the best available data, working with governments, researchers and public access data bases. Where data are still suspect, proxy indicators are used, and/or caveats are needed, SBA documentation will make this very clear.

Given the complexity of the task, the 'virtual' nature of the team, and the many component pieces being carried out by various contractors and partners, coordination and communications in this activity presents a real challenge. The team has therefore produced a detailed project execution plan that will be a living document used throughout the course of the project.

Next steps for the assessment include:

- Calibration of the framework basin model in late August 2009;
- Discussion of early developments with the Abu Dhabi Group in October 2009;
- Full team meeting to consolidate progress, upstream technical consultations in the basin (progress allowing) in December 2009; and
- Presentation of early findings to Bank staff and management at the World Bank Water Week, and possible "Expert Group" meeting in February 2010. Stocktaking at this point will determine the schedule for consultations on early findings in the basin countries.

C. National Water Resources Activities:

In parallel to the regional and international river basin agendas, activities are being funded at the national level to complement regional and basin cooperation. Table 3 provides an overview of current activities supported by SAWI across five countries in South Asia:

Country	Activities	Status
Afghanistan	• Technical assistance in water resources management capacity building.	• Ongoing activities being implemented.
Bangladesh	 Institutional assessment of water resources institutions. Initiation of Bangladesh Rivers Information and Conservation project. 	 Study is about to commence. Project Concept Note review meeting is scheduled for December 2009.
Nepal	 Climate Change Conferences: <i>From</i> <i>Kathmandu to Copenhagen</i>. River Basin Modeling — Capacity Building. Water Resources Knowledge Base (GIS) — Technical Assistance. River Basin Master Plan Update — Technical Assistance. 	 Activity completed. Training courses are underway. Study is about to commence. Preparation underway.
Pakistan	• Implementation of the water sector capacity building project.	• Activities are underway.
India	 Support to the GoI's National Ganga River Basin Authority (NGRBA) through a Project; Groundwater study. 	Activity at initiation stage.Activity completed.

Table 3: Overview of National Water Resources Activities.

3.1 Key highlights and progress

Afghanistan: The GoA requested the World Bank to assist in identifying priority water resources investment options in the Kabul River Basin. The study adopted the approach of developing a Decision

Support System (DSS) for analyzing and prioritizing water resources investment options in the Kabul basin. The DSS maximizes the net economic benefits of water development, and therefore develops an optimal set of strategic options for various development scenarios. The study results identify the priority investment options in the Kabul basin, including 3-4 storage projects and one conveyance link to bring water from Panjshir sub-basin to the Kabul urban area. In addition, the results also indicate the likely extent of sustainable irrigation in the Kabul basin, optimal energy production options, and trade-offs between sectors such as irrigation and urban water supply. The success of this study has resulted in the cabinet of Afghanistan endorsing this approach and seeking World Bank assistance for applying it in other basins within the country.

As a result of this request, the Bank initiated the Afghanistan Water resources Development TA project on fast track last year, and the project became effective in March 2009. It aims at developing capacity within the GoA for conducting integrated water resources planning, and for improving project preparation standards. The project is supporting two newly established units at the Ministry of Energy and Water, for basin planning and project preparation. In its first phase, the project will support identification of priority medium and large investments in three selected basins of Afghanistan, as well as quality improvement for ongoing projects being prepared as well as strengthening overall capacity of transboundary water resource management in Afghanistan.

Bangladesh: The dialogue in Bangladesh on the national water resources agenda has gained momentum in the context of a growing need to streamline disparate regional and national water agendas. Bangladesh has recently embarked on an institutional assessment of its water resource management institutions in order to improve performance, overall management and to promote improved development of the country's water assets. In addition, the Government of Bangladesh has requested World Bank assistance in financing a national integrated water resources management Project including the restoration of the Gorai River. Both requests are closely linked to the climate change and regional water agenda.

Nepal: There are series of initiatives and events that are underway in Nepal. These include:

- Climate Change Conferences Kathmandu to Copenhagen. Two major conferences were held in August/September: (i) a regional conference entitled *Kathmandu to Copenhagen: A Vision for Addressing Climate Change Risks and Opportunities in the Himalaya Region* (August 31 September 1); and (ii) *Kathmandu to Copenhagen: The Way Forward for Nepal* (September 2). The first brought together eight Ministerial delegations of states dependent upon the Himalayas to discuss the risks and opportunities they face in the context of climate change. The second focused sharply on Nepal; future climate change scenarios, the government's strategic directions, and a broad range of stakeholder views.
- **River Basin Modeling Capacity Building**. The Water and Energy Commission Secretariat (WECS), the government body mandated to implement river basin management and to guard against conflicting uses of water within basins, has requested World Bank support for capacity building in river basin modeling. This is because WECS largely has no capacity to model basin-wide flows and withdrawals and therefore cannot easily assess how best to allocate water where there are competing demands. The Bank has designed a two-part course for key staff from WECS and other relevant government agencies which will be delivered in August and September 2009. The output of the course will not only be trained staff, but also two functioning basin models, the Babai and the West Rapti.
- Water Resources Knowledge Base (GIS) Technical Assistance. WECS has requested World Bank support to help develop a GIS-based spatial knowledge base of water resources in Nepal. This would facilitate rapid access to key data and information for improved understanding of water supplies and demands, risks and opportunities in the basins of Nepal. It is expected that the

