
Evaluation of the Sustainable Development Investment Portfolio

FINAL REPORT

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We trust that this report reflects a spirit of frank and constructive dialogue coupled with forward-looking consultations.

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List of abbreviations

ACIAR	Australian Centre for International Agricultural Research
BARI	Bangladesh Agriculture Research Institute
CASI	Conservation Agriculture-based System Intensification
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DFAT	Department of Foreign Affairs and Trade
EGP	Eastern Gangetic Plains
GB	Gilgit-Baltistan
GoN	Government of Nepal
HKH	Hindukush Himalayan Region
ICE WaRM	International Centre of Excellence in Water Resources Management
ICIMOD	International Centre for Integrated Mountain Development
IFC	International Finance Corporation
IWRM	Integrated Water Resources Management
JAC	Joint Advisory Committee on Water Resources Management
M&E	monitoring and evaluation
OPM	Oxford Policy Management
PaCT	Partnership for Cleaner Textiles
PAF	Performance Assessment Framework
PEA	Political Economy Analysis
PPP	Public Private Partnership
SAWI	South Asia Water Initiative
SDIP	Sustainable Development Investment Portfolio
SRFSI	Sustainable and Resilient Farming Systems Intensification
TAF	The Asia Foundation
WECS	Water and Energy Commission Secretariat

Executive summary

Overview of the SDIP Program

The Sustainable Development Investment Portfolio (SDIP) supports climate resilient livelihoods and inclusive economic growth in South Asia by addressing growing water, food and energy insecurity. The investment focuses on three major transboundary Himalayan river basins – the Indus, Ganges and Brahmaputra – covering parts of India, Pakistan, Nepal, Bangladesh, Bhutan and Afghanistan.

SDIP is now in the second 4-year phase (2016-2020) of a 12-year investment strategy. SDIP Phase 1 (SDIP1) was an investment of AUD45 million. SDIP Phase 2 (SDIP2) is currently valued at AUD47.6 million.

The end-of-investment objective of SDIP2 is: 'Key actors are using and sharing evidence, and facilitating private sector engagement, to improve the integrated management of water, energy and food across two or more countries – addressing gender and climate change impacts'. SDIP2's three end-of-investment outcomes are:

1. Strengthened practices for regional cooperation
2. Critical new knowledge generated and used for regional cooperation
3. Improved regional enabling environment for private sector engagement.

Through SDIP, DFAT is investing in the work and capabilities of seven partner organisations engaged in water resource management, agricultural productivity and energy access and efficiency. These partners are the Australian Centre for International Agricultural Research (ACIAR), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the International Centre of Excellence for Water Resources Management (ICE WaRM), the International Centre for Integrated Mountain Development (ICIMOD), International Finance Corporation (IFC), the World Bank's South Asia Water Initiative (SAWI) and The Asia Foundation (TAF).

A team of technical advisors supports DFAT's implementation of SDIP in water, food security, climate change, energy, monitoring and evaluation (M&E), gender and partnership.

The evaluation

The overall purpose of the evaluation was to assess the effectiveness and relevance of the approach and mechanisms employed by SDIP and identify practical lessons to inform future programming. The evaluation's methodology included: reviewing key documents and SDIP's performance data; interviewing government and nongovernment stakeholders in Bangladesh, Australia, India, Nepal and Pakistan; and validating the evaluation's initial findings at the SDIP Annual Dialogue forum in Nepal.

It was agreed during the inception phase that the evaluation would cover Bangladesh, India, Nepal and Pakistan as a selection of the SDIP partner countries and would not include Bhutan and Afghanistan.

A serious methodological challenge for evaluating the effectiveness of SDIP relates to the design of the programme and the framing of the end-of investment outcomes. While there was evidence that partners are making an important contribution to sustainable development within different sectors and geographies, it was not always straightforward to fit these results within the three end-of-investment objectives. There is a disconnect between the end-of-investment objectives – which are focused on strengthening regional cooperation - and the actual work and success stories of the program.

To what extent is SDIP meeting expected objectives at this time?

It is clear that SDIP has delivered a number of successful high profile projects. Examples of these include: the multi-stakeholder national dialogue in the form of the Upper Indus Basin Network Dialogue; strategic engagement with governments and other stakeholders in South Asian countries to improve water management policies and practices; and a number of research and knowledge products that support basin planning. In addition, SDIP has been well received by national government officials and generated significant diplomatic benefits for Australia, particularly in Nepal and Pakistan.

The evidence suggests that SDIP is only partially meeting expected outcomes, if defined by the end-of investment outcomes. Unfortunately, SDIP's design problems have caused a disconnect between SDIP's end-of-investment outcomes, the actual work being undertaken, and SDIP's performance reporting and accountability. Given the fundamental shortcomings in SDIP's design it is not possible to give a more definite conclusion on progress towards expected objectives.

All of SDIP's partners have demonstrated some meaningful participation of women in resource management activities and/or policy engagement. Efforts were made to build understanding of gender inequities amongst stakeholders, mobilising and sensitising institutions and key individuals to prioritise women's issues and participation and representation of gendered issues in different strategic and operational ways.

SDIP partners are also contributing to climate change adaptation and mitigation by supporting the efficient management of water, promoting conservation agriculture practices, facilitating reductions in CO2 emissions by businesses, and by carrying out research to raise awareness amongst policy makers and the public. SDIP has made a significant contribution to climate change adaptation and mitigation (particularly given the size of its budget), with considerable potential for the further scaling up of activities.

To what extent has the strategic approach followed by SDIP been relevant and effective?

SDIP is closely aligned with Australian's foreign policy and aid objectives as defined by the 2017 Foreign Policy White Paper, the Aid Investment Plan for the South Asia Regional

Development Program, and formal agreements between Australia and national governments in the region on water resources.

Australia is highly valued in the region and seen as a trusted, neutral, reliable and knowledgeable partner. Australia is well regarded for its skills in efficient water resource management, dry land agriculture, and its experience in managing the cross boundary political issues in the Murray-Darling Basin. Regional stakeholders believe that Australia has a legitimate role to play in providing technical support to national and state governments in response to their requests for assistance.

The concept of a water-energy-food nexus is a relevant and technically correct framing for SDIP. However, nexus is a difficult concept to communicate to stakeholders and it is not clear whether it is the most appropriate way to define an aid program such as SDIP. The nexus approach does not appear relevant to all aspects of the partners' work, and alternative framings for SDIP could also be helpful.

SDIP is organised around river basins, which makes conceptual sense given the cross-boundary and nexus framing. The three basins represent a major opportunity in terms of promoting water, food and energy security and hence peace, prosperity and stability. The basins can be ranked in order of how likely it will be to achieve the results (outputs and outcomes) specified in SDIP's design and performance assessment framework as: 1) the Ganges; 2) Brahmaputra; and 3) the Indus.

SDIP's partners value the flexibility of the partnership approach which allows them to identify opportunities as they emerge and adapt to changing contexts and lessons from experience. In common with other flexible adaptive investments in DFAT, SDIP also experiences challenges relating to: its design/program logic; coordination of activities; communicating with stakeholders; and monitoring, evaluation and reporting.

Are the SDIP management arrangements delivering value for money?

Overall, the program appears to be operating efficiently, with management arrangements that provide sufficient flexibility to partners, technical support in certain areas and an adequate degree of oversight and accountability. SDIP partners are delivering on their agreed investment strategies, and SDIP's expenditure is on track and within budget. However, there are areas of weakness in the management system and opportunities to provide further value from the arrangement.

SDIP's partnership model offers definite benefits and is highly appreciated by the implementing partners for the flexibility it provides. The partners appear to have the right skill set and resources to deliver their agreed scopes of work. The mix of partners, including both Australian and regional organisations, provides an opportunity for them to learn from each other, utilise respective strengths and knowledge, and work together to collectively navigate the complex operating environment. However, the potential benefits from a partnership model are not currently being fully maximised and the risks it brings are also not being fully managed. In particular, this relates to the design of the programme and how it is being monitored, and the communication channels between partners and with DFAT.

The design of SDIP and its Performance Assessment Framework (PAF) has evolved over time but the current PAF still suffers from a lack of clarity in the overall purpose and framing of SDIP. At the highest level, the broader objective for the 12- year period and the three end of investment outcomes are not clearly and tightly enough defined. In addition, the program lacks suitable performance indicators to assess progress. A majority of the stakeholders interviewed, i.e. more than 60%, felt that SDIP's monitoring and evaluation approach needed to be improved.

Governance arrangements for flexible adaptive investments are often quite challenging. While SDIP is actively managing certain risks through annual partnership health-checks and regular technical discussions with the advisor team (e.g. ensuring working relationships are effective, adapting SDIP priorities in response to emerging opportunities); it was not clear to the evaluation team how the full range of risks is being managed. For example, testing and refining SDIP's presumed program logic, ensuring synergies across SDIP's broad range of activities, and the impact of DFAT's own staffing constraints. It was difficult to comprehend SDIP's overall approach to governance, and who is being held accountable for what.

The role of SDIP's technical advisors has grown over time partly as a result of SDIP's management needs and partly due to DFAT's own staff shortages. The advisors have clearly played an important role in the program's successes and helped to showcase the added-value of SDIP being an Australian funded program. At the same time, SDIP is currently experiencing significant management challenges (for examples, see sections 3.4 and 4.1) and the role of the advisors was not sufficient to overcome these.

The primary method for information sharing between SDIP partners and stakeholders is the Annual Dialogue forum. DFAT staff in Bangladesh, India and Canberra felt strongly that better communication products were required from SDIP in order to support program oversight and public diplomacy activities.

SDIP's funding is allocated to partners on the basis of approved investment strategies and the amount received by each partner varies significantly. In general, the partners appear to be satisfied with SDIP's strategy and budgeting processes. In contrast, several DFAT stakeholders expressed confusion about the basis for financial allocations across individual partners and requested greater transparency in decision making.

What lessons from SDIP2 could be applied to SDIP3 to promote successful outcomes?

The evaluation identifies a number of lessons for the next phase of SDIP related to:

- improving SDIP's design, monitoring and evaluation practices
- refining SDIP's delivery model and management structure to further maximise efficiency
- better communications for public diplomacy
- continuing to promote gender equality, empowerment and inclusion
- prioritising future budget allocations.

1 Overview of the SDIP Program

SDIP supports climate resilient livelihoods and inclusive economic growth in South Asia by addressing growing water, food and energy insecurity. South Asia has a growing population of nearly 1.7 billion and is home to more than 40 per cent of the world's poor. With limited land and water resources, countries in the region are under immense pressure to produce sufficient food and energy to meet the demands of an increasingly urbanised and industrially developed population, as nearly 51 per cent of South Asia's population is food and electricity deficient. Water remains at the core of urbanisation, food production, and energy generation, yet, South Asia faces an intensifying water crisis. The region supports more than 21 per cent of the world's population, but has access to just over eight per cent of global water resources

Climate change will exacerbate water, energy and food security challenges. Increased intensity and frequency of extreme weather events (droughts, floods and heatwaves), changes to the regional monsoon, and retreating glaciers and ice pack in the Himalayas will change hydrological regimes and, subsequently, impact on energy and food production. Women and girls are particularly vulnerable to the impacts of water scarcity and related energy and food insecurity.

The projected rapid population and economic growth in South Asia over the coming years will also significantly increase energy and food consumption and result in a large increase in the region's greenhouse gas emissions.

Managing and balancing competing water needs will present many challenges for the region and an integrated approach at the regional scale is required. Enhanced regional cooperation and trade in the energy sector will be vital to the region's future economic growth and energy security. Harnessing the significant untapped hydropower potential of the Himalaya/Hindu Kush and integrating large scale grid connected wind and solar power facilities are viewed as key building blocks for the emerging regional electricity trading market.

Regional cooperation to harmonise standards and regulatory regimes, promote water and energy efficiency, harness the region's large renewable energy resource base (especially hydropower) and increased cross border energy trade and connectivity will be important elements for improving regional air quality and limiting emissions growth.

However, there are very significant political barriers to regional cooperation, particularly on natural resources, which explains why progress to date has been limited. There are regular disputes and conflict over control of natural resources, particularly water, which are the source of much geo-political tension and instability in the region. While there are some bilateral treaties and agreements governing water sharing and infrastructure development between India and Pakistan, there are ongoing issues with their implementation. Disputes have arisen around the management of flows and the control and damming of rivers without considering the impact beyond their borders. The South Asian Association for Regional Cooperation (SAARC) has been rendered ineffective due to the crippling political tensions in the region, and as such there is no effective regional governmental body to foster collaboration.

Despite the very limited progress that has been made on regional cooperation on natural resources, it still remains a valid objective. The three major transboundary river systems—the Indus, Ganges, and Brahmaputra – are central to water, food, and energy security in the region. Cross-border cooperation is therefore essential for the effective management of these resources.

SDIP is now in the second 4-year phase (2016-2020) of a 12-year investment strategy. SDIP Phase 1 (SDIP1) was an investment of AUD45 million. SDIP Phase 2 (SDIP2) is currently valued at AUD47.6 million; contributions from Department of Foreign Affairs and Trade (DFAT) geographical teams augment the allocation from the South Asia Regional budget.

The end-of-strategy objective for SDIP is: ‘Improved integrated management of water, energy and food in the major Himalayan river basins – especially addressing climate risks and the interests of women and girls.’

The end-of-investment objective of SDIP2 is: ‘Key actors are using and sharing evidence, and facilitating private sector engagement, to improve the integrated management of water, energy and food across two or more countries – addressing gender and climate change impacts’.

The three end-of-investment outcomes of SDIP2 are:

1. Strengthened practices for regional cooperation
2. Critical new knowledge generated and used for regional cooperation
3. Improved regional enabling environment for private sector engagement.

SDIP contributes to these outcomes through scientific analysis and research, support for policy reform and capacity building. The SDIP2 Program Framework can be found at Annex D: SDIP2 program framework.

The SDIP approach assumes operating at the intersection or “nexus” of water, energy and food security allows Australia to engage at a systemic level and pursue entry points not necessarily constrained by sectoral policy or institutional silos. All SDIP activities and engagement must promote climate change resilience and consider the impacts on women and girls.

Through SDIP, DFAT is investing in the work and capabilities of seven partner organisations engaged in water resource management, agricultural productivity and energy access and efficiency. These partners are the Australian Centre for International Agricultural Research (ACIAR), the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the International Centre of Excellence for Water Resource Management (ICE WaRM), the International Centre for Integrated Mountain Development (ICIMOD), International Finance Corporation (IFC), the World Bank’s South Asia Water Initiative (SAWI) and The Asia Foundation (TAF). Engagement with partners is undertaken in accordance with Partnership Memorandums of Understanding agreed between DFAT and each partner, which are reviewed annually.

SDIP2 operates as a "portfolio" under which partners are given earmarked core funding, allocated according to partner investment strategies, approved during the SDIP2 design phase. The investment strategies adhere to investment selection criteria, which comprise

part of the SDIP2 Program Framework. A summary of the partners' investment strategies is listed in Annex E: Summary of SDIP2 investment strategies.

A team of technical advisors supports DFAT's implementation of SDIP in portfolio management, water, food security, climate change, energy, monitoring and evaluation (M&E), gender and partnership. Their terms of reference include: keeping abreast of sector issues in the region; identifying opportunities for linkages and/or collaboration with partners; supporting DFAT engagement with partner governments; and identifying economic and public diplomacy opportunities arising out of SDIP partners' work.

2 To what extent is SDIP meeting expected objectives at this time?

2.1 Progress towards SDIP2 end-of-investment outcomes

2.1.1 India

It is clear that SDIP2 partners in India are making an important contribution to sustainable development, within different sectors and geographies. However, it is not always straightforward to fit these results within the three end-of-investment outcomes which are clearly focused on strengthening regional cooperation.

A significant proportion of the SDIP2 portfolio in India is not regional in nature, with many human and policy impact stories of success taking place at the national and local level. For example, under the program to date, 75,000 small-scale farmers in West Bengal have been supported to adopt sustainable and more profitable farming practices and thousands¹ of people in Bihar will soon be benefiting from a state-wide network of affordable housing that is certified as green. In addition, 18 million people across the country gained access to affordable off-grid solar energy lanterns, which has shown to have wide-ranging socio-economic benefits such as increasing children's study time by an hour every day. There have also been important national and local policy results, for example: a customised Ganga River Basin Modelling tool has been developed for and adopted by central authorities, the Ministry of Water Resources Research Chair position has been established as a legitimate actor among national and state agencies on the highly sensitive issue of interstate cooperation on water issues with for example their research being quoted extensively in a recent national parliamentary debate on the issue.

In the SDIP performance reports, the three high-level end-of-investment outcomes are broken down into six focus areas (domains of change) which are broad and generic enough to allow all of the partners' results to be included. The lack of clearly specified measurable outcomes for SDIP makes it difficult for DFAT and partners to 'tell the story' of SDIP's successes and to report on progress over time. The following sections attempt to summarise achievements against each end-of-investment outcome, drawing out progress at a regional level when it exists:

Strengthened practices for regional cooperation: There is only limited evidence of the SDIP program having facilitated strengthened practices for regional cooperation involving India. The development of the flood forecasting tool and early warning system that is now being used in India with data provided by Bangladesh in the Ganges River Basin is one of the few examples of a new or strengthened regional practice that has been adopted and is showing results.

There is evidence that partners have improved dialogue between India and its neighbours, which given the geopolitical sensitivities is a significant achievement. Under SAWI,

¹ Exact number of people to benefit from IFC's work on affordable housing in Bihar is not known.

stakeholders from all four countries – including China – participated in the Brahmaputra Basin-dialogue for the first time, something which took an immense amount of effort to achieve. At a very different level, due to the work of The Asia Foundation (TAF) and their local partner GEAG neighbouring villages along the Koshi River, from both the India and Nepal side, are now communicating with each other directly to resolve tensions and disputes (e.g. embankment construction).

Critical new knowledge generated and used for regional cooperation: There has been a large amount of new knowledge and evidence generated on natural resource management practices in India. Most of the partners included an element of sharing learning and experience generated in India with partners in other countries. For example, through the Lighting Asia programme, IFC shared results from India on promoting off-grid lighting products and systems to shape the design of a similar programme in Bangladesh and elsewhere. However, it is generally not clear how this is being used for regional cooperation with India's neighbours. In most cases, the new knowledge is intended to improve practices at the national or local level.

The research that did have a clear regional focus includes TAF's political economy assessments covering different sectors and regions which has informed the work of the partners. ICIMOD, ACIAR and CSIRO have also both produced regional assessments on the impacts of climate change in the region, with ICIMOD's headline research findings on glacier retreat being covered by the media in India and elsewhere. In addition, under the SAWI-facilitated Brahmaputra Dialogue a knowledge portal to collate and curate existing information relevant to the region is being explored.

Improved regional enabling environment for private sector engagement: This end-of-investment outcome is difficult to evaluate. Its wording does not make it clear what the private sector is expected to be engaging in. Relating the outcome back to the end-of-investment objective, it is therefore assumed that it relates to private sector engagement in the integrated management of water, food and energy resources (rather than just one of these sectors). It also appears that a 'regional enabling environment' is not necessarily related to a cross-border dimension, but rather a positive enabling environment at the national and local level in the different countries in South Asia.

Based on this framing, there is evidence that SDIP partners have contributed to this outcome, although not always contributing across the entire water, food and energy nexus. IFC have supported a number of policy and financial innovations that are already increasing private sector investment in the water-energy nexus. This includes: a certification tool to create a voluntary market in green buildings; piloting and demonstrating a model Public Private Partnerships agreement to manage risks in green affordable housing; developing a new business model for off-grid solar solutions such as lanterns; increasing the commitment of the cement sector (including through a certification scheme for ready-mix concrete) for carbon, energy and water efficiency; and demonstrating the process and model for structuring and managing risks within a large-size solar project (see Case study 1: Mega solar projects). In addition, given that farmers are private sector actors, ACIAR's support to farmers in West Bengal to experiment, pilot and adopt climate smart agriculture practices can also be included here.

2.1.2 Nepal

Strengthened practices for regional cooperation: SDIP partners have maintained strong, high-level, strategic engagement with governments and other stakeholders in Nepal and other South Asian countries to improve water management practices. Specific focus was given to ensure that water use decision-making actively considers gender and social inclusion issues. CSIRO's steady and increasingly focused engagement with the key institutional structures in Nepal aimed to contribute to changes in orientation, behaviour and practices of key partners. For example, taking a leadership role in stakeholder engagement during joint development of the Kamala Basin Strategy and application of the learning to nationwide basin planning processes.

SDIP has been supporting the Government of Nepal (GoN) with the design of new National Water Resource Policy, and a new Water Act. For example, ICE WaRM has drawn expertise from Australian experts to inform policy discussions and basin planning project events, such as a review of engineering faults in the Sikta canal, and the implementation of a basin planning project of the Kamala basin. Both CSIRO and ICE WaRM helped the government Water and Energy Commission Secretariat (WECS) with the establishment and functioning of a Joint Advisory Committee on Water Resources Management (JAC) to provide technical and logistical support for the Nepal by managing meetings and assisting in negotiations between Nepal and Australia regarding assistance required by the water sector in Nepal. Apart from this, ICE WaRM shared Australia's expertise in water planning, modelling and basin management, within the federalist context of Nepal and helped in drafting provincial legislations.

SDIP partners such as CSIRO have supported the GoN to transition to a federal system of water governance by developing skills and processes in participatory basin planning that promotes engagement of different levels of the government and communities. The primary mechanism for this is the Kamala Basin project, which provides staff within the government water planning agency (WECS) with hands-on experience in basin planning processes.

The Australian expertise has been very valuable for the GoN. ICE WaRM has engaged prominent Australian experts like Megan Dyson, an expert water lawyer responsible for much of the legislative drafting for the Murray-Darling Basin Plan, to assist in this process in addition to existing high-level resources already contributing from both ICE WaRM and CSIRO. As a result, a real and large scale basin wide planning scenario is being developed with senior water management officials and supported by technical staff newly trained by CSIRO with ICE WaRM support, drawing on actual evidence to be applied to realistic possible futures for this basin.

Political Economy Analysis (PEA) was used as tool in understanding the political economy of water resource management and energy trade. TAF carried out PEA and convened four dialogues in Kathmandu- two civil society workshops (one in India and one in Nepal), two media workshops (one in India and one in Nepal), and has also created a 15 member think tank group (with members from civil society organisations and media agencies based in India and Nepal) towards understanding perceptions and initial enthusiasm for promoting low carbon energy pathways between India and Nepal. The approach engaged specific stakeholders in small groups before convening larger combined groups to discuss areas of contention/lack of agreement. Participants and moderators of dialogues from both sides of

the border were from diverse sectors such as the government, development agencies and private companies. In Nepal, the participants were inclusive in terms of age and gender and had meaningful engagement in the dialogue.

Critical new knowledge generated and used for regional cooperation: Some excellent scientific ground-breaking work on water resources has been carried out in SDIP phases I and II. The work of CSIRO and ICE WaRM on Kamala river basin planning in Nepal was perceived by the Nepali stakeholders as a very important piece of work. They are supporting the GoN, particularly WECS to transition to a federal system of water governance by developing skills and processes in participatory basin planning that promotes engagement of different levels of the government and communities.

SDIP has also contributed to knowledge generation through a greater understanding of trends and scenarios of climate change and its impact on the region. It carried out the first ever baseline assessment of the state of the Hindu Kush Himalaya (HKH). The HKH Assessment provides evidence of climate change in the HKH region and outline some opportunity and challenges. ICIMOD, in partnership with other agencies, is also hosting several knowledge forums comprising multi-stakeholder regional and national dialogues, such as the Koshi Basin Information System and Koshi DRR Knowledge Hub. The Knowledge Hub is now functional with over 20 organisations actively contributing to the discussions in the Transboundary Working groups and country chapters. Some members of the hub are interested in co-organising country consultations and 12 organisations have formally joined the hub.

Partners are piloting innovative ideas and approaches around natural resource management. Piloting of the incentives (payment) for ecosystem services in Nepal by ICIMOD was highly appreciated by the GoN. Their action research on incentives of ecosystem services for drinking water in Dhankuta, Eastern Nepal, and other relevant research was shared across various platforms. In addition, a series of publications and inputs on incentives for ecosystem services was provided to university curricula. In Nepal, ICIMOD has also been instrumental in influencing government policies and practices in the energy sector. They have tested and promoted solar powered irrigation pumps. For example, during 2018-2019, 53 solar powered irrigation pumps are being operated irrigating around 61 ha of land.

Another important area of SDIP partners work is helping advance climate change adaptation and mitigation strategies in the agricultural sector, with Conservation Agriculture-based System Intensification (CASI) approaches. ACIAR work on CASI found to improve the productivity and profitability of farming systems in Bangladesh, West Bengal, Bihar and the eastern Terai districts. Stakeholders interviewed, perceived that ACIAR has helped with introducing conservation technologies, including mechanisation in north-western part of Bangladesh. In Nepal, some good piloting work has been carried out in the Eastern terai districts.

ACIAR's foresight component is developing a long-range perspective on key drivers and trends in regional/ Eastern Gangetic Plains (EGP) food systems, and the implications for water and energy use. It is engaging key stakeholders and exploring alternative future scenarios and transformation pathways using a systems-oriented approach to research, policy-making and implementation. ACIAR is working at several levels to support the

transition to federalisation to ensure effective agricultural services. A high-level policy dialogue was conducted in Kathmandu that attracted over 40 participants including policy makers from federal and provincial government levels, and other relevant organisations.

Improved regional enabling environment for private sector engagement: SDIP partners have been instrumental in improving regional enabling environment for private sector engagement. Although the work is focussed in Nepal, the lessons can potentially be replicated in other South Asian countries. IFC's work in Nepal is supporting the development, in partnership with ICIMOD, of an environmental impact assessment manual for the hydropower sector, which was appreciated by the Ministry of Forests and Environment. In Nepal, IFC's advisory services have successfully built the capacity of private companies and is supporting the development of a pipeline of bankable hydropower projects consistent with international technical, commercial, environmental and social standards.

Some capacity building activities were also delivered by IFC for government and private sector agencies particularly helping the Butwal Power Company in Nepal. IFC also continued implementation of the Trishuli Basin Cumulative Impact Assessments. Multi-stakeholder workshops were held to help hydro sector players discuss how to conduct a cumulative impact assessment, understand types of cumulative impacts from hydropower projects, assess their associated risks and develop recommendations for their management and mitigation. IFC has also provided advisory services to the Butwal Power Company, on environment and social management systems and operations & maintenance. This will help the Butwal Power Company to manage environmental issues at a corporate level, and maintain occupational, health and safety standards for construction workers at the project level.

IFC is supporting domestic hydro projects to secure international financing. They are laying the groundwork for the mobilisation of private sector finance for the development of hydropower projects. For example, IFC has held discussions with the Ministry of Energy to implement a hydropower project on the Karnali River in Kalikot district in the Far Western Development Region of Nepal through a bankable and sustainable public private partnership (PPP) model.

2.1.3 Pakistan

SDIP2 partners in Pakistan feel strongly that they have made important contributions towards improving water security and related capabilities in Pakistan in line with the intended long-term impact of SDIP2. However, a number of these achievements do not neatly fit under the end-of-investment objective and outcomes of the Program, which emphasise regional cooperation. Though not directly aimed at strengthening "regional cooperation" (as envisioned), a number of interventions carried out at the country level will have the impact of strengthening national level water resources governance and nexus linkages. This in turn will provide the basis for a coherent national position on which cross-border dialogue, information exchange, and cooperation can be constructed. Main achievements of the program in Pakistan are explained below:

Strengthened practices for regional cooperation: The CSIRO has been instrumental in leading the engagement with key agencies in Pakistan on improved water resource management. This engagement has laid the foundation for a transition to government to

government relationships which is reflected in the Memorandum of Understanding signed with the Federal Ministry of Water Resources, which references the link between water, energy and food, and the importance of considering gender and climate change. This, coupled with the recently launched Pakistan National Water Policy (which was also influenced by SDIP2 partners), provides important building blocks for intra-national resource sharing.

Multi-stakeholder national dialogue in the form of the Upper Indus Basin Network Dialogue (facilitated by ICIMOD), draws important actors from the across government and civil society and helps shape a more integrated discourse. Australia not only contributed through funding but also through shaping the network's agenda and by profiling Australia's support for the issues across the region. The Network has fostered science-based dialogue among the four riparian countries with respect to present and future water availability, and the impact of climate change has been central to the dialogue. Additionally, through the Indus Basin Knowledge Forum (supported by SAWI and ICE WaRM), there is evidence of greater information exchange between the various stakeholders.

Technical support provided by SDIP partners (including CSIRO and ICE WaRM) is consistent with key elements of Pakistan's first National Water Policy released in April 2018, which articulates a shift from sectoral to integrated approaches to water management, and makes mention of including women in decision-making processes.

Critical new knowledge generated and used for regional cooperation: CSIRO has helped put into effect a centralised hydrological data management system (Hydstra) across three provincial irrigation departments of Punjab, Sindh and Khyber Pakhtunkhwa in the Water and Power Development Authority (WAPDA) and assisted in development of new and/or improved water datasets, including digitised bore log lithology for the Indus Basin Irrigation System, spatial and temporal water quality trends dataset for Ravi and Sutlej rivers in Pakistan and updates to the Agricultural Productions Systems Simulator. Additionally, data from the recently released HKH Assessment by ICIMOD is available to policy makers and practitioners through the HKH Climate and Hydrology Visualisation and Access Portal (HI-CHAP). The HKH Assessment is the most comprehensive study of key development issues in the HKH region, including the impact of climate change.

The Indus River System Model, developed by CSIRO in collaboration with central and provincial governments in Pakistan, has been endorsed by the SDIP Strategic Advisory Group (which includes several different Government of Pakistan Ministries) as a potential common water modelling framework for the Indus Basin. This provides for a real breakthrough in the way in which Pakistan addresses its water management challenges.

Another significant achievement has been the joint development of the Indus Flood Outlook (focusing on the Chenab basin) by the Pakistan Meteorological Department and ICIMOD. Additionally, ICIMOD, working with local partners, helped fine tune and reintroduce low cost and appropriate technology (in the shape of solar and hydraulic water pumps) to the communities in select sites through which barren land has been brought under cultivation of high value crops, leading to increased incomes for participating households. Most of the community individuals involved in this initiative are women.

In February 2018 TAF launched 'The Political Economy of Agricultural Water Use in Lower Indus Basin', which considers the political and economic factors that influence water governance decisions in the Lower Indus Basin and identifies potential drivers of change to bring about policy reform. SAWI has been leading a study on groundwater in the Indus Basin, particularly to map aquifers in upper and central Punjab. Analysis conducted with University of Agriculture Faisalabad provided information on yield gaps and driving abiotic factors in the Punjab rice-wheat system, which will allow the Government of Pakistan to make better informed policies that integrate both agriculture and water considerations.

A joint research proposal on 'Understanding climate change adaptation in the Indus Basin' was finalised by the Indus Forum Working Group, and includes scientists from all four riverine Indus Basin countries. Moreover, key actors in Pakistan (Glacier Monitoring and Research Centre - Water and Power Development Authority, National Engineering Services Pakistan) and the research community have increased understanding of uncertainties related to the prediction of seasonal flows into major surfaces storages.

Improved regional enabling environment for private sector engagement: This end-of-investment objective is difficult to evaluate. Relating the objective back to the end-of-investment outcome, it is therefore assumed that it relates to private sector engagement in the integrated management of water, food and energy resources. Based on this framing, it can be reported that there was partial movement towards this objective in Pakistan. IFC issued a 'Pakistan Solar Developers' Guide' which provides information to those who are implementing or intending to invest in solar photovoltaic power plants in Pakistan. IFC has also commenced out-scaling of their successful Partnership for Cleaner Textiles (PaCT) program in Pakistan and have engaged with other sectors (packaging automotive, cement, chemicals, agri-business) to promote improvements in resource efficiency. The Punjab provincial government has adopted and implemented a regulatory and institutional framework to reduce energy use in the industrial sectors by drafting a Five-Year Energy Efficiency & Conservation Strategy – the first of its kind in Pakistan, as well as launching the Energy Efficiency standards and labelling program for fans and motors (with support from the IFC. Additionally, IFC has facilitated capacity building of private sector investors in Pakistan hydropower through the Hydropower Developer's Working Group, established in 2017 with 20 hydropower developers.

ICIMOD enabled and facilitated local private sector actors to develop appropriate technologies for community Early Warning Systems components (because importing successfully tested equipment from Nepal was proving problematic) and for development and fine tuning of hydraulic pumps for lifting (silt heavy) water from rivers in Gilgit-Baltistan (GB) for irrigating barren lands. And by doing so, ICIMOD facilitated creation of private sector solutions and service providers, where none existed before. Additionally, CSIRO has also contributed to the creation of a Hydropower Developers' Working Group to address sector wide issues facing the hydropower sector and to provide a platform for private sector energy firms to raise concerns to the Government of Pakistan.

2.1.4 Bangladesh

Strengthened practices for regional cooperation: There are significant efforts by SDIP partners to strengthen practices for regional cooperation. CSIRO has done some excellent

scientific ground-breaking work on water resources. In Bangladesh, they generated new knowledge for sustaining groundwater use that has the potential to change agricultural water use policy by improving the understanding of the causes of declining groundwater levels on agricultural communities. The work has included improving crop monitoring practices of the Bangladesh Agriculture Research Institute (BARI) through machine learning and big remote sensing data mining using a supercomputer. These insights were perceived by stakeholders as very useful for understanding how farmers can adapt to a changing environment.

In response to requests from key Bangladeshi government agencies (including the Barind Multipurpose Development Authority, and Ministry of Agriculture), CSIRO has been working closely with in-country research institutions and government partners to enable policymakers to make evidence-based decisions on sustainable groundwater development and use, while taking climate change and gender and broader socio-economic considerations into account.

ACIAR's work is helping advance climate change adaptation and mitigation strategies in the agricultural sector, with CASI approaches found to improve the productivity and profitability of farming systems in the EGP. Stakeholders report that ACIAR has helped with introducing conservation technologies, including on-farm mechanisation in north-western Bangladesh.

Critical new knowledge generated and used for regional cooperation: Knowledge generation is a strong component of SDIP work in Bangladesh. New datasets and knowledge have been used by the key Bangladeshi government and research agencies to improve water management and improving food security in northwest Bangladesh.

CSIRO team and collaborators at local research organisations have established and validated models and initiated socio-economic and gender analyses that improve understanding of what is required for achieving a sustainable level of groundwater use. Through this work, the BARI, and the Institute of Water Modelling demonstrated enhanced technical capacity in their respective fields of expertise: the Institute of Water Modelling is now using improved modelling methods and is capable of evaluating and refining the performance and interpreting the outputs of both water surface models and groundwater models; and BARI has strengthened and extended its capacity in land use analysis using state-of-the-art procedures based on Google Earth Engine.

In addition, CSIRO has observed stronger collaborations across key Bangladesh resource management agencies, evidenced in increased sharing of field data and model outputs, and integration and synthesis of analyses. The work is on track to help position Bangladeshi research organisations to deliver evidence-based information on water and agriculture and to engage in policy dialogues and planning for sustainable water management, particularly groundwater management.

There is some good work in testing innovative technologies and practices in improving on-farm productivity and livelihood of marginalised and poor farmers in Bangladesh. ACIAR research and development work on CASI has generated new knowledge and insight thus providing various options for farmers in northern Bangladesh to adapt to the extreme weather and climatic conditions and sustain the production. A high-level meeting was organised May 2019 by the Bangladesh Agricultural Research Council including policy makers and research and development leaders. The government showed an increased

commitment to scaling up high impact CASI technologies, seeing the results at the farm level and given the techniques align with the government priorities.

Knowledge sharing is gaining good ground in the Brahmaputra basin. SAWI work in the regional water dialogue is regarded as strategic and important by many government stakeholders. One of the key actions from the most recent Brahmaputra Dialogue is to develop a Brahmaputra Knowledge Portal, which would collate and curate the currently dispersed information and data on the Brahmaputra Basin to support more informed decision-making. The dialogue process is now institutionalised across the basin, with a consortium of institutions in each riparian country taking facilitation roles.

Improved regional enabling environment for private sector engagement: SDIP has been undertaking significant work with the private sector in the region. IFC has primarily targeted the textiles (Bangladesh, Pakistan, and India) and cement (India and Nepal) industries. To date there have been some impressive aggregate results: 190 million cubic metres of water saved; 2.6 million MWh of energy saved; emissions reductions exceeding 1 million tonnes (ongoing); and reductions in wastewater discharge and chemical use. It has initiated transformative change at the sector level and led to cross border transfer of resource efficiency approaches – private sector driven.

There are also some good results in terms of attracting investments with IFC committing USD22m to a factory, a direct result of the PaCT advisory program. Additionally, IFC committed USD20m to One Bank to introduce a green financing credit line and PaCT will be developing a pipeline for them. Meanwhile, an USD50m Working Capital Facility was committed in June 2018 for Pubali Bank. IFC also derived market creation leads for textile-wastewater treatment companies that will invest in wastewater treatment systems for the sector. Finally, IFC is supporting a market assessment study (with complementary funds) for developing a business plan for textile-wastewater treatment companies.

There are also some regional studies, dialogues and forums to create enabling environment for private sector engagement. TAF had produced high quality PEA reports on understanding the political economy of water resource management and energy trade. Stakeholders also appreciated their work on community dialogues across the borders.

Conclusion

SDIP is partially meeting expected objectives, but given the fundamental shortcomings in SDIP's design it is not possible to be more definitive.

It is clear that SDIP has delivered a number of successful high profile projects. Examples of these include: the multi-stakeholder national dialogue in the form of the Upper Indus Basin Network Dialogue; SDIP's high-level, strategic engagement with governments and other stakeholders in Nepal and other South Asian countries to improve water management policies and practices; leveraging private sector investment for massive scaling-up of solar energy in India and hydro-electricity in Nepal; flood forecasting and early warning systems; a number of research and knowledge products that support basin planning; climate change adaptation and mitigation strategies in the agriculture sector; and work with the private sector to reduce water and energy consumption while leveraging funding for infrastructure projects.

In addition, SDIP has been well received by national government officials and generated significant diplomatic benefits for Australia, particularly in Nepal and Pakistan.

According to DFAT’s own Aid Quality Check Ratings Matrix, for an investment to be rated as ‘adequately effective’ it needs to satisfy a number of criteria. These criteria and the evaluation team’s assessment are shown in Table 1 below:

Table 1: Assessing SDIP against DFAT’s effectiveness criteria

DFAT’s criterion	Evaluation team’s assessment
<ul style="list-style-type: none"> The investment achieved all major outputs and targets; the intended final outcomes were mostly achieved 	<ul style="list-style-type: none"> Self-reports by partners indicate that outputs are being delivered as planned SDIP does not have suitable targets in place through its Performance Assessment Framework SDIP’s outcomes are pitched at too high a level and hence they are not measurable
<ul style="list-style-type: none"> The investment’s intended outcomes were adequately defined, realistic and measurable in all major outcome areas, either at design or as modified during implementation 	<ul style="list-style-type: none"> SDIP’s outcomes do not satisfy this criterion, they need to be reformulated More positively, the number of focus areas that SDIP works in has been progressively reduced over time from over twenty to the current six.
<ul style="list-style-type: none"> The change strategy for achieving the intended outcomes– at design stage, and as modified/improved during implementation – was adequate, but not completely validated over the lifetime of the investment 	<ul style="list-style-type: none"> SDIP’s program logic model is not consistent with DFAT’s quality standards and the model has not been tested / validated
<ul style="list-style-type: none"> The volume and quality of outputs delivered were as planned and contributed to the achievement of outcomes in all major areas 	<ul style="list-style-type: none"> Self-reports by partners indicate that outputs are being delivered as planned The contribution of these outputs to the desired outcomes is not clear given that the focus areas are broadly worded and SDIP lacks suitable performance indicators and targets
<ul style="list-style-type: none"> There was satisfaction and behaviour change amongst partners and beneficiaries, conducive to the achievement of all major intended outcomes 	<ul style="list-style-type: none"> National stakeholders (both government and nongovernment) report considerable satisfaction with SDIP There is emerging evidence of behaviour change in some areas

The challenge in providing a definite conclusion on the performance of SDIP relates to the measures provided in the Performance Assessment Framework (PAF). SDIP's design includes three high level end-of-investment outcomes that are then broken down into six focus areas (domains of change). The end-of-investment outcomes have a definite focus on regional cooperation, for which there is little evidence of progress. However, the focus areas are broad and generic enough (and have less of a focus on regional cooperation) to allow all of the partners' results to be included. This means that SDIP's outcomes and focus areas are imprecisely stated and hence difficult to measure. The original and current SDIP designs have failed to adequately specify 'what success looks like'. This is compounded by the fact that SDIP does not have a functional program logic model in place nor adequate performance indicators (this is further explained in section 4.1).

As a result of these design issues there is a disconnect between SDIP's the end-of-investment outcomes, the six focus areas, the actual work and success stories of the program, and SDIP's performance reporting and accountability.

2.2 Whether SDIP is contributing to results and strengthened institutional capacity promoting gender equality in the region

2.2.1 Context and SDIP's design

The high level commitment of DFAT to promote gender equality and women's empowerment are detailed in its policy and aid documents. Promoting gender equality and empowering women and girls is a strategic priority for the Australian aid program. All programs, regardless of sector, must take into account the potential for development interventions to have different impacts on particular groups of women and men, and must take steps to maximise opportunities and results for both women and men. At a minimum, programs must ensure their aid investments do not exacerbate gender inequality; where possible, the aid program should actively work to close gender equality gaps.

According to the DFAT Aid Programming Guide, DFAT takes a two-track approach, which involves taking measures specifically designed to tackle gender inequalities while incorporating gender issues into all aspects of Australia's work. The first track requires action to address gender inequalities where they are particularly challenging or where progress is slow. The second track requires integrating gender equality across all areas and sectors. This approach is reflected in 'Making Performance Count', which establishes a strategic target of having at least 80 per cent of investments, regardless of their objectives, effectively addressing gender equality issues.

The SDIP emphasises and builds on these same principles. SDIP2 aligns with DFAT policies and the priorities of the Australian aid program and draws in the overarching priorities of the Australian aid program. The rationale for the gender focus is further elaborated by emphasising the need for a more integrated systems approach to gender and social inclusions issues, given the persistent gender inequalities and social exclusion scenario in South Asia.

The design document explicitly calls upon the portfolio of partners to demonstrate that investment choices advance gender equality and women's economic empowerment and

seek to maximise Australia's yield on the investment. Building on the learning of SDIP1 that found good progress by partners on integrating gender into their activities, it was decided that a strong focus on gender should continue in SDIP2, with consideration of gender issues incorporated into all aspects of the program. There is, however, no over-arching gender mainstreaming strategy at the portfolio level that applies to all partners although some efforts were made to integrate gender equality indicators.

In SDIP2 gender equality is promoted through partners' programs against SDIP2 outcome areas and through continued institutional strengthening of partner organisations. Gender equality is also envisaged to be prosecuted through partners' influence and capacity to innovate and share learning and through a deepening of the institutional uptake of gender issues in partner organisations and for this to translate to influence through their networks.

There is also an expectation that SDIP partners, with increased confidence and capacity, be able to increasingly use new opportunities to find entry points to engage on gender, e.g. integrating gender into science and management tools, pathways for inclusion in technical and policy forums. The design documents provide indicative examples of expected efforts on gender that can be considered to support gender equality which are translated into the detailed four-year investment strategies and proposed activities. A focus on gender was envisaged through other over-arching and cross-cutting aspects such as grant agreement conditions; the work of the technical advisors; discussions on gender equality at the Annual Dialogue; and seeking information on progress through annual reporting.

2.2.2 Contributing to results

Strengthened practices for regional cooperation: Based on a document review, it is evident that gender equality issues are increasingly being considered in policy dialogue and decision-making fora in different ways and different levels. Some of the evidence given for increased consideration of increased participation and inclusion of women in higher level policy dialogue include the following:

- A new business model for solar lanterns in India has women being trained by the private sector to become sales and service agents, providing employment and increased incomes.
- Gender discussions have been integrated into regional dialogues such as the Brahmaputra dialogue and Upper Indus Basin Network, and through the provision of technical expertise.
- Gender disaggregation has been built into a Flood Risk Assessment tool, which is being used by the Central Water Commission in India to guide decisions on the prioritisation of resources for flood risk reduction measures.
- Gender was evident as a cross-cutting issue within the recent HKH Resilience Forum, which also incorporated a specific session on gender.
- The most recent Brahmaputra Dialogue included a dedicated gender session for the first time.
- Social and gender-inclusive water use management plans have been piloted with 8 village development committees in three regions in Nepal.
- The Community Based Flood Early Warning System Telemetry Resource Manual was reviewed to integrate gender and social analysis as an integral part of risk, vulnerability, and capacity assessment

- There is on-going research on how gender analysis can be applied to a water resource modelling framework.
- In Nepal, a gender lens was applied to the development of environmental and social guidelines for the hydropower sector.
- Multi-stakeholder dialogues have been used as a tool to ensure that women's needs and concerns are heard in the water governance discourse.

Other documents reiterate that SDIP partners have played an important role supporting policy dialogue at both the national and regional level in South Asia and have promoted the importance of including climate change and the impact on women and girls within these discussions. There has been good progress made, with evidence of increasing representation of high-level decision-makers at policy dialogue in the region, and politically sensitive issues around river basin planning, cross border electricity trade and the allocation of natural resources (including water) being openly discussed at the national and regional levels.

Gender considerations are increasingly being incorporated into policy dialogue. For example, the most recent Brahmaputra Dialogue included a dedicated gender session for the first time, while gender was also evident as a cross-cutting issue within the recent HKH Resilience Forum. This forum brought together stakeholders from different levels to discuss science, policy and practice, and included a specific session on gender. A workshop facilitated by ACIAR on gender, water and agriculture allowed regional experts from the research and development sector to understand the ways in which gender is perceived in the EGP.

There is also evidence SDIP partnerships are providing opportunities for civil society, including women's groups, to contribute to policy dialogue, development of more gender responsive approaches (CSIRO and ICE WaRM in the Kamala Basin) and delivering positive outcomes for women. In Northeast India, the important role of women in water resources management was included in the Assessment for the Northeast (SAWI). The Pakistan and Nepal national water policies were adopted, which recognise the importance of including women in water resource management decision-making. Formal guidelines for hydropower development incorporating social and environmental guidelines were approved by the Governments of Nepal and Bhutan.

Efforts are being made to build understanding of gender inequities amongst stakeholders, institutional prioritisation of women's participation and representation of gendered issues in modelling, policy engagement and capacity building. There was evidence of good progress in the policy environment for gender-responsive water-energy-food systems.

Findings from the OPM's field work in India indicate that SDIP partners in India have taken seriously the need to mainstream gender and social inclusion across their work (e.g. proportion of women in training sessions), and in some cases also deliver projects with the primary focus to promote gender equality (e.g. ACIAR's study on the feminisation of agriculture in different countries). This appears to be partly as a result of DFAT's own interest in this issue and their encouragement of partners to work on gender (for example, by requiring partners to report on it). However, there are only a few examples of where this work has already produced results in terms of gender equality dimensions and/or institutional capacity for promoting gender equality. This includes IFC's support that is

empowering women as micro-social entrepreneurs in the rural off-grid solar lighting sector, helping them gain confidence as well as promote income generating opportunities.

Pakistan field work corroborated these findings and there are various examples in the work of the ICIMOD country office and TAF Pakistan that despite many challenges, efforts were made to identify the right female professionals in innovative ways and include their perspectives in different consultations, workshops and dialogues. The efforts of TAF in terms of gender analysis, advocacy and engagement with civil society strengthened have augured well in terms of advancement towards this outcome. Similarly, the Upper Indus Basin Network (including its Pakistan Chapter) have had concrete successes in tabling a gender balanced perspective.

Critical new knowledge generated and used for regional cooperation: According to DFAT's 2019 Aid Quality Check all SDIP partners report some gender disaggregated data. While the majority of partners continue to track participation of women and men, some are actively working to build their capabilities in tracking differential 'conditions' of men and women, and early evidence of gendered outcomes are emerging. E.g. ICIMOD's Gender Portal for Koshi River Basin, research on agriculture-related decision making and gender outcomes (CSIRO) and gender mapping undertaken by SAWI.

According to the SDIP Annual Report 2017-18, all partners applied a gender lens to learning and gender-related gaps in knowledge are being addressed with increasing frequency. Key knowledge products and operational guidance were published/updated, with evidence they are informing engagement, building capacity, and supporting learning and on-going research.

In Pakistan for example, TAF's Indus Basin political economy analysis informed the collaboration of nexus working groups, CSIRO's 'Mainstreaming and modelling' report helps engineers and modellers to apply a gender lens and SAWI's Sundarbans Blue Economy study is informing larger World Bank lending operations in the region. Moreover, all SDIP partners report some gender disaggregated data. While the majority of partners continue to track participation of women and men, some are actively working to build their capabilities in tracking differential 'conditions' of men and women, and early evidence of gendered outcomes are emerging. For example, ICIMOD's Gender Portal for Koshi River Basin and research on agriculture-related decision making and gender outcomes (CSIRO).

The Annual Dialogue report 2017-2018 also points out that "gains have been made including in the production of knowledge products focusing on gender-differentiated needs and building gender awareness amongst water modellers and technocrats". The report also quotes additional evidence through examples of Sustainable and Resilient Farming Systems Intensification (SRFSI) project, a study of the 'gendered and socio-economic impacts of water degradation' in relation to Manchar Lake in Sindh, Pakistan and the environmental and social systems assessment for India's National Groundwater Management Improvement Program which focused on gender issues and provided recommendations for a gender informed groundwater investment program. The CSIRO collaboration with University of Faisalabad and Pakistan Institute of Development Economics is seen as the key pathway for the generation of data and information to respond to current gender-related gaps in knowledge and for supporting key decision makers to integrate gender considerations in water policies and plans.

Improved regional enabling environment, including for private sector engagement:

According to secondary data, at the highest level there have been some positive shifts in terms of new policies and regulations being gender-responsive. SDIP partners support capacity building of women directly to support their resource management capabilities and/or of both men and women to support their understanding of how gender should be incorporated into water energy-food systems. This was achieved through strengthening technical partnerships and offering training to key water resource managers, communities, government and private sector partners. The key evidence cited for this includes the following:

- Positive shifts in the policy environment, with Pakistan's National Water Policy (2018) and Nepal's National Water Policy (2017) both referring to the importance of including women in water resource management decision-making.
- Successes in raising awareness of gender issues which led to supporting the participation of women and gender differentiated support provided at individual or collective levels
- Integration of gender into the Kamala Basin Planning initiative provides an early indication of a supportive enabling environment in Nepal (CSIRO, ICEWaRM).
- In Northeast India, the important role of women in water resources management was included in the Assessment for the Northeast (SAWI).
- Water use management plan pilots in Nepal that require a focus on gender issues, have led to partial adoption of these methods in three districts' 5-year development plans.
- The Environment and Social Systems Assessment ground water guidelines for India make explicit reference to the differentiated needs of women.
- Provision of support for women's participation in hydropower sector activities, such as inclusion in consultation, benefit sharing activities and technical training.
- High Level Study Programs to Australia facilitated by ICE WaRM have included women, while equity discussions have been incorporated into different components of the study programs so that senior officials (mostly men) have been challenged to think about these issues.

Conclusion

All partners have demonstrated some meaningful participation of women or representation of women's issues in resource management activities and/or policy engagement. Efforts were made to build understanding of gender inequities amongst stakeholders, mobilising and sensitising institutions and key individuals to prioritise women's issues and participation and representation of gendered issues in different strategic and operational ways.

The reports and partner interviews bring forth the many examples supporting the claim that research, analysis and training delivered by SDIP partners continues to incorporate a gender lens. Gender assessments, studies, and new knowledge products on water-energy-food challenges that have been completed or are on-going, will build further understanding for how gender can be better integrated into the work of SDIP partners.

It is worth remembering that the program is attempting to overcome deeply entrenched gender biases in the region and perpetual gender discrimination due to traditional and cultural factors amidst a history where women are not promoted or accepted in non-traditional sectors. It is therefore clear that sensitisation, enabling changes in mind-sets,

developing consensus on a woman centred nexus and building of a narrative on meaningful consideration of gender issues requires a consistent and long-term effort that transcends a time-bound program.

2.2.3 Institutional Strengthening

A review of the seven partner agencies investment strategies confirm their commitment to gender equality objectives and an intention to integrate gender mainstreaming at the organisational level as well as programmatic level. The gender relevant areas of institutional strengthening common to all partners for SDIP2 include the improvement of monitoring and evaluation systems and practices and improvement of integration of gender and social inclusion into programming.

The latest SDIP Annual Report (2017-2018) confirms that SDIP partners are considered, overall, to have made some progress in strengthening their monitoring and evaluation systems and practice and that good progress was made reporting gender-related outcomes and outputs, and results data is increasingly disaggregated by gender. Moreover, it notes that in 2017-18, there is evidence of strengthened integration of gender into SDIP2 design, programming and monitoring, although further progress is needed. Building on organisational strategies and commitments developed in 2016-17, partners have developed specific strategies/action plans to better enable mainstreaming across all (ICIMOD, CSIRO) or selected (SAWI, IFC) SDIP activities. Other partners' institutional commitment is evident through capacity building of staff and evidence of increased gender mainstreaming within programming. Structural shifts are also evident through changes in governance and expertise (ACIAR).

The same document notes that in 2017-18 there was evidence across all partners of strategic efforts to mainstream gender across more intervention areas, some reflection on gender issues, and ongoing strengthening of M&E practice through improvements to program logic, data collection or reporting (including against SDIP2 gender equality and women empowerment -indicators). However, robust reporting on and analysis of gender equality and women empowerment results, including in relation to programming and lessons learned, was limited. Partners continue to acknowledge the difficulties in mainstreaming gender in their work and recognise that it is a long-term process.

SDIP's M&E system tracks the extent to which there is evidence of progress on gender equality issues and institutional capacity, categorising this on a 5-point basis (from no progress to excellent progress), drawing upon data in partner reports and triangulated through discussions by the gender-lead portfolio advisor and a M&E gender specialist. Overall, the 2017-18 Annual Review reports "some progress" in partners' understanding of gender equality and reflection of this learning in project design, implementation and stakeholder engagement. This means gender considerations are now generally being taken into account, although not always systematically, which is consistent with expectations at this stage of the investment. Furthermore, gender specific milestones are included in the SDIP performance assessment framework (PAF) with progress towards and achievement of milestones assessed on an annual basis.

According to the 2017-18 Annual Review, there has been some progress in partners' understanding of gender equality and reflection of this learning in project design,

implementation and stakeholder engagement. This means gender considerations are now generally being taken into account, although not always systematically, which is consistent with expectations at this stage of the investment. SDIP Phase 1 Report (January 2016) notes that “considerable attention is being given to improving the status of vulnerable women and girls. Gender issues are fundamental to many aspects of the SDIP program. A great deal of emphasis has been put on the integration of gender into the work of partners.” The recommendations listed in this report included continuing a stronger SDIP focus on gender.

Findings from the OPM Evaluation team field-work in Nepal and Bangladesh note that “partners have been very proactive in mainstreaming gender within SDIP and other institutional mandate and programs.” The examples include ICIMOD which has integrated gender within its core institutional business and helped the decision makers at local and national levels upscale gender-sensitive policies and practices in the river basins. CSIRO, ICE WaRM and ACIAR have started to integrate gender within their activities and enhance their capacity for gender responsive delivery. ICIMOD has gender as a strategic pillar and has mandated gender mainstreaming and TAF have developed new mechanisms for assessing gender integration at scale - evidencing institutional strengthening.

Conclusion

By and large, there is evidence across all the portfolio of increased attention towards and sensitisation on gender mainstreaming, in line with DFAT’s standards vis-à-vis gender equality. However, there are different levels of effort and success on gender mainstreaming across partners. TAF, ICIMOD and ACIAR have had greater success, mostly given prior organisational mandate, programmatic focus as well as more gender balanced interventions. Partners’ reporting on gender has seen definite improvements but this is often restricted to separate chapters and headings and is not yet mainstreamed across all aspects of their operations.

2.3 To what extent SDIP is contributing to climate change adaptation and mitigation in partner countries?

2.3.1 India

All the SDIP partners in India have an implied or explicit focus on adaptation and/or mitigation of climate change. For some, the entry-point is better management of particular natural resources, for example, the support to the Ministry of Water Resources Research Chair’s work on inter-state water cooperation, which is focused on a single adaptation strategy, the more efficient use of water. It is not clear whether and to what extent these initiatives incorporate climate information and analysis, such as future expected impacts of climate change, into their work.

For other work it is clearer how they are contributing to adaptation and/or mitigation, which for the latter is possible to quantify. Some partners are facilitating new practices on the ground which are already demonstrating results. For example, ACIAR’s work in West Bengal piloting and scaling-up conservation agriculture based sustainable intensification farming

practices has built the resilience of up to 75,000 farmers through increased profits (AUD23.8m) and 11,926 ML of water savings, as well as saving 11,000t CO₂e emissions a year (representing approximately a 6-18% reduction of the emissions footprint). The flood early warning system between Bardibas (Nepal) and Bihar (India) developed by ICIMOD, avoided an estimated USD0.7m losses during a 2017 flood. IFC have supported various public and private sector actors in India to adopt and secure financing for low-carbon practices, for example, supporting two firms to adopt an ecolabel for ready mix concrete with a combined savings of 3,500t Co₂e emissions per year and structuring the 750 MW Rewa Ultra Mega solar project which will reduce GHG emissions by approximately 1 million t Co₂e per year.

Other work is more distanced from actual practice on the ground but is attempting to influence policy and thinking on the issue of climate change. For example, ICIMOD's study on the impact of climate change on glacial melt in the Himalayas was reported in the Indian media. ACIAR and partners are carrying out research and engaging with government actors to encouraging a long-term perspective, incorporating climate risks, for food security planning. For these and other initiatives it is too early/difficult to evaluate the policy impact of their work.

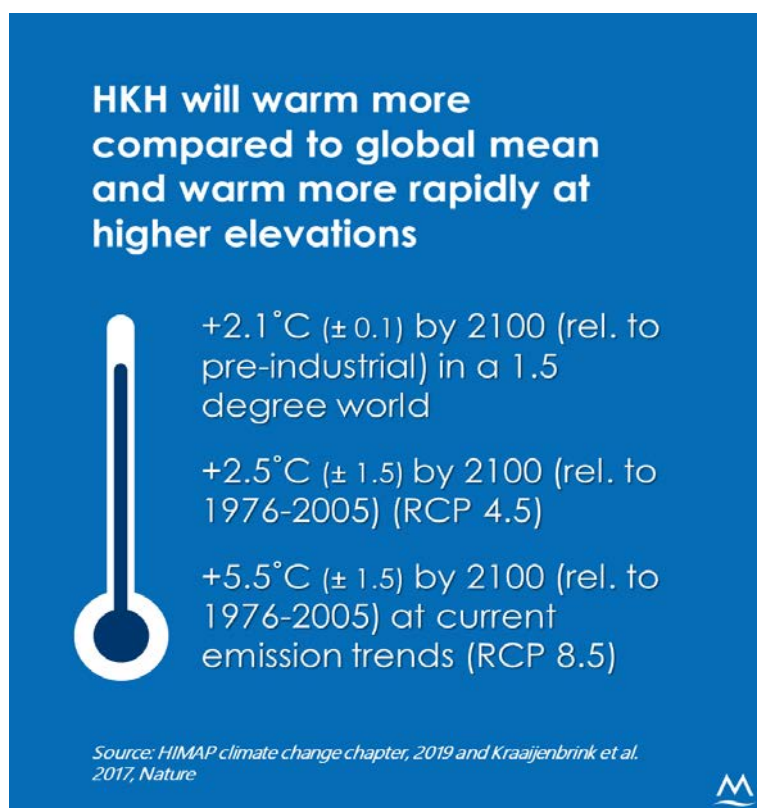
2.3.2 Nepal

One of the significant achievements was ICIMOD's work on the first comprehensive HKH Assessment Report published in 2019. This report provides knowledge on the critical impacts of climate change on the region and urges countries to forge alliances to build the resilience of communities. This assessment report establishes the value of the HKH for the 240 million hill and mountain people across the eight countries sharing the region, and for the 1.6 billion people in total across the HKH region, including the river basins downstream. With support from ICIMOD, solar powered irrigation pumps installed in four districts in Nepal are estimated to have reduced greenhouse gas emissions by approximately 16 tonnes in 2017-18. This is based on emissions reductions from 23 pumps installed in 2017, with another 30 pumps installed in 2018 (emissions reductions from all 53 pumps will be included in the 2018-19 report).

IFC advised that by supporting the expansion of renewable energy, access to off-grid energy, and the adoption of resource and energy efficiency, the majority of the projects in Nepal contribute first and foremost to increasing resilience to climate change and climate variability and measures that mitigate GHG emissions. These projects seek to demonstrate the commercial feasibility of investing in clean energy. Resource efficiency initiatives in

Bangladesh, India, Nepal and Pakistan have saved an estimated 196 million cubic metres of water [IFC]. Resource efficiency initiatives in Bangladesh, India, Nepal and Pakistan have saved an estimated 2.5 million MWh of electricity [IFC].

Other partners work, such as ACIAR's work on CASI technologies has made a significant contribution in reducing carbon emissions. CASI based systems build resilience to climate change and have reduced the emissions footprint of food production systems in the EGP by 6 - 18%. Emissions reductions vary by cropping system (i.e. for individual crops, CASI techniques reduce emissions on average by 14% for wheat, 10% for maize, 18% for lentils and 8% for rice), and so any changes to the cropping system can have wider impacts on the carbon intensity of the agricultural sector.



2.3.3 Pakistan

The replication of Nepal experience in northern Pakistan by ICIMOD - through establishment and enhancement of flood forecasting and early warning systems for flash floods and Glacial Lake Outburst Floods (GLOFs) - has enhanced resilience of vulnerable poor communities. For example, in August 2017 in one of the pilot sites in GB, an early flood warning during a flood event allowed 2,800 people from 350 households to avert danger by fleeing to higher ground with their livestock. Based on the success of this initiative, the GB Disaster Management Authority is scaling up the early warning systems across multiple locations in the GB region. Other work is more distanced from actual practice on the ground but is attempting to influence policy and thinking on the issue of climate change. For example, ICIMOD's study on the impact of climate change on glacial melt is a tremendous resource for water managers in Pakistan as they try and plan for climate resilient water systems (infrastructure).

Greater understanding has been built amongst researchers and government agencies on the specific challenges of considering climate change in water resource management. As a result, Pakistani government agencies will explore how climate change considerations can be integrated into the (CSIRO supported) Indus River System Model to evaluate climate-related risks on provincial and national water security, while scientists from all four riverine Indus Basin countries have developed a joint research proposal 'Understanding and assessing the impact of climate change in the Indus Basin' which will be progressed through 2018-19.

A joint research proposal on ‘Understanding climate change adaptation in the Indus Basin’ was finalised by the Indus Forum Working Group, which includes scientists from all four riverine Indus Basin countries. With CSIRO’s assistance, key actors in Pakistan (Glacier Monitoring and Research Centre - Water and Power Development Authority, National Engineering Services Pakistan) and the research community have increased understanding of uncertainties related to the prediction of seasonal flows into major surface storages. Also, with support from CSIRO, the University of Agriculture Faisalabad has undertaken research to explore gender issues in groundwater management and the impacts on livelihoods of combined surface and groundwater-use decisions under climate change scenarios.

2.3.4 Bangladesh

The work of ACIAR on 400 participatory multi-year field trials demonstrated that CASI practices improved productivity (3 – 6%) and profitability (17 – 41%) while reducing input related emissions (6– 12%), water (11%), energy inputs (6 – 11%) and labour requirements in rice-wheat, rice-maize and rice-lentil systems in the EGP.

Another significant contribution was from the work of IFC. IFC works with entities that are best positioned to integrate climate change into the economic and business decision-making process. In the case of the PaCT program, for example, this is the TSP, a highly successful national public-private dialogue (PPD) platform that IFC helped establish and that is recognised by the Prime Minister’s Office as the official voice of the private sector to address private sector development issues relating to the textiles sector.

Climate change Mitigation Target from IFC and ACIAR work

- To date cumulative emission reductions exceed 1.4 million tonne CO₂e
- Cumulative emissions reduction projected to exceed 5m tonnes by 2022 (new renewable capacity and energy efficiency main contributors)
- 23 million people have gained access to basic energy services utilising renewable energy
- CASI based farming systems demonstrated to reduce emissions/ha by 6-18%
- Taken to scale CASI could deliver significant emissions mitigation

Conclusion

SDIP is DFAT’s only climate change investment in South Asia. For a recent comprehensive description of SDIP’s work in promoting resource efficiency see: IOD PARC 2019, ‘An evaluative enquiry of the resource efficiency work funded through SDIP – Highlights Paper’. SDIP partners are contributing to climate change adaptation and mitigation by supporting the efficient management of water, promoting conservation agriculture practices, facilitating reductions in CO₂ emissions by businesses, improving access to renewable energy, through undertaking demonstration projects and sharing the lessons across national borders, and by carrying out research to raise awareness amongst policy makers and the public. In summary, SDIP has made a significant contribution to climate change adaptation and mitigation (particularly given the size of its budget), with considerable potential for the further scaling up of activities.

3 To what extent has the strategic approach followed by SDIP been relevant and effective?

3.1 How well is SDIP positioned to deliver on Australian foreign and aid objectives in the South Asia region?

3.1.1 India

The design and implementation of SDIP2 pre dates Australian foreign and aid objectives in India as defined in the broadest sense by the 2017 Foreign Policy White Paper, the Aid Investment Plan for the South Asia Regional Development Program, the MoU between India and Australia on Water Resources, and the references to climate change in the India Economic Strategy. Therefore it was able to influence and be aligned to Australian foreign and aid objectives in India. Australia's diplomatic interests in SDIP were further defined during interviews with Post as utilising and showcasing Australian expertise on priority issues for India, and improving Post's understanding of, and contributing to solving, the key issues threatening stability within the region, such as water conflict. From this perspective, SDIP is delivering to a certain extent on both.

There can be tensions and trade-offs between SDIP's different public diplomacy objectives. SDIP works on some highly sensitive political issues – such as resolving cross-border water management - and any suggestion that a foreign government is trying to influence the process will certainly hinder such efforts. Although it is difficult for DFAT to directly engage on these sensitive issues, through the technical assistance and policy support provided under SDIP, even if there is limited attribution to DFAT, it can still contribute to resolving such issues. The challenge of balancing these different public diplomacy interests comes to a head with the issue of branding, with some reports of frustration that DFAT's funding is not referenced in partner reporting.

There is a mixed picture on the extent to which partners' work appears to have benefited from and be showcasing Australian expertise. Under SDIP, DFAT provides funding to Australian and Indian organisations that have expertise relating to Australia's areas of comparative advantage and/or have proven experience and credibility in the region. For the Australian SDIP partners, this link is immediate. For IFC, TAF and the SAWI program, the Australian influence and footprint appears to be limited with very few Australian experts involved. Some of the local sub-partners that were implementing the main partners' work were not aware of where their funding ultimately came from.

Most of those interviewed recognised that SDIP is strongly aligned to areas where Australia has a particular expertise, which were primarily defined as: agriculture practices such as dryland farming and the agri-processing sector; managing within cross-border water disputes (i.e. the Murray-Darling basin); and water modelling capabilities. However, these have not been clearly articulated within the design and communication of SDIP, which

makes it particularly difficult for Post to understand and articulate the connection to Australian expertise (beyond the use of Australian partners).

There appears to be a communication and visibility gap between the work of SDIP and DFAT Post, which has limited the program's ability to inform wider understanding within Post of the challenges in the region and how SDIP is contributing. There is an appetite in Post to learn from SDIP and use the program to identify diplomatic opportunities. However, the current management structure and SDIP's M&E and reporting system, does not facilitate this.

Finally, SDIP faces a different set of challenges in India compared to elsewhere in the region due to DFAT not having a bilateral aid program (based on the wishes of the Government of India). While there is a strong and growing political relationship between the two governments, and a set of cooperation agreements, SDIP needs to be carefully presented externally to avoid any suggestion that Australia has an aid program in India. As a result, the profile of SDIP in India is carefully managed, and at best Post can integrate specific stories and results from the program when discussing Australia's cooperation in a broad sense with political counterparts in India

3.1.2 Nepal

Australia is highly valued in the region and regarded as trusted, neutral, reliable and knowledgeable partner. According to the majority of national stakeholders, Australia is highly regarded and reputed for its skills in efficient water resource management, dry land agriculture, and its experience in managing the cross boundary political issues in the Murray-Darling Basin.

Government and national stakeholders value the work of Australian partners. SDIP partners are very responsive to Government requests for assistance and this helps to maintain SDIP's goodwill in the region. For example, ICE WaRM quickly responded to the request of WECS for support in drafting the National Water Policy and capacity building in integrated resource water management. IFC responded to a major U-turn in GoN policy/ideology regarding PPPs for hydropower development and closed one of their PPPs in favour of more conventional advisory support. In addition, there was consensus among the stakeholders that SDIP is aligned with the Nepal government's national priorities, i.e. water, food and energy.

SDIP has effectively leveraged public diplomacy in Nepal. The Post is very positive about SDIP contribution in terms of increasing the Australian visibility and value addition in bilateral program. The Australian Ambassador to Nepal said, 'With the partners' works, I can see where I am getting traction and how it is supporting me to be effective'. In addition, the Ambassador said 'SDIP is an innovative and low risk program where partners have delivered well and increased Australian visibility. There is strong buy-in from regional countries e.g. HIMAP (Hindu Kush Himalayan Monitoring and Assessment Program) work'. He further said that 'SDIP provides recipient governments' access to world class institutions.

In Nepal, the Australian High Commission played a key role in securing the participation of the Minister for Energy and other high-level officials from the Government of Nepal in a high level study program to Australia led by ICE WaRM, providing an opportunity to share

Australia's knowledge and expertise in hydropower and our unique approach to energy markets.

The Australian Ambassador has continued in the role as co-chair for the JAC (and as Chair of the ICIMOD Support Group (which includes representation from ICIMOD's eight regional member countries and the development partners providing support)).

3.1.3 Pakistan

SDIP is aligned to and often informed Australian foreign and aid objectives in Pakistan as defined in the broadest sense by the 2017 Foreign Policy White Paper, Objective 1 under the Aid Investment Plan for the South Asia Regional Development Program and as reflected in the MoU signed between Australian High Commission and the Ministry of Water Resources, Government of Pakistan. However, the specific focus on cross-border cooperation under SDIP is at odds with the 'on the ground' realities.

Acrimonious relations between India and Pakistan are an ever present impediment to cooperation, on issues of common concern, not only between the two countries but also wider South Asia region. Any suggestion that a foreign government is aiming to encourage cross-border water resources management related information sharing and collaboration would be viewed with suspicion and likely discourage participation by state agencies. So, while the umbrella objective of SDIP of fostering collaboration and partnership - at the regional level - for improving integrated management of the water, energy, and food at the basin level might not have been fully realised, the initiatives undertaken under SDIP2 within Pakistan have certainly contributed to improved understanding of and capacity for improved water resources management and (to some extent) the nexus linkages within the country.

Most of those interviewed recognised that SDIP is strongly aligned to areas where Australia expertise and some of Pakistan's most pressing developmental needs intersect, namely arid-zone agriculture, effective management of cross-border water disputes (i.e. the Murray-Darling basin); and water modelling capabilities.

3.1.4 Bangladesh

Australia's expertise in integrated water management, with decades of water reform experience, is widely recognised in Bangladesh. This has been reiterated through several high-level Bangladesh government delegation visits to learn about Australia's experience in water management. Recently the country's apex water planning body Water Resources Planning Organisation (WARPO) signed a Letter of Intent for science collaboration with CSIRO which flags an ongoing commitment and enabling environment for research partnerships to support sustainable groundwater management or coastal salinity improvement or integrated solutions to improve water quality.

Engagement with, and mentoring of, key institutional structures responsible for water management in Bangladesh has created opportunities for high-level knowledge exchange and diplomatic engagements between Australia and Bangladesh. For example, CSIRO arranged a high-level exposure visit of Bangladeshi water planners in September 2018 to Canberra to learn about Australia's rich expertise in water management. Bangladesh's High Commission in Australia visited CSIRO in Canberra to learn about our scientific

achievements and reiterated that science-based collaboration can contribute to making Bangladesh one of Australia's top 15 trading partners. CSIRO signed a Letter of Intent with Bangladesh's apex water planning agency during the year. These efforts provide an entry point for Australia to engage in policy and planning spheres and create commercial opportunities for Australia.

TAF on the back of their PEA on the price of power in BBIN countries (Bangladesh, Bhutan, India, and Nepal) seized an opportunity to create a South Asia Power Summit – drawing in the big actors in the space. Australia benefits greatly from this initiative. It would not have been possible in the timeframe without TAF's skills and convening power.

Julia Niblett, Australian High Commissioner to Bangladesh, celebrated International Women's Day (8th March 2019) with women farmers of Mondolabari and surrounding villages in Rangpur District, a part of the ACIAR SDIP SRFSI project. The women farmers showed how women are embracing new technology, participating in pre- and post-harvest decision making and extending their entrepreneurial skills. The visit was covered by a large number of national media and newspapers in Bangladesh.

DFAT's Post in Bangladesh would like SDIP to help strengthen Australia's profile/reputation leading to enhanced relationships, influence and potential commercial opportunities for Australian firms. In addition, the Post indicated that government stakeholders currently have limited awareness of SDIP and its achievements.

SDIP needs to sharpen its narrative if it is to better support public diplomacy outcomes in Bangladesh. Currently the Bangladesh Post finds it difficult to offer a clear compelling story of SDIP's successes. SDIP may need support with its approach to communications.

Conclusion

The purpose and rationale of SDIP is closely aligned to and has informed the objectives of Australian's foreign policy and aid objectives as defined by the 2017 Foreign Policy White Paper, the Aid Investment Plan for the South Asia Regional Development Program, and MoUs between Australia and national governments in the region on water resources. SDIP's performance against its objectives as outlined in Section 2 can also therefore be read as its performance in delivering on Australia's foreign and aid policy.

Australia is highly valued in the region and regarded as a trusted, neutral, reliable and knowledgeable partner. According to the majority of national stakeholders, Australia is highly regarded for its skills in efficient water resource management, dry land agriculture, and its experience in managing the cross boundary political issues in the Murray-Darling Basin. However, these comparative advantages have not been clearly articulated within the design and communications of SDIP, which makes it difficult for DFAT Posts to understand and articulate the connection to Australian expertise (beyond the use of Australian partners).

There is a mixed picture on the extent to which partners' work appears to have benefited from and be showcasing Australian expertise. SDIP has effectively leveraged public diplomacy in Nepal and Pakistan. For the Australian SDIP partners, this link is immediate. For IFC, TAF and the SAWI program, the Australian influence and footprint appears to be limited with very few Australian experts involved. Some of the local sub-partners that were

implementing the main partners' work are not aware of where their funding ultimately comes from.

Regional stakeholders believe that Australia has a legitimate role in providing technical support to national and state governments in response to their requests for assistance. However, political tensions between national governments in the region are a significant impediment to wider cooperation. So, while SDIP's objective of fostering collaboration and partnership -- at the regional level -- for improving integrated management of the water, energy, and food at the basin level is still a work in progress, the initiatives undertaken through SDIP have definitely contributed to improved water resources management within countries.

3.2 Is the water-energy-food nexus framing the most relevant and appropriate for addressing these issues in South Asia?

3.2.1 India

There was no consensus from the interviews and discussions on the relevance and appropriateness of the water-energy-food nexus framing of SDIP. Certainly, the nexus approach is conceptually relevant and correct for India, and there is some indication that it has encouraged partners to consider these cross-sectoral connections when they might not have otherwise. For partners with agriculture as the entry-point, such as ACIAR, the nexus is very relevant and appropriate, and relatively easy to address. There were a number of additional arguments in favour of the nexus framing. This includes the fact that it becomes sector agnostic, allowing partners to work on a range of issues that are relevant to the nexus. In addition, given the political sensitivities around water and transboundary issues, the nexus provides an easier entry-point to discussing such issues. The nexus framing also perhaps differentiates SDIP from the AWP and helps with avoiding the risk of duplication between the two programs.

On the other hand, the nexus approach, if defined as involving all three parts, does not appear relevant for all aspects of partners' work. In particular, IFC's work in India on renewable energy, sustainable buildings and energy efficiency does not appear to have explicitly considered any links to food security. The SAWI program does not present its work in terms of the nexus, although many of their results are in line with it.

There was some concern expressed by those interviewed with using a nexus framing, that it is difficult to incorporate all the issues that are important for sustainable development within it. It is not clear how SDIP is designed and communicated whether the entirety of the water-energy-food nexus is expected to be addressed by every initiative. Each of three parts to the nexus have their own dynamic and can be pursued very differently. There were similar questions about whether when you go down to the community level the three issues ever join together. There were suggestions that other framings are more helpful, while sharing a similar objective to the nexus, for example, tackling climate change, sustainable livelihoods or even just water (as it is an important resource for both agriculture and energy).

3.2.2 Nepal

There is general consensus among stakeholders that nexus is an important concept and approach. There are however different levels of understanding and interpretation of what nexus is. Some perceived it as the focus on water, energy and food. Some argue for an integrated nature of dealing with the issues on water, energy and food security. While others perceive nexus as an integrated and holistic approach to tackle the issue.

Some examples of achievements in terms of promoting the nexus approach include:

- The draft State of the Kamala Basin report has been completed, which provides a critical evidence base for the development of different scenarios as part of basin planning and includes assessment of possible future climate impacts and socio-economic trends [CSIRO].
- The new Forest Bill tabled in the Parliament of Nepal in 2019 was informed by research and policy advocacy and includes provision for incentives (payment) for ecosystem services [ICIMOD].
- The Government approved the Environmental Impact Assessment Manual for hydropower development. The Manual provides guidelines for the development of hydropower infrastructure that is environmentally, socially, culturally and economically viable, improving prospects for the development of a sustainable hydropower sector [IFC and ICIMOD].

However, all respondents agreed that the nexus idea is at early stage of understanding and hence more work is needed in translating this abstract concept into practice. It was difficult to find some practical examples of how nexus works and how it contributed to addressing the complexities of resource management in Nepal. The evaluation team has seen several separate Nepal examples of SDIP successes in water, energy and food; but not in terms of a coherent and overarching nexus story.

3.2.3 Pakistan

Almost all partners were of the view that the nexus framing is (theoretically) appropriate and in line with the importance of moving towards integrated planning (such as Integrated Water Resources Management (IWRM)). However, its operational applicability is contingent upon context, which varies. Certainly, the nexus approach is conceptually relevant for partners working on agriculture, such as CSIRO's work with the University of Agriculture Faisalabad or the Indus River System model which they helped develop, or ICIMOD's solar water pumps initiative to help lift river water to cultivate barren lands with fruit and cash crops, which is managed by women in the local community. In these initiatives, the linkages between different components of the nexus are obvious, relevant, and well understood. However, for other partners, even as they agreed with general usefulness of the concept, pathways to incorporating the approach in their activities was unclear or difficult given the wider institutional context.

The nexus approach, if defined as involving all three components, does not appear relevant for all of the partners' work because there will always be initiatives where it is not possible or practical to integrate all three components. Each of three parts of the nexus have their own dynamic and can (depending on the context) be pursued effectively on their own or with one other component (i.e., water and food, or water and energy) without needing to engage with

the third component. Questions were raised as whether it is always possible to integrate the three when the context does not allow for it. For instance, at the community level, the three issues don't often come together in a way that lend itself to program interventions. Similarly, institutions like irrigation and agriculture departments in spite of the obvious linkages in their work don't – for historical reasons – interact and coordinate meaningfully; and even large water institutions like Water and Power Development Authority have a heavy bias towards water storage and conveyance and issues of food security are not considered in any meaningful way. The point being that since the larger institutional context continues to work in silos, technical assistance premised on the nexus approach might not be able to achieve desired results.

There were suggestions that other framings are more helpful, while sharing a similar objective to the nexus, for example, climate change adaptation, sustainable livelihoods or even just improved water governance or water security (as these would necessarily engage with both food and energy, when relevant). In summary, the water-energy-food nexus is conceptually relevant, however there are questions about whether it is the most appropriate way to define an aid program such as SDIP.

Conclusion

The water-energy-food nexus is a conceptually relevant and technically correct framing for SDIP. This includes the fact that the nexus concept is sector agnostic, allowing partners to work on a range of issues. In addition, given the political sensitivities around water and transboundary issues, the nexus provides an easier entry-point for discussing such issues. There is also some indication that the nexus has encouraged partners to consider these cross-sectoral connections when they might not have otherwise.

However, nexus is a difficult concept to communicate to stakeholders and it is not clear whether it is the most appropriate way to define an aid program such as SDIP. The nexus approach, if defined as involving water, food and energy; does not appear relevant to all aspects of the partners' work.

Alternative framings for SDIP could also be helpful, while sharing a similar objective to the nexus. For example, tackling climate change, sustainable livelihoods or even just water. At a minimum, SDIP needs to promote a common understanding of the nexus concept by all partner organisations. SDIP also needs to clarify the pathways for partners to incorporate this approach in their activities and performance reporting.

3.3 Is SDIP operating in the right geographic locations?

SDIP is operating in the right locations in terms of achieving the objectives of the program. All of the countries are at risk from climate change. With finite land, intensifying water scarcity and climate change impacts, they are under pressure to manage the competing demands for water, energy and food. There is therefore a strong climate and sustainable development rationale for working in all the countries. However, there were some concerns raised about how the geographic locations are organised, and whether geographical locations should be prioritised based on the likelihood of making progress.

SDIP is organised around river basins, which makes conceptual sense given the cross-boundary and nexus framing. However, given the governance structure of the region most of the partners work is necessarily defined by national, sub-national and local government boundaries and systems.

There were different opinions given for whether transboundary issues can be dealt with before, or in parallel with, dealing with governance constraints at the national level. Some argued that transboundary conflicts are a symptom of within country constraints and conflicts and these need to be tackled first. For some, transboundary issues can be tackled by having interaction and dialogue among communities within and across the border. There was also strong view that if science can be brought in front of politics, it will harness more transboundary cooperation. However, there was no consensus if one should work within a country first and across national boundaries second after capacity had been enhanced or if one should work at both levels simultaneously.

Another issue related to the selection of geographies relates to the different set of cost-benefit considerations of working in particular river basins. In particular, there was some strong opinion related to working in the Indus basin. The Indus basin, and making progress in collaboration between India and Pakistan, particularly on water issues, is extremely difficult and it is unlikely that SDIP will make progress in the time-frame and budget available. The major constraint is the ever present acrimony between Pakistan and India, which share 47% and 39% of the basin, respectively.

Hence, making meaningful progress towards fostering integrated basin level planning would necessarily require improving collaboration between India and Pakistan on the “sensitive” issue of water resources, which is hugely challenging – not least given SDIP’s time-frame and budget. SAWI have been working here for many years, and have made progress on collaboration and consensus building between non-state actors in the Indus. Their efforts and achievements should be recognised given the political sensitivities but look limited compared to the results of other partners.

In contrast, it was reported by some experts interviewed that there are immediate opportunities in the Ganges basin to progress regional collaboration and an appetite among Nepal, Bangladesh and India to expand infrastructure ties. However, the historical and current challenges to collaboration in the Ganges remain a significant barrier.

While formal collaboration between India and China in the Brahmaputra basin will remain difficult, there are reported signs of an increase openness to work together, for example on information sharing. The knowledge forum that has been established is perceived by majority of the stakeholders as means to forge dialogue and consensus on the cross boundary issues and regional cooperation.

Conclusion

SDIP is organised around river basins, which makes conceptual sense given the cross-boundary and nexus framing. The three basins represent a major opportunity in terms of promoting water, food and energy security and hence peace, prosperity and stability. In addition, SDIP is DFAT’s only climate change program in South Asia. At the current time and based on the progress made in SDIP2, the basins can be ranked in order of how likely it will

be to achieve development outcomes within the lifetime of SDIP as: 1) the Ganges; 2) Brahmaputra; and 3) the Indus.

Given the governance structure in some countries most of the partners' work is necessarily defined by state, district and local government boundaries and systems. Stakeholders have a variety of different theories about how best to work across and within national boundaries. But there is agreement that if SDIP can bring science in front of politics, it will harness more transboundary cooperation. SDIP should be developing its own program logic as to how results may be achieved and identifying the assumptions that are inherent in this logic. Over time SDIP can then examine and test what works and adjust its strategies accordingly.

In considering where best to invest its programming efforts, DFAT should consider:

- The key development constraints that need to be addressed;
- The degree of domestic political support for implementing reforms within a country;
- Australia's own national interests; and
- Australia's comparative advantage versus other donors.

Australia has the opportunity to deliver effective programming by positioning itself where these four considerations intersect and come together.

3.4 Is the partnership and portfolio modality an appropriate approach to achieve SDIP objectives? What is the comparative value of the SDIP's partnership portfolio model vis-à-vis other delivery models?

3.4.1 India

There is an obvious appreciation by partners in India of the value of the flexibility in the partnership approach, which allows them to identify opportunities as they emerge and adapt their approach due to changing contexts and learning from experience. This is seen as a critical factor in the results achieved by partners to date. In addition, some mentioned the importance of having a long-term funding stream through SDIP which allowed the organisation to invest internally in their team, and in the relationships with their sub-partners. Partners also commented on the value for money of this modality, stating that SDIP is leveraging additional funding that is provided by the partners and their sub-partners.

However, in India there is not an obvious difference between the partnership approach of SDIP, and a traditional grant model where partners would receive funding to support their work on a broad set of objectives. The difference in theory should be the level of communication between DFAT and the partners, including sharing successes, failures and learnings and charting a way forward and plan of approach together. It appears that DFAT, as well as the advisors, were closely involved in the setting of the initial strategy for each partners' work in India for the period (with the exception of SAWI). As mentioned earlier, advisors have also been influential and supportive in the design and delivery process for certain initiatives (particularly for ACIAR partners). However, the relationship has mostly been described by partners as hands-off and light-touch, which is seen as a key strength of the relationship from the partners' perspective. The risk is that DFAT's internal capacity to

engage in the delivery and coordination of the project is too limited to be able to maximise the potential synergies and diplomatic benefits of the program.

Another modality option for SDIP would be to employ a managing contractor who would be responsible for the overall delivery of SDIP. This contractor would then fund and support the partners to deliver on their parts of the program. This would provide a single point of reporting for DFAT and could improve coordination and collaboration across the portfolio. This model could still allow for an adaptive program, with partners having the flexibility and space to adapt their approach as they deliver the work. There are a number of organisations who specialise in managing such large-scale, multi country adaptive programs.

A final option which has been tried in Indonesia's education sector is for DFAT to employ one managing contractor to deliver the program and a second contractor to undertake independent oversight of the program's performance. This model has the advantage of reducing the demands on DFAT's constrained staff resources. However, it will certainly be more expensive than current arrangements, and essentially is outsourcing the role that DFAT plus the advisors and the M&E Contractor are currently fulfilling.

3.4.2 Nepal

SDIP in Nepal is an integrated program, drawing on both development and political / economic expertise for its implementation, underpinned by a twinned portfolio and partnership approach. Some partners highlighted the key features of the approach being flexible and responsive. They perceived that this approach helps them to leverage results and mitigate risk through spreading investment across partners and intervention. One of the stakeholders said, 'the partnership and portfolio modality enhances access to wider networks (partners of partners), opportunities for scalability and collaboration.'

Some respondents also reported that they needed to do more in terms of forging greater collaboration and partnership particularly working in similar geographical areas and similar issues and having collective action to demonstrate some concrete outcomes.

At times SDIP activities in Nepal appear to be thinly scattered and it's difficult to identify the partnerships' synergies / systems focus. For example, the partners' work programs are very diverse and scattered in different geographical areas covering different sectors. Some of the stakeholders interviewed stated that SDIP is doing too many things and could have done much better by concentrating on fewer areas and demonstrating collective results.

3.4.3 Pakistan

Similar to India and Nepal, the partners working in Pakistan were appreciative of the flexibility in the partnership approach, which allows them to identify opportunities as they emerge and adapt their approach due to changing contexts and learning from experience. This is seen as a critical factor in the results achieved by partners to date. Also mentioned was the importance of having a long-term funding stream which allowed the organisation to invest in the relationships with their partners and stakeholders for sustainable gains.

3.4.4 Bangladesh

SDIP is regarded by partners in Bangladesh as an innovative investment with some distinct features such as: a) a regional approach requiring layers of collaboration in a complex context; b) addressing the interconnection of food, water and energy security; c) a portfolio of investment with trusted Australian and regional expert partners, working flexibly in areas of greatest traction; and d) supported by open, trusting, accountable and equitable partnerships.

All the partners we interviewed highly valued SDIP's 12 year commitment and the flexibility of programming decisions. This flexibility allows partners to adapt to emerging opportunities and hence better leverage SDIP funding. Partners felt that SDIP's partnership approach was far preferable to having a standard donor managing contractor model.

The OPM evaluation team came across examples of effective collaboration between SDIP partners in Bangladesh. Partners like CSIRO and ACIAR have provided great deal of leverage to SDIP through their professional networks by supplementing DFAT's funding with their own resources. ACIAR has made good use of TAF's expertise in political economic analysis to conduct an analysis of the regional cross border rice trade.

Individual SDIP partners in Bangladesh have extensive networks with national and local agencies and stakeholders, the partners have engaged government, academic institutions and NGOs in the work of SDIP. One of the respondents from ACIAR said 'We are partnering with CSIRO, Australian universities and local agricultural research agencies. We participate in SDIP's Annual Dialogues. We share and learn from the dialogues. And CSIRO is helping us in modelling and sharing scientific information'.

Conclusion

SDIP's partnership model offers definite benefits and is highly appreciated by the implementing partners for the flexibility it provides. The partners appear to have the right skill set and resources to deliver their agreed scopes of work. The mix of partners, including both Australian and regional organisations, provides an opportunity for them to learn from each other, utilise respective strengths and knowledge, and work together to collectively navigate the complex operating environment. However, the potential benefits from a partnership model is not currently being fully maximised and the risks it brings are also not being fully managed. In particular, this relates to the design of the programme and how it is being monitored, and the communication channels between partners and with DFAT.

SDIP's partners highly value the flexibility of the partnership approach which allows them to identify opportunities as they emerge and adapt to changing contexts and lessons from experience. In addition, SDIP appears to be leveraging additional resources from its partners and sub-partners, although the evaluation was not able to put a dollar value on these additional contributions.

According to DFAT's 2019 Aid Quality Check SDIP is rated as being highly efficient given that SDIP's expenditure is on track and within budget. In addition, SDIP's funding agreements are based on investment strategies and managed via a partnership approach

which reduces management overheads while SDIP delivers results considered of high value by regional partner governments.

In common with other flexible adaptive investments in DFAT, SDIP also experiences challenges relating to: its design/program logic; coordination of activities; communicating with stakeholders; and monitoring, evaluation and reporting (see section 4.1 for a further discussion of these).

Is the partnership and portfolio modality an appropriate approach to achieve SDIP's objectives? SDIP has both its strengths and challenges which are summarised in Table 2 below.

Table 2: SDIP's strengths and challenges

Strengths	Challenges
-Without the need to modify the partners' contracts to reflect SDIP's changing requirements, SDIP can respond quickly and adapt to changing local circumstances.	-SDIP finds it challenging to coordinate the work of partners within a geographic location and to avoid the fragmentation of activities.
-With its greater flexibility SDIP is more likely to be aligned to the needs and priorities of government partners.	-SDIP is hampered by end of investment outcomes that are not measurable and a program logic model that is not fit for purpose.
-Partners and sub-partners are leveraging their own co-funding and long term relationships.	-Monitoring and evaluation is challenging for SDIP which limits the use of evidence to drive continuous improvement.
-By relying on the skills and knowledge of individual partners SDIP has been able to achieve some impressive project results.	-Give its breadth and complexity SDIP finds it difficult to communicate with the full range of stakeholders and to report on more than just the results of individual projects.
-Being responsive to national government partners and aligned with their priorities enhances public diplomacy opportunities for DFAT.	-Strategy and governance arrangements tend to be very complex in flexible adaptive investments or alternatively these considerations receive limited attention. The evaluation team found it difficult to understand SDIP's approach to governance.
-SDIP places a limited administrative burden on DFAT's human resources and SDIP's overhead costs are judged to be no more than moderate.	

3.5 Is the mix of implementation partners the most appropriate to achieve SDIP outcomes?

3.5.1 India

The SDIP partners with a presence in India, and who were interviewed in-depth on their India work, were ACIAR, IFC, SAWI and TAF. They are all very different, and each offers something unique to SDIP. They are all well respected and highly credible organisations, who appear to be delivering impactful work for SDIP. As such, evaluating whether they are an appropriate mix of partners to achieve SDIP outcomes requires some judgement on what type of partners are required.

A summary of what each partner offers, their strengths and challenges for SDIP, includes the following:

- **ACIAR** offer an immediate vehicle to showcase and utilise Australian expertise and appear to have a close working relationship with Post. They have been challenged to increase their level of ambition between SDIP 1 and 2 and take a wider, and regional approach. Through ACIAR's strong partnerships, at least in West Bengal, SDIP has been able to demonstrate direct impact on livelihood and resilience. This is commendable given they are fundamentally a research organisation.
- **IFC** are extremely well placed to influence the design of projects in various sectors and thereby relatively immediately deliver quantifiable large-scale results (e.g. emissions saved, MW of renewables installed). The flexibility of SDIP funding has allowed them to bring in additional expertise which has influenced IFC's normal financial and commercially driven approach. For example, they could carry out more extensive environmental and social assessments of a proposed affordable housing project which highlighted the need to consider transport connections. The challenge is to see the added value of SDIP funding on their work (as opposed to any other funder) and how it is utilising and showcasing Australian expertise.
- **SAWI** is the only partner whose primary focus is aligned to SDIP's stated objective of fostering regional cooperation. They are working on the most difficult and extremely politically sensitive issue, transnational water cooperation. Given the nature of their work, and the fact that they are a World Bank trust fund, it does not offer SDIP the same opportunity to showcase Australian expertise and interests as Australian partners. SAWI has recently received large amount of additional funding from DFID. However, at the current time, it is not clear whether future SDIP funding of SAWI will make a significant difference to the scale and nature of its work.
- **TAF** bring a dedicated focus on the political-economy of regional cooperation and natural resource management and supporting community level dialogues. Given the nature of this work, it has been particularly important that SDIP offers them the space and flexibility to experiment with different ways of supporting change, although they will also require a longer period of funding before they will be able to demonstrate political and policy results. However, it will always be difficult to show quantifiable results from politically focused work that cannot easily be attributed to SDIP. TAF also appear well placed to manage and support a diverse set of local organisations, allowing SDIP to fund local organisations that may be unlikely or unable to receive international funding directly.

These partner specific descriptions highlight that there is a diverse mix of implementing partners in India, each offering something unique to SDIP and contributing to the various different outcomes of SDIP.

3.5.2 Nepal

SDIP is designed as a portfolio of investments or investment partners underpinned by a 12-year strategy with three phases of financial investment from DFAT. Each phase provides an opportunity for DFAT to tighten the focus for impact and, where necessary, to recalibrate the mix of investments and partners. The evaluation team sought to map the skills of partners working in Nepal in terms of the key focus areas of SDIP (see Table 3).

Table 3: Partner skills

Partners working in Nepal	Skills on Water	Skills on Energy	Skills on Food	Climate change and Gender	Other skills (PEA, policy space)
ACIAR			XX	XX	
CSIRO	XX		XX	XX	XX
ICE WaRM	XX			XX	
ICIMOD	XX	XX	XX	XX	XX
IFC		XX		XX	
TAF				XX	XX

Clearly, the partners working in Nepal have the required skills and knowledge on dealing with issues of water, energy and food and working in cross cutting areas such as policy, political economy analysis.

There are also project examples that illustrate how the mix of implementation partners is leading to some successes. IFC and ICIMOD took the opportunity to collaborate on the development of the environmental and social standards for hydro development. These have now been endorsed and adopted by the government of Nepal for all hydro developments. Likewise, the work of ICE WaRM and CSIRO in water space in Nepal is complementary and helping to achieve SDIP outcomes.

Some stakeholders raised concerns about the limited engagement of local partners and organisations. The international and regional organisations sometimes faced challenges of understanding the local context and designing appropriate interventions. One of the stakeholders said, “Local partners are important to sustain any donor support beyond the project duration as they will be housed in the country and have moral responsibility to take over the work (which is not something that the international agencies are able to do)”.

3.5.3 Pakistan

The OPM evaluation team interviewed ICIMOD and TAF about their work in Pakistan. Additionally, the team also interviewed sub-partners of CSIRO, namely, Ministry of Water Resources, Water and Power Development Authority Sindh Irrigation and Drainage Authority, and University Agriculture Faisalabad. A summary of what ICIMOD, TAF and CSIRO offer, their strengths and challenges for SDIP, is given below:

- ICIMOD’s Pakistan Country Office opened in October 2006. The office coordinates Regional Program components within the country, builds the knowledge base on

ongoing initiatives of the government that are closely related to the priority mountain development agenda, and supports the identification of collaboration potentials with development partners active in the country. Under SDIP2, ICIMOD contributes to regional cooperation, policy advocacy, and adaptive capacities on water resources management and water related disasters in the Indus basin. Due to reasons of economic importance and population numbers, the lower Indus basin attracts most of the investments and TA. Hence, ICIMOD's greatest contribution is the spotlight its focussed work shines on the (much neglected) upper Indus basin. The main challenges faced revolve around the unwillingness of state agencies to engage in deeper cooperation and information sharing with other Hindukush-Himalayan countries (due to "security considerations), which has forestalled realisation of meaningful cooperation in the region.

- CSIRO is supporting SDIP's objectives in Pakistan by undertaking and supporting integrated water resources assessment data management, modelling and capacity building. Specifically, CSIRO has helped Pakistani partner organisations develop scenarios for agricultural production, food security, water use and livelihood outcomes under different climate scenarios, population increase and infrastructure development. Significantly, CSIRO's interventions are supportive of various elements of the National Water Policy (2018). For its work, CSIRO (and through it, DFAT) has received high level recognition by counterparts and policy makers and significant coverage in the media. Some of the challenges faced included almost a year to get approvals from various government entities before real work could begin; initial doubt and suspicion amongst partner organisations as to why data was being requested; the perennial problem of staff turnover in (government departments) which proved problematic in terms of building capacity of partner organisations; and the tendency of partner organisations to work in silo's, focussing only on their own work without much regard to how their work connects with the larger whole (which in turn has consequences for all the stakeholders).
- TAF, which has been working in Pakistan since 1954, has extensive experience with promoting economic development and social inclusion, especially for women, strengthening citizen-state relations, and fostering human rights in the country. TAF is well placed to manage and support a diverse set of local organisations, allowing SDIP to fund local organisations that may be unlikely or unable to receive international funding directly (such as the Pakistan Institute for Development Economics and School for Leadership). Challenges TAF has faced concern difficulties getting partner organisations to operationalise the nexus concept as part of their programming; inability to engage with stakeholders and partners across the region (for reasons described earlier in the report); and the lack of appropriate incentives to engage private sector in SDIP 2 activities.

3.5.4 Bangladesh

ACIAR's work in Bangladesh's agriculture sector is viewed by stakeholders as highly relevant in terms of dealing with food security and nutritional issues and issues around climate change.

CSIRO's technical and scientific input in research around ground water and water resource management is also considered to be highly relevant in the context of Bangladesh. The work in drought prone areas and salinity areas is very relevant to deal with issues of water scarcity and water resource management in changing climatic conditions and extreme events.

SAWI is working on water governance issues in the Brahmaputra Basin. The transboundary water management is critical for both India and Bangladesh.

The government and national stakeholders highly value the Australian partner's expertise and input in dealing with complex issues such as climate change and managing water scarcity and salinity.

Conclusion

Each of the seven SDIP partners offers well developed and unique skills that enable them to contribute to SDIP's outcomes. A judgement on whether the current mix of partners is appropriate will first require deciding on how SDIP should prioritise its outcomes, types of interventions and areas of focus.

Some stakeholders raised concern about SDIP's limited engagement with local partners and organisations. SDIP's main international partners sometimes faced challenges of understanding the local context and designing appropriate interventions. One of the stakeholders said, 'Local partners are important to sustain any donor support beyond the project duration as they will be housed in the country and have moral responsibility to take over the work (which is not something that the international agencies are able to do)'.

4 Are the SDIP management arrangements delivering value for money?

4.1 Is the PAF identifying and generating useful, timely and clear information?

DFAT has comprehensive policies, guidance and standards in place that are designed to ensure that: (1) M&E practices and products meet DFAT's information needs; (2) performance feedback is available to inform SDIP's management practices and drive the continuous improvement of investments; and (3) external accountability requirements are satisfied. See Annex J for details.

The evolution of SDIP's PAF: SDIP's monitoring and evaluation (M&E) contractor, has provided the evaluation team with the following history of SDIP's performance reporting. The original 2012 SDIP design included a PAF with four high-level objectives and a series of projected short-medium-long term outcomes to which the portfolio was expected to contribute to / influence over the 12-year investment. These were framed as 'indicative' outcomes.

The M&E strategy (2014) developed by the M&E Contractor then outlined several 'potentially relevant' domains of change that, if progressed, would suggest that a long term impact had been achieved through SDIP. As outlined in the M&E strategy, 34 potential domains of change were identified as the exact path partners would take was initially unclear. However, it was also noted there was an expectation that as the work of partners matured and the understanding of the development space increased that this would narrow over time.

Through the second half of 2014 and first half of 2015 the M&E Contractor spent time working with partners (and DFAT and other SDIP advisors) to understand their planned investment strategies and expected landing points for SDIP1. In July 2015, M&E Contractor led an exercise which mapped 28 'potential' outcome areas across the 3 basins, based on where partners were engaging.

The SDIP2 design included 12 domains of change, partly in response to the independent evaluation completed in November 2015 (to simplify and more clearly articulate the change pathway framework) and partly reflecting the intent behind the design of the program itself, which was that partners would increasingly concentrate their efforts in areas where they were seeing greatest traction, with support and guidance from DFAT and the SDIP advisors.

There was an extensive consultation process around the development of the SDIP2 PAF through early-mid 2016 led by DFAT and M&E Contractor with support from the other SDIP advisors. This included SDIP partners 'pitching' their proposed investment strategies for SDIP2 to DFAT and the advisors, which led to a sharpening of those strategies and which informed further refinements to the PAF / domains of change. The SDIP2 PAF was presented at the SDIP Annual Dialogue in September 2016 and included 9 domains of change under the 3 SDIP2 outcome areas.

Further tweaks to the PAF were made in early-mid 2017. There were 6 domains of change, plus a separate set of gender indicators. This version of the PAF was in place through the remainder of 2017 and 2018 and underpinned the portfolio-level annual reports completed for these two years.

IOD PARC advises that in preparing the SDIP Annual Report 2018 it became evident that the 6 domains of change were not adequately capturing the concentration of effort by SDIP partners, several results were being reported by partners that sat outside the domains of change. This led to a further revision of the 6 domains of change (now referred to as focus areas in an effort to simplify the language around the approach) and associated targets / milestones through early-mid 2019.

A draft of the revised PAF was shared with DFAT in May 2019, and then with each partner through May-June 2019, and partners were given the opportunity to review and respond to the proposed 2020 target positions, to validate them and also to ensure they understood how their investments were influencing the results/impact of the portfolio as a whole.

Stakeholder views: Partners stated that were comfortable with their reporting requirements under SDIP. For example, ICIMOD has well a developed program logic, M&E frameworks and line of sight to SDIP outcomes, but other partners less so. Several SDIP partners commented that SDIP's annual performance reporting had improved in recent years. They argued that the reporting in recent years was much better. In the opinion of the evaluation team, partners are mostly reporting on their annual activities and outputs; less so on SDIP's outcomes and with limited reporting of performance versus expectations.

Interviews conducted for the evaluation revealed that very few DFAT and national government stakeholders have read the 2017-2018 SDIP Annual Report, and those that had described it as complex, dense and difficult to understand. Several DFAT staff members (in Canberra and at Post) stated that they saw limited value in SDIP's Annual Report.

PAF assessment: Is SDIP's PAF fit for purpose? According to DFAT's own Aid Quality Check Ratings Matrix, for an investment to be rated as having 'adequate monitoring and evaluation' it needs to satisfy a number of criteria. These criteria and the evaluation team's assessment are shown in Table 4 below:

Table 4: Assessing the PAF against DFAT's M&E criteria

DFAT's criterion	Evaluation team's assessment
<ul style="list-style-type: none"> The investment's M&E plan and arrangements were adequate and fulfilled most of DFAT's M&E Standards 	<ul style="list-style-type: none"> The investment's M&E plan and arrangements are less than adequate, and do not meet major areas of DFAT's M&E Standards
<ul style="list-style-type: none"> The resources budgeted for M&E were adequate but not optimal 	<ul style="list-style-type: none"> DFAT recommends 3-7% of budget be allocated for M&E. SDIP's M&E resources are at the lower end of this range but adequate. Additional resources would have supported the M&E Contractor to undertake tasks such as basin level assessments, validating

	partner performance reports and strategy testing.
<ul style="list-style-type: none"> • Baseline data was collected for this investment but the quality of the data was variable, which hampered the tracking of performance against the baseline 	<ul style="list-style-type: none"> • Baseline data was only partially collected for this investment and was generally not used for tracking performance
<ul style="list-style-type: none"> • Performance information on activities, outputs and outcomes was generally adequate but there were some limitations in the accuracy or timeliness of the data 	<ul style="list-style-type: none"> • Performance information on activities undertaken and the delivery of outputs was generally adequate (with some limitations), but the evidence on achievement of outcomes was weak
<ul style="list-style-type: none"> • When the performance information was accurate and timely, it was normally used to support management decision-making, learning and reporting 	<ul style="list-style-type: none"> • Performance information tends to be used for accountability and reporting purposes. There were few examples of systematic M&E evidence being used to support management decision-making and learning
<ul style="list-style-type: none"> • M&E arrangements strengthened government partner M&E systems or capacity, but could have been improved 	<ul style="list-style-type: none"> • There was significant engagement with SDIP partner M&E systems and some engagement with government partner systems. It is not clear if government's M&E capacity has been enhanced.

The PAF suffers from a lack of clarity in the overall purpose and framing of SDIP. At the highest level, the broader objective for the 12- year period and the end of investment outcomes are not clearly and tightly enough defined. The outcomes are clearly focused on promoting regional cooperation, which has not been the focus for much of the partners' work. In addition, SDIP's program logic model, PAF and performance indicators do not meet DFAT's requirements and standards.

The six domains of change, and the indicators for each, appear to have been produced from a bottom-up mapping of the work that is actually underway. As a result, there is a disconnect from the stated outcomes of the program, particularly in terms of supporting regional cooperation, and the PAF reports. In addition, because of the portfolio approach and the diversity of the work underway, the PAF logically adopts generic indicators of change (for example, new tools developed, increased capacity) that apply to all the partners' work. However, the consequence of this is that it is very difficult to communicate SDIP's stories of success and overall narrative. For these and other related reasons, the PAF is not fulfilling its intended purpose.

Conclusion

There is consensus among the SDIP partners and many (but not all) of the stakeholders that SDIP is a good program that has achieved some important results. Unfortunately, SDIP is less visible in terms of demonstrating its results and showcasing its successes in Canberra.

The design of SDIP and its PAF has evolved over time but the current PAF still suffers from a lack of clarity in the overall purpose and framing of SDIP. At the highest level, the broader objective for the 12 year period and the three end of investment outcomes are focused on promoting regional cooperation, which is not reflected in the investment strategies of partners. In addition, the program lacks a functional program logic model and suitable performance indicators to assess progress. The current PAF as developed by the M&E Contractor is hampered by some basic design flaws in SDIP that are outside of their control.

A majority of the stakeholders interviewed, more than 60%, felt that SDIP's M&E approach needed to be improved. In particular they stressed the need to have better clarity on the linkages between the work of partners and SDIP's outcomes (line of sight from activities to outputs to outcomes), and an annual performance report that is suitable for nontechnical readers.

There is the opportunity for SDIP's M&E approach to provide much greater value to DFAT. The PAF does not provide Posts with the information they need on progresses and successes to be able to reference and use SDIP within their wider public diplomacy efforts. The M&E system is not feeding into a communication strategy for internal and external reporting. It does not allow partners to report on wider political insights and learning that DFAT can utilise in their wider work.

4.2 Does SDIP have robust governance mechanisms in place? Are any risks to good governance and accountability apparent?

The Australian National Audit Office (ANAO) has published better practice guides to promote good governance in the public sector.² In the ANAO's view, good governance generally focuses on two key requirements:

- **performance**—governance arrangements and practices are designed and operate to shape the entity's overall results, including the successful delivery of government programs and services
- **accountability**—governance arrangements and practices are designed and operate to provide visibility of results, to the entity's leadership, the government, the Parliament and the community and conform with applicable legislative and policy requirements as well as public expectations of openness, transparency and integrity (ANAO, June 2014, page 7).

The fundamental elements that underpin the achievement of good public sector governance include:

- developing strong leadership at all levels of the entity, with a focus on ethical behaviour and continuous improvement
- maintaining governance systems and processes that are fit for purpose
- optimising performance through planning, engaging with risk, innovation, and performance monitoring, evaluation and review

² For example: Australian National Audit Office, October 2014, Successful Implementation of Policy Initiatives; and Australian National Audit Office, June 2014, Public Sector Governance.

- focusing on openness, transparency and integrity, engaging constructively with stakeholders and promoting accountability through clear reporting on performance and operations
- where appropriate, participating in collaborative partnerships to more effectively deliver programs and services, including partnerships outside government (ANAO, June 2014, page 10).

Each of the seven SDIP partners are well-established and credible organisations, with their own accountability and management systems in place (which for agencies such as the IFC, exceeds what is required by SDIP). Hence would seem unlikely that there are any major financial or management risks related to the partners.

However, there is frustration in the management arrangements from both partners and some DFAT Posts. The management structure is devolved, so the partners directly manage various local implementing sub-partners or in the case of IFC and SAWI the program's focal person manages a large internal team. These organisations and individuals who are actually carrying out the work do not appear to be in direct contact with DFAT, although some, such as ACIAR's sub-partners, are engaged with the advisors.

This means that the relationship between the partners' focal person for SDIP, and DFAT is crucial. The high turnover of DFAT staff has affected this relationship and having the DFAT team located in Canberra creates an immediate barrier. Since the DFAT manager has been based in the region (Nepal) and monthly catch-ups have been introduced, the relationship has apparently improved. However, it is not possible for this single individual to play the role of communicating and coordinating SDIP's work for an important regional program operating across seven partners, six countries, and five DFAT Posts/bilateral desks.

SDIP seeks to manage program risks through annual partnership health-checks and regular technical discussions with the advisor team. Unfortunately, this does not go far enough. The problems with the management structure are less about financial and reputational risks and more about: being clear about SDIP's intended outcomes and being able to maximise the benefits of SDIP; the role boundaries between DFAT staff and the advisors; making connections across the partners work; and using learning from SDIP to inform Posts' wider activities, communications, and diplomacy efforts.

Conclusion

In the experience of OPM's evaluation team, governance arrangements in flexible adaptive investments tend to be very complex or alternatively these considerations receive limited attention. While SDIP is actively managing certain risks through annual partnership health-checks and regular technical discussions with the advisor team; it was not clear to the evaluation team how the full range of risks is being managed. For SDIP has a number of different types of risks: risks relating to SDIP's design as a whole; risks related to operating in the South Asian region; risks related to DFAT's own staffing constraints; risks related to individual SDIP partners, and risks related to particular projects. The evaluation team found it difficult to fully comprehend SDIP's approach to governance, and who is being held accountable for what.

4.3 What contribution does the advisor team make to SDIP objectives? Do we have the right mix of skills and expertise?

SDIP phase 2 design document has clearly articulated the positioning and role of technical advisors. Technical Advisors, working to a Lead Advisor, will support DFAT's implementation of SDIP2. The technical advisors will be sought through the Aid Advisory Services Panel to provide expert inputs in the areas of gender; water resources management; energy and climate change; food security; monitoring and evaluation; and partnerships. DFAT's Senior Water Resources Specialist is also positioned as a key source of technical support to the SDIP. Technical advisors have the following responsibilities:

- Keep abreast of sector issues in the region through liaison with SDIP partners and other key (related) actors on partners' work and its positioning in the region, in the context of where the momentum for change is most active. This work will identify opportunities for streamlining, linkages and/or collaboration; will guide and support partners; and identify/shape policy influencing and economic/public diplomacy opportunities for DFAT.
- Support DFAT's engagement with partner governments and the economic and public diplomacy opportunities arising from SDIP partners' work and/or related to it. This includes the provision of regular updates to relevant Posts and analytical, policy and technical support to both Desk and Post both in response to requests but also proactively to build capacity and seize opportunities. A set of protocols to guide engagement between the technical advisors and DFAT Posts will be developed in the first three months of SDIP2. A similar set of protocols will be established to guide partner engagement with Posts.

However, this role has evolved over the course of SDIP 1 and 2 in response to both the actual need from partners for support and gaps in DFAT's own internal management capacity. The SDIP advisors provide strategic and technical guidance the partners and DFAT itself, and also function as the program's corporate memory. They also work beyond their formally defined roles to backfill DFAT when required, for example, representing the program externally. Their role has grown over time partly as a result of SDIP's management needs and partly due to DFAT's own staff shortages.

4.3.1 India

Examples of the advisors' work in India include the Gender Advisor working with ACIAR and TAF on how to integrate gender into their work. The Agriculture Advisor has worked very closely with ACIAR and partners, to develop project ideas and to provide technical steering and advice. One ACIAR partner said that they could not have completed the work to the scale that they have without the support of the advisor. In this sense, they contribute to SDIP's objective of utilising and showcasing Australian expertise, although not for all the partners. Partners appreciate the advisors' expertise and for being very responsive and committed to SDIP.

4.3.2 Nepal

The work of advisors was highly valued by partners particularly ICIMOD, ACIAR, CSIRO and ICE WaRM. They argue that advisors tend to be the holders of SDIP's corporate knowledge and were a valuable asset in terms of providing technical support and guidance. One of the stakeholders said, 'We are getting science based value addition and credibility from the work from advisors'.

Advisors support is greatly valued by Nepal Post. HoM-Nepal said, 'As HoM, I could not have done my job without them. Advisors were crucial in helping generate information for my public diplomacy. They provided material to facilitate the meeting in an chairing such as JAC and ICIMOD board'.

Some respondents commented on the importance of the Annual Dialogue Forum and the role of advisors in making it successful. While others wanted more frequent interactions with the advisors aside from the Annual Dialogue. There were suggestions from some partners to have more visibility of advisors in the countries particularly more engagement with the country activities. The local partners interviewed showed interest in having more interactions with advisors.

4.3.3 Pakistan

Implementing partners reported as having some beneficial contact with the advisors, but there was a need for a greater level of engagement. The DFAT staff at Post said there had close engagement with water advisor and his support to SDIP partners in Pakistan. They however do not have contact with the other advisors.

4.3.4 Bangladesh

The work of advisors was highly valued by partners particularly IFC, ACIAR, CSIRO and TAF. They argue that advisors tend to be the holders of SDIP's corporate knowledge and were a valuable asset in terms of providing technical support and guidance. One of the stakeholders said, 'We are getting science based value addition and credibility from the input of the advisors'.

Conclusion

The role of SDIP's advisors has grown over time partly as a result of SDIP's management needs and partly due to DFAT's own staff shortages. Advisors have agreed workplans in place to determine their priorities. The advisors have clearly played an important role in the program's successes and helped to showcase the added-value of SDIP being an Australian funded program. SDIP's seven partners have consistently praised the technical skills and knowledge of the five advisors.

In addition, while the advisors now know the region well, similar experts could be found locally which might enhance SDIP's legitimacy (but would not contribute to the aim of showcasing Australian expertise).

4.4 Are the mechanisms established for sharing of information between DFAT, partners, countries and stakeholders efficient and effective?

The primary mechanism for information sharing between partners and stakeholders is the Annual Dialogue forum. This appears to be the main mechanism for partners to know about the work being carried out by others under SDIP and is an opportunity to make connections. There were different opinions given on the effectiveness of the mechanism, and some evidence of the impact it has had on collaboration.

4.4.1 India

There was no strong feeling about whether the forum is useful or not, although some sessions and methods of structuring the meeting have worked better than others.

There are examples of partners collaborating in India as a result of learning about their work in the forum, for example, between ACIAR and TAF on a political economy study. But partners did also mention their interest to do more work in collaboration with others. For example, TAF is interested to provide political-economy assessment and support to other SDIP partners, and one of TAF's partners, the Ministry of Water Resources Research Chair also stated their interest to learn from a broader group of other SDIP partners work on facilitating community level consensus building across borders. DFAT's 'hands-off' management structure means such partnerships are not engineered by DFAT, and partners need to be proactive in seeking out such opportunities.

4.4.2 Nepal

Partners and stakeholders highly value the role of DFAT. The stakeholders in Nepal were highly positive about the role of HoM- Nepal and support and guidance they have received from DFAT. DFAT Post in Nepal is highly appreciative of the communication support received from DFAT and advisors particularly the communication materials.

Few stakeholders have read the SDIP annual report and those who did found it complex, dense, and difficult to understand. Partners also expressed concerned about the turnover in DFAT staff in Canberra. According to them, this has impacted the oversight and management of SDIP from DFAT. One of the sub-partners raised the issue of SDIP needing a website to support the sharing information.

4.4.3 Pakistan

There were no strong views about whether the forum is useful or not, although some sessions and methods of structuring the meeting have worked better than others. One of the partners, who attended the forum in 2017, was of the view that there was an information overload ('too many presentations, with no time left over to absorb or discuss the information shared').

There are examples of partners collaborating in Pakistan as a result of learning about their work through the forum, for example, between ICIMOD and TAF on establishment of a

gender network. But partners did also mention their interest in additional collaboration with other SDIP partners. The hands-off management structure means such partnerships are not engineered by DFAT, and partners need to be proactive in seeking out such opportunities.

4.4.4 Bangladesh

Stakeholders agree that there are mechanisms for sharing of information between DFAT, partner countries and stakeholders. However, the mechanisms have to be more effective in future. The Post in Bangladesh said 'The level of reporting is not pitched at the level that is useful for us and the HoM. We need better information for our APPR but struggle to get this. SDIP reporting simply does not link to broader development narratives'.

Post further added that the technical stories or case studies have to be aggregated to the level of development results. 'We think you need a very strong program manager who can give clear instruction and guidance to the partners and get the best out of it as per DFAT requirements.' The Post in Bangladesh suggested that there is a need further clarity of roles and responsibilities for managing SDIP and its communications.

Conclusion

The Annual Dialogue forum is valued by partners, although it is not sufficient for ensuring communication between partners and encouraging collaboration. Sub-partners consistently reported that they required more and better information about SDIP's activities in their country. DFAT staff in Bangladesh, India and Canberra felt strongly that better communication products were required from SDIP in order to support program oversight and public diplomacy activities.

4.5 Are budget decision-making processes transparent and in line with approved investment strategies? Is ear-marked core funding allocated on the basis of investment strategies efficient demonstrating value for money?

SDIP's grant agreements are based on a series of individual agency investment strategies and managed via a partnership approach which in turn minimises DFAT's management overheads (important for a regional program operating across seven partners, six countries, five Posts/bilateral desks).

All investment strategies need to be demand-driven and aligned with the priorities of partner governments. Alongside the SDIP partners, DFAT also engages with partner governments, reflected in requests to engage in policy discussions and provide technical support, the adoption of advice in sectoral policy documents, and the signing of government-to-government agreements.

Ear-marked core grant funding means that changes in allocations are managed through discussions with DFAT (with input from the SDIP advisors), rather than by formal contract renegotiations. This approach supports SDIP's focus on timely flexible programming while minimising the administrative burden on staff. This model requires trust in the professionalism of partners, underpinned by extensive due diligence assessments

commissioned during partner selection and contract negotiations. According to DFAT's 2019 Aid Quality Check, SDIP's expenditure is on track and within budget.

Conclusion

SDIP's funding is being allocated to partners on the basis of approved investment strategies but it is difficult to know if this represents value for money. The amount of budget received by each partner varies significantly. A comprehensive and quantitative assessment of value for money question would require an examination of each partners' budget and comparing this with number of outputs and outcomes achieved which is beyond the scope of the current evaluation.

However, in general, the partners appear to be satisfied with SDIP's strategy and budgeting processes. Even in the case of ACIAR, where the budget and strategy were delayed by a year, they seem to understand and value why it was necessary to change the scope of their work. In contrast, several DFAT stakeholders expressed confusion about the basis for financial allocations across individual partners and requested greater transparency in decision making.

5 What lessons from SDIP2 could be applied to SDIP3 to promote successful outcomes?

5.1 SDIP's purpose and scope

The cause of many of the frustrations and challenges within the program can be traced back to the disconnect between SDIP's development objectives/outcomes and the diversity of work being undertaken by the partners. DFAT needs to better articulate what success looks like for the program and ensure that SDIP complies with relevant standards for design, program logic, and M&E. The current six domains of change should be redrafted so that they are more thematic and sectoral, and these could then function as SDIP's end of investment outcomes. Despite undergoing two design processes, annual APPR reviews and Aid Quality Checks plus an independent evaluation in 2016, fundamental issues with SDIP's design and M&E have not been resolved.

Consideration also needs to be given to SDIP's regional focus. There are different ways that the program could be considered to be regional, including being a portfolio of initiatives working at different levels within the region (but not necessarily working on regional cooperation), facilitating the sharing of lessons and good practice between countries in the region, and promoting regional cooperation across boundaries. Currently SDIP is doing a little of all three but without explaining its rationale and criteria for judging success.

SDIP does need to decide whether it wants to retain its regional identity, rather than being a multi-country program operating in South Asia. The regional cooperation element does differentiate SDIP from other similar programs, and so it is attractive to keep this framing, but it needs to be more fundamental to some of the partners' work. For example, those working at a national or local level should be required to find connections in other countries and ways to share learning and experience with others in the region.

Attention should be given to the limitations of the nexus framing. Only a small part of the portfolio is addressing the water-energy-food nexus in a completely integrated way, and this framing is more appropriate in the agriculture sector. The nexus framing does help partners to work across sectors, and not think in silos, but it needs to be more coherently and fully conceptualised and explained. Partners should be encouraged to consider multi-sectoral links, but not have to force their work to fit across all three integrated parts of the nexus.

This same development outcomes could be achieved by adopting an explicit focus on climate change – which is by its nature cross-sectoral – but this would require partners to use climate information and data more than they are currently. Alternatively, dropping the nexus framing, and instead defining SDIP as a 'water program' could also retain this cross-sectoral focus, given that water is a resource required for most sectors. However, the potential overlap with the Australian Water Partnership would need to be managed.

There is an opportunity to clarify the role of local partners in SDIP. Partnerships with local organisations are essential for sustaining initial impacts over time even for highly technical

activities. System reform requires a comprehensive understanding of local context coupled with a commitment to long-term engagement and the participation/ownership of local stakeholders. Australia's long-term engagement with local partners also gives confidence to the partners that we are serious on knowledge generation and capacity building and this will support DFAT's public diplomacy goals.

5.2 Delivery model and management structure

There is a degree of dissatisfaction with SDIP within some sections of DFAT, much of which stems from a lack of clarity on the purpose of the program and how it is expected to contribute to diplomatic objectives. This is further compounded by insufficient and/or not strategic enough communications between SDIP and Posts/Canberra. In addition, the management capacity within DFAT seems under resourced given SDIP's regional focus and the desire for SDIP to be facilitating public diplomacy outcomes. SDIP could benefit from the presence of locally employed regional coordinators who would be primarily responsible for connecting the work of SDIP partners with the diplomatic efforts of Post, as well as coordinating the work of partners in country. This would include packaging and reporting the work of the partners to feed into strategic thinking in Post, representing DFAT at SDIP events, and perhaps also providing regular political economy updates based on their own monitoring of the context and landscape.

The SDIP advisors have fulfilled a very important role in the program and at the same time there is also some debate about the boundaries of their work. In the view of the evaluation team, their role should return to being primarily technical and capacity support to partners, as well as providing strategic guidance to DFAT, rather than any program management or coordination function. Employing additional local advisors could also be considered, although their role and purpose would need to be clear, given that SDIP partners themselves are subject experts.

5.3 Public diplomacy

There is a need for greater clarity about when the work funded by SDIP is expected to contribute to Australia's diplomatic efforts, and when it is primarily about development results. The diplomatic added value of SDIP could be enhanced by having a more explicit capacity building component by connecting partners with Australian expertise, having more local – international partnerships, and perhaps some additional budget for visits and training in Australia. Key informants also suggested SDIP should have more communications and outreach targeting national stakeholders and use DFAT's Posts more consistently to highlight SDIP's achievements.

5.4 Gender

The efforts made by SDIP partners to mainstream gender equality, empowerment and inclusion across the portfolio are significant even if progress has remained non-uniform. There was a recognition from partners that DFAT's commitment towards gender mainstreaming is the driving force behind SDIP's focus on it. For some partners, this was

easy to adopt and in line with their own mandate, while for others DFAT and the advisors have had to significantly support.

Collectively, the efforts at mainstreaming gender represent incremental and important progress towards a greater understanding of and internalisation of why gender equality remains a key priority in traditionally gender-blind domains/sectors.

Notwithstanding these achievements, there is a need for a further strengthening of gender integration in any future phases of SDIP. This pertains to three key aspects: (i) overall mainstreaming within and across the program with greater gender based reporting of outcomes and existing and emerging impacts; (ii) the need to collate and synthesise gender results and package them as operational or policy recommendations/lessons learnt or best practices in a user-friendly way; (iii) the variations offered in terms of local contexts and gender situation/issues are sharp and strategies/interventions for each area need to be tailored accordingly.

The importance of visible communication and advocacy strategies cannot be overemphasised particularly in the context of gender equality outcomes. This needs to be spearheaded by a focal point with local chapters and SDIP2 offers many such opportunities in all areas e.g. the nexus, policy engagement and knowledge management. The latter includes the need for better communication of results to support peer/practitioner learning and building greater awareness around key messages.

5.5 Prioritising for budget reductions

Given current financial pressures in the Australian aid program, reductions in SDIP's future budget are likely. The evaluation team would not recommend 'across the board' cuts to the budgets of partners, as this would reduce the impact of all partners and the program itself. Rather, it is suggested consideration be given to dropping some of the partners. This should be based on a review of SDIP's broader purpose and scope, the value for money generated by each of partners, and the priorities of Australia and regional government partners.

Annex A Evaluation plan

Overall purpose

To assess the effectiveness and relevance of the approach and mechanisms employed by the Sustainable Development Investment Portfolio (SDIP) and develop practical recommendations to inform future programming.

Key Issues

- The evaluation will be undertaken in the context of a shift in focus of aid investment to the Indo-Pacific with increasing pressure on investments outside of that region, and should consider the possible regionalisation of current bilateral funding and potential alternative funding scenarios.
- The long-term SDIP approach and use of a partnership portfolio model are non-traditional forms of aid. An assessment of the comparative value of these (or otherwise) vis a vis other delivery models would assist program decision-making.
- The evaluation should take a forward-looking, developmental approach to enable it to feed directly into the design for a third phase of SDIP (SDIP3, due to commence in mid-2020), subject to budget allocations.

Primary audience

The primary audiences will be:

- DFAT South and West Asia management teams (in Canberra and at Posts)
- SDIP partner organisation management teams
- DFAT thematic and development policy teams.

Scope

The evaluation will consider the trajectory of SDIP over the first and second phases, and assess whether it is on-track and achieving the results expected by this stage (mid-way through the 12-year strategy).

The evaluation will consider the effectiveness, efficiency and relevance of the strategic approach followed by SDIP and the management arrangements employed in the delivery of the investment. On the basis of these findings, the evaluation will identify lessons learned and make a set of recommendations to guide the design of SDIP3.

The evaluation team will triangulate evidence from DFAT (Posts and Canberra), delivery partner organisations and partner governments to identify where and how SDIP has performed well, and where challenges are apparent. The evaluation team will visit a selection of SDIP partner countries (Bangladesh, India, Nepal and Pakistan) as well as undertake consultations in Canberra. DFAT Canberra will provide early input on possible directions of Phase 3 which should inform the analysis and recommendations made by the evaluation team.

The evaluation team will discuss early findings with DFAT before presenting them at the SDIP Annual Dialogue 1-3 October 2019 in Kathmandu. This will provide the evaluation team with an opportunity to test the robustness of findings and early conclusions with SDIP stakeholders.

Key evaluation questions

1. To what extent is SDIP meeting expected objectives at this time? The evaluation team will consider:

- a. Progress towards end-of-strategy objectives (this question in the ToRs has been dropped from the evaluation at OPM's request)
- b. Progress towards SDIP2 end-of-investment outcomes (the term 'outcome' is being used at OPM's request rather than 'objective')
- c. Whether SDIP is contributing to results and strengthened institutional capacity promoting gender equality in the region
- d. To what extent SDIP is contributing to climate change adaptation and mitigation in partner countries?

2. To what extent has the strategic approach followed by SDIP been relevant and effective?

- a. How well is SDIP positioned to deliver on Australian foreign and aid objectives in the South Asia region?
- b. Is the water-energy-food nexus framing the most relevant and appropriate for addressing these issues in South Asia?
- c. Is SDIP operating in the right geographic locations?
- d. Is the partnership and portfolio modality an appropriate approach to achieve SDIP objectives? What is the comparative value of the SDIP's partnership portfolio model vis a vis other delivery models? (this second question has been added to the evaluation by OPM in consultation with DFAT)
- e. Is the mix of implementation partners the most appropriate to achieve SDIP outcomes?

3. Are the SDIP management arrangements delivering value for money?

- a. Is the PAF identifying and generating useful, timely and clear information?
- b. Does SDIP have robust governance mechanisms in place? Are any risks to good governance and accountability apparent?
- c. What contribution does the advisor team make to SDIP objectives? Do we have the right mix of skills and expertise?
- d. Are the mechanisms established for sharing of information between DFAT, partners, countries and stakeholders efficient and effective?
- e. Are budget decision-making processes transparent and in line with approved investment strategies? Is ear-marked core funding allocated on the basis of investment strategies efficient demonstrating value for money?

4. What lessons from SDIP2 could be applied to SDIP3 to promote successful outcomes?

Methodology

We will use different participatory mixed methods for collecting information and involving the relevant stakeholders and institutions. The document review, interviews and group discussions will help to systematically collect, analyse and triangulate information to ensure quality, rigor and reliability of the information collected. This triangulation of data collection methods is proposed to strengthen the confidence in the findings.



The information collection will be guided by a set of key structured questions followed by open and semi-structured questions. We will develop a checklist of each of the method and tools and use this during the review, interview and group discussions.

The main data collection methods to be used in the evaluation will include:

Document reviews. Document reviews will provide a synthesis of data from existing evaluations of the relevant programs, as well as surfacing key considerations from the wider literature and international experience that can form a background to the evaluation.

Semi-structured interviews and group discussions with a selection of key stakeholders. Semi-structured interviews will help to interact with stakeholders at the policy and practitioner levels involved in SDIP design and implementation, in order to assess the effectiveness and relevance of the approach and mechanisms employed by SDIP.

Key informant interviews with DFAT staff and national government agencies. Key informant interviews will be used in this evaluation to seek qualitative information from the individuals who are involved in closely monitoring the SDIP's activities. The key informants will be identified based on their experiences and engagement in SDIP work.

Verification of SDIP performance reports. The evaluation team will consult with the M&E Contractor in order to verify SDIP performance reports (annual SDIP portfolio reports and partner reports). The evaluation will do this by assessing the M&E Contractor's systems and methods for ensuring performance reports are relevant, appropriate and fairly presented and consistent with DFAT standards.

Focus group and interviews of SDIP advisors, Posts and Canberra stakeholders. The evaluation will undertake interviews and focus group discussions with SDIP advisors and Australia-based stakeholders in Canberra, in addition to Post visits.

Presentation of initial findings. The early findings will be presented at the SDIP Annual Dialogue in Kathmandu 1-3 October 2019. This session will start with OPM presenting to the group along with interactive questions and discussion.

Ethical and cultural considerations

The evaluation team will practice ethical conduct in accordance with standards set by the Australasian Evaluation Society³ for ethical evaluations. Further the team will particularly consider ethical approaches appropriate to international development settings:⁴

Limitations or constraints on the evaluation

Timing will be a challenge, there being a relatively limited lead time for a technically complicated evaluation. The interviews and group discussion will need to be managed within fixed dates. It may be difficult to get hold of key informants within the tight country schedule and limited flexibility in changing dates. OPM will remain in contact with DFAT to ensure that this is managed and adjusted if possible, for example due to the availability of key stakeholders.

The evaluation will be mainly qualitative - based on document reviews, interviews and discussions with OPM synthesising the findings. We will not be in a position to interact with SDIP beneficiaries (public) aside selected government officials.

The final limitation to the evaluation is the intersectionality of the issues being addressed. The evaluation's resourcing rules out collecting participant-based data that disaggregates meaningfully across all the demographic factors: rural/urban, women/men, persons with and without a disability, and different ethnicities.

3 Guidelines for the Ethical Conduct of Evaluations, Australasian Evaluation Society, 2013. Accessed 19 March 2018 at https://www.aes.asn.au/images/stories/files/membership/AES_Guidelines_web_v2.pdf

4 Bamberger, M. (1999) Ethical Issues in Conducting Evaluation in International Settings, *New Directions for Evaluation*, Vol 82 pp. 89-97

Evaluation Reporting Schedule Milestone	Deliverables	Timeline
1	Evaluation Plan	Draft due, 18 July 2019, and then finalise after receiving DFAT's feedback
2	Aide Memoires	Following in-country visits
3	Draft Evaluation Report	31 st October 2019
4	Final Evaluation Report	5 th December 2019

Annex B List of interviewees

Interviewees are listed by country

India

Name	Organisation
Harinder Sidhu	H.E. High Commissioner Australian High Commission, India
Rod Hilton	Deputy High Commissioner Australian High Commission, India
Caroline Mills	1st Secretary Australian High Commission, India
Mandakini Surie	Senior Program Manager Australian High Commission, India
Subhada	Associate Investment Officer, PPP Transaction Advisory Services, South Asia IFC, India
Roli Agarwal	Consultant, Transaction Advisory Services, South Asia IFC, India
Bhanu Mehrotra	Global Sector Lead, Intermittent Power Transaction Advisory IFC, India
Pankaj Sinha	Senior Investment Officer, PPP Transaction Advisory Service IFC, India
Shruti Narayan	Lead – Green Building Program IFC, India
Anjali Garg	Energy Specialist IFC, India
Sivaram Krishnamoorthy	IFC, India
Dr Halla M Qaddumi	Senior Water Economist, SAWI Program Coordinator The World Bank, India
Tapas Paul	Lead Environment Specialist (SAWI) The World Bank, India
Debbie Menzes	SAWI M&E Consultant The World Bank, India
Nandita Baruah	Country Representative The Asia Foundation, India
Malavika Thirukode	Program Officer The Asia Foundation, India
Dr Kuhu Chatterjee	ACIAR-SDIP Program Coordinator, South Asia ACIAR, India
Chetali Chhabra	Assistant Manager – South Asia ACIAR, India
Dr Pratibha Singh	Regional Manager – South Asia ACIAR, India
Mr. Karthikeyan	CII Green Products and Services Council (GPSC), India
Avinash Kishore	Research Fellow International Food Policy Research Institute (IFPRI), India
Ramapati Kumar	Founder Centre for Environment and Energy Development (CEED), India
Dr Srinivas Chokkakula	Research Chair, Ministry of Water Resources Centre for Policy Research, India
Dr Shiraz Wajih	President Gorakhpur Environmental Action Group (GEAG), India

Name	Organisation
Nivedita Mani	Program Officer Gorakhpur Environmental Action Group (GEAG), India
Dr Aditi Mukherji	Principal Researcher International Water Management Institute (IWMI), India
Dr P K Joshi	Ex Director IFPRI South Asia, India
Prof Sucharita Sen	Professor Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, India
Prof Apurba Chowdhury	Project lead Uttar Banga, Krishi Viswavidyalay (UBKV), India
Joydeep Gupta	Director Third Pole Network, India
Vivek Sen	Power Sector Lead Shakti Sustainable Energy Foundation, India
Dr Pradip Mazumdar	Advisor Agriculture to CM West Bengal Government of West Bengal, India

Nepal

Name	Organisation
Emma Stone	DFAT, Nepal
Ms. Jwala Shrestha, Mr. Subash Sharma, Mr. Sudeep Paneru	Ministry of Forests and Environment (MoFE), Nepal
Dr Ram Prasad Lamsal	Department of Forest and Soil Conservation, Nepal
Dr. Ram Krishna Shrestha	Department of Agriculture, Nepal
His Excellency Peter Budd	HoM- Nepal
Mr. Sagar Prasai	Ex- TAF staff, Nepal
Mr. Gyan Acharya	Ex-GoN and Diplomat, Nepal
Dr David and Dr Eklabya Sharma	ICIMOD, Nepal
Meeting in a Group with ICIMOD Team w	ICIMOD, Nepal
Mr Bishma Pandit, Mr Santosh Pandey, Ms. Kamana KC	IFC, Nepal
Dr Madhav Karki	CGED, Nepal
Dr Tamara Jackson and Dr. Brendan Brown	ACIAR and CYMMYT, Nepal
Ms Preeti Thapa and Mr Ashray Pandey	The Asia Foundation, Nepal

Name	Organisation
Mr. Keshab Dhoj Adhikari	Ex-WECS secretary, Nepal
Mr. Tejendra Bahadur G.C.	Jalsrot Vikas Sanstha (JVC), Nepal
Mr. Madhav Belbase	Secretary- Ministry of Water Supply, Ex- WECS secretary, Nepal
Mr. Nirjan Rai, Mr. Saumitra Neupane	Policy Entrepreneurs Inc, Nepal

Bangladesh

Name	Organisation
Dr Akram H Chowdhury	Ministry of Agriculture, Bangladesh
Professor Wakilur Rahman	Bangladesh Agriculture University
Penny Morton, Duncan McCullough, Angela Naumann, Nawshiba Arnob	DFAT, Bangladesh
Nadian Sharmin, Ishtiak Ahmed, Bushra Binte Alam	World Bank, Bangladesh
De Enamul Huque	ACIAR NUMAN, Bangladesh
Nazrul Islam	The Asia Foundation, Bangladesh
Dr Wais Kabir	BARC Complex, Bangladesh
Prof Monowar Hossain	IWM, Bangladesh
Dr T P Tiwari	CIMMYT Bangladesh
Farah Kabir	Action Aid, Bangladesh
Josh Chipman	OPM Bangladesh
Dr Akbar Hosain	Bangladesh Agriculture Research Institute
Nawshiba Arnob, Duncan McCullough	DFAT, Bangladesh

Australia

Name	Organisation
Andrew Collins,	Assistant Secretary, South Asia Branch, SWD DFAT Canberra
Ben Powers,	Director, South Asia Regional Development Section (SRG/SAB) DFAT Canberra
Paula Richardson,	A/g Assistant Director; Water and Environment Advisor for SWD DFAT Canberra
Fiona Merrington	Policy Officer, bilateral desk (Bangladesh and Nepal), DFAT Canberra
Erika Schwarze,	Office of Development Effectiveness, DFAT Canberra
Stuart Kinsella	Principal Associate, IOD PARC Canberra
Kate Hayes	Lead SDIP technical advisor and gender advisor, SDIP Canberra
Julian Gayfer	Director, IOD PARC UK
Brian Dawson	Climate Change Advisor, SDIP Canberra
John Dore	Water Advisor, SDIP, also DFAT staff member and water advisor Canberra
Jim Woodhill	Food Systems Advisor, SDIP Canberra
Julie Mundy	Partnerships Advisor, SDIP Canberra
Ian Reid	Chief Academic Officer, Ice WaRM Adelaide
Darryl Day	Managing Director, Ice WaRM Adelaide
Andrew Campbell	Chief Executive Officer, ACIAR Canberra
Robyn Johnston	Research Program Manager, Water and Climate, ACIAR Canberra
Eric Huttner	Research Program Manager, Crops, ACIAR Canberra
Sue Cuddy	SDIP Coordinator/Deputy Director, CSIRO Canberra
Dave Penton	Project Leader Nepal, CSIRO Canberra
Neil Lazarow	Group leader CSIRO Canberra
Shahriar Wahid	SDIP Director, CSIRO Canberra
Nicky Grigg	Team Leader, CSIRO Canberra
Mohammed Mainudd	Project Leader, CSIRO Canberra
Mobin Ahmad	Project Leader SDIP Indus Pakistan, CSIRO Canberra
Nick Schofield	Chief Executive Officer, The Australian Water Partnership Canberra
Marian Neal	Partnerships & Knowledge Manager, The Australian Water Partnership Canberra
Russell Rollason	Water and Sanitation Section, DFAT Canberra
Peter O'Connor	Water and Sanitation Section, DFAT Canberra
Kellie Plummer	A/Director, Internal Audit, DFAT Canberra

Name	Organisation
Fiona McKergow	Director, Bangladesh Nepal & Bhutan Section, South Asia Branch (BNB/SAB) DFAT Canberra
Julie Delforce	Senior Sector Specialist, Agriculture and Food Security Section, Development Economics Private Sector and Agriculture Branch (AFS/PXB) DFAT Canberra
Russell Miles	Director, Mechanisms and Adaptation Section, Sustainability and Climate Change Branch (MAS/CCB) DFAT Canberra
Leslie O'Donoghue	Director, Afghanistan Development Section, Pakistan Afghanistan and Central Asia Branch (ADV/PAB) DFAT Canberra

Pakistan

Name	Organisation
Dr Geoffrey Shaw	Australian High Commissioner to Pakistan
Brek Batley	Deputy High Commissioner to Pakistan ,
Nazia Nur	First Secretary Development, Australian High Commission, Pakistan
Aadia Asghar	Senior Program Manager, Australian High Commission, Pakistan
Muhammad Ashraf	Chairman Pakistan Centre for Research in Water Resources, Pakistan
Abdul Wahid Jasra	Country manager, ICIMOD – Pakistan.
Mudassar Maqsood	Program manager, ICIMOD – Pakistan.
Kanwal Waqar	Gender Associate, ICIMOD – Pakistan.
Dr Jehanzeb Masud Cheema	Program Chair, Precision Ag. & Irrigation Centre for Advanced Studies, Agriculture University Faisalabad, Pakistan
Zarif Khero	Superintendent Engineer, Sindh Irrigation Department.
Farid Alam	Director Programs, TAF, Pakistan
Sarim Jamal	Program Officer, TAF, Pakistan
Dr. Abdul Majeed	Water, Energy, and Climate Change Expert, IUCN, Pakistan
Dr. Ghulam Samad	Director, Pakistan Institute of Development Economics (PIDE), Quaid-i-Azam University Campus, Pakistan
Nawab Ali Khan	CEO, Aga Khan Planning and Building Services, Pakistan
Nisar Memon	Member of Upper Indus Basin Network, Advisor of Pakistan Chapter. Chairman of Water Environment Forum, Pakistan
Farid Ahmed	DG, Gilgit-Baltistan Disaster Management Authority, Pakistan
Mehar Ali Shah	Joint Secretary, Ministry of Water Resources, Pakistan
Shahid Hamid	GM, Hydrology and Water Management, Water and Power Development Authority, Pakistan

Annex C Selected Bibliography

The OPM team reviewed a number of documents for the evaluation including the following:

Topic: SDIP Advisors

Attachment A SDIP2 Advisor Protocol V1.1

Revised SDIP2 Lead Advisor ToR April 2018

Revised SDIP2 Partnership Advisor