knowledge base will be a useful tool for decision-support as well as an advocacy tool for WECS to use in communicating with the many stakeholders inside and outside government who need to understand the opportunities and weigh the trade-offs inherent in water resources development. It is a first step in creating a water resources information system that will be housed in WECS at the planned Water Resources Information Center. A consultancy contract is being negotiated and work is expected to be completed by mid-2010.

• River Basin Master Plan Update — Technical Assistance. Nepal's vast water resources are a key asset for national development, and water resources management and planning is essential in order to manage these resources sustainably and to their best advantage. In this context, the Ministry of Water Resources (now Ministry of Energy) requested World Bank support to update the three major river basin Master Plans in Nepal. The updating exercise will optimize water development (i.e., agriculture, power, municipal/industrial, flood & drought management) rather than simply maximize hydropower, and examining export-oriented as well as domestic-use hydropower options. Draft TORs for this study are currently under discussion with the Government.

Pakistan: In line with SAWI initiatives in Pakistan, the World Bank is financing a project called the Water Sector Capacity Building and Advisory Services Project (WCAP). The project aim is to strengthen the capacity of the federal Ministry of Water and Power and its subsidiary institutions, to coordinate and foster the overall planning, development, and management of the Indus River System. Specifically, the project focuses on: (i) improving water sector investment in hydropower infrastructure by providing advice on a variety of financial, fiscal, legal, and regulatory issues and in institutionalizing this approach within a competent structure (IPDF); (ii) preparing strategic studies to increase the hydropower pipeline while consolidating the O&M and safety of existing water infrastructure; (iii) assessing the capacity of water institutions and developing a comprehensive capacity building and, (iv) carrying out an institutional audit of the Indus River System Authority (IRSA) which findings will be further used to strengthen IRSA into an effective river basin organization.

Under the on-going operation it is expected that SAWI could further increment emerging activities by enhancing decision makers' skill on negotiations in transboundary river basin management and by supporting specific studies on water resources knowledge, particularly, in the western transect of the Himalaya glaciers in Pakistan. However, three key challenges have been identified with SAWI implementation in Pakistan: (i) political instability and resulting security concerns reduced the ability to mobilize and reach out to the country stakeholders; (ii) highly sensitive nature of transboundary water although there are encouraging signs; and (iii) limited understanding of emerging water issues and low levels of readiness to address them.

India: SAWI is working closely and sensitively with the Government on three programs:

- A National Ganga River Basin Authority (NGRBA) has been constituted under the chairmanship of the Prime Minister, for integrated basin management and clean-up of the Ganga River. The Authority consists of the chief ministers of five Ganga basin states as well as key union ministers. The World Bank has recently received a request from the Ministry of Finance to support the preparation of river basin program for the Ganga basin in India. Subsequently, the Bank is actively engaging with the Ministry of Environment and Forests, which has been charged with providing administrative and technical support to the NGRBA in its early stages.
- Building on previous analytical work on the "Northeast Natural Resources Nexus", SAWI is supporting an on-going dialogue between the Bank and the Ministry of the Northeast Region on preparing a sub-regional water resource program focusing on the Brahmaputra Basin. Developing Brahmaputra water resources agenda would contribute to India's national and international transboundary agendas.

• Under SAWI, a World Bank study and technical assistance initiative on groundwater management was given the mandate of finding pragmatic approaches for addressing groundwater overexploitation in India, which can be implemented under the existing political and institutional environment. The Report, entitled *Deep Wells and Prudence: Towards Pragmatic Action for Addressing Groundwater Overexploitation in India*, provides a menu of management measures that can be implemented today, in different settings of groundwater over-exploitation in India. These include a demonstrated model for supporting community-management of groundwater in hard rock aquifers, which account for 2/3 of aquifer settings in India. Similarly pragmatic measures were recommended for breaking the impasse on electricity-groundwater nexus, encouraging conjunctive use and demand management in alluvial aquifers, and managing urban groundwater resources. The recommendations have elicited broad support across central and state governments. Several states have undertaken or expressed interest in investments in groundwater management as recommended by the report. The assessment of the first large-scale success in groundwater demand management by communities, conducted under this AAA, has evoked significant global interest.

IV. Managing SAWI Trust Funds

A. Pledges, Commitments, Deposits and Outstanding Balance

To date, DFID and AusAid are the two primary financiers for SAWI alongside the World Bank. Total funds pledged amount to about \$5.8 million. From this amount, a total of \$1.24 million has been effectively deposited as of August 2009 leaving an outstanding balance of \$4.64 million. Table 4 shows the status of pledges, commitments, deposits and outstanding balance.

Table 4. Partner pledges, commitments, deposits & outstanding balance (\$ millions, September 2009)

Contributing	Pledges			Commitments	Deposits	Outstanding
Partners	Currency	Amount in	Amount in	in US\$*	US\$	balance
	-	currency	US\$			
DFID	GBP	2.1	\$3.48	\$3.48	\$0.838	\$2.64
AusAID	AUD	3.0	\$2.4	\$2.4	\$0.407	\$1.99

*The commitment column shows amount in foreign currency converted in US\$ as of September 18, 2009.

Table 5. SAWI Memoranda of Understanding (September 2009)

Contributing	Currency	Commitments in	Deposit in	Deposit as of % of	Date of
Partners	-	currencies	currencies*	commitments	M.O.U
DFID	GPP	2.1	0.54	26%	01/28/2009
AUSAID	AUD	3.0	0.50	10%	05/27/2009

*The deposit column shows the amount in US\$ effectively deposited based on the transfer of funds agreed in the MOUs.

B. SAWI Flow of Funds and Operation

The transfer of funds from donors is made in accordance with the payment schedule agreed in the Memorandum of Understanding (M.O.U) signed between each Development Partner and the World Bank. Table 5 above provides the status of flow of funds as of September 2009. The table shows, for example, that for DFID the deposited amounts as of September 2009 did not take into account the payment schedule for June 30, 2009 which was still due. As for AusAID, the second payment schedule was due for August 30, 2009. Funds within the SAWI MDTF special account are allocated to activities' accounts on the basis of the activities agreed in the M.O.U and detailed in the SAWI Concept Note. As per the Bank procedures and in accordance with the Trust Fund guidelines, provision of funds has been made for recipient activities in order to support potential activities to be carried out by client countries. Since SAWI is a Multi-Donor Trust Fund and all deposited funds are fungible to support SAWI activities, it is important that agreed payments be made on time. Once all funds are received, then the reserve currency can be re-evaluated for possible allocation among different activities. This is critical as SAWI activities will increase in terms of funding needs and speed of implementation in the coming year.

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	Activity	Amount	Amount	Amounted
		allocated	already spent	committed
Regional Agenda	Regional Cooperation	\$300,000	\$18.672	\$15.383
8 8	Dialogue on Rivers of	. ,	. ,	. ,
	Greater Himalayas			
	Regional Cooperation in	\$121,460	\$33,332	\$12,788
	Sediment Management			
	in Hydro Projects			
	South Asia Climate	\$61,492	\$18,212	\$18,035
	Change			
	Social Dimensions of	\$100,000	\$0	\$0
	Climate Change			
International Basin	Ganges Strategic Basin	\$565,968	\$100,200	\$287,536
Agenda	Assessment			
National level	Nepal -Water Resource	\$243,512	\$2,031	\$36,229
Agenda	& Climate Change			
	India Groundwater	\$32,000	\$2,873	\$0
	Bangladesh Water	\$100,000	\$0	\$0
	Resources			

Table 6. Total of SAWI Allocations to Activities (September 2009)

Table 7: World Bank Administrative Budget (BB) for water resources projects and economic sector work under preparation

Levels	Countries	Bank Budget (US\$)	Project Pipeline & Potential Investment	Size of Investment (US\$)
Regional	Abu Dhabi Dialogue	50,000	Potential regional project on the Himalaya Rivers	Not yet defined
International	Ganges SBA	80,000	Economic & Sector Work	Not applicable

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Levels	Countries	Bank Budget (US\$)	Project Pipeline & Potential Investment	Size of Investment (US\$)	
Basin					
National level Agenda	Afghanistan	30,000	Capacity Building Project	15 million	
	Bangladesh	60,000	Rivers Information and Conservation	160 million	
	India	120,000	NGRBA Project	? (circa > 1 billion)	
	Nepal	50,000	Water Resources and climate technical assistance	? (circa 50 million)	
	Pakistan	100,000	Capacity Building & Advisory Service Project	38 million	
Total		420,000		\$1,2630 million (known)	

Overall, activities referred in Table 7 above have also funding from the World Bank Budget either as part of specific projects preparation or economic sector work (e.g. Ganges Strategic Basin Assessment). The allocated Bank budget reflects commitment to complement SAWI funding. Regarding specific Bank projects' preparation, those are primarily funded by Bank budgets. SAWI funding increments only projects' preparation on activities with strong connection to regional water agenda. For example, SAWI will support activities related to establishing the "National Ganga River Basin" in India and the "Assessment of water resources institutions performances" in Bangladesh, both of which provide inputs to the regional agenda as well as the design of the related projects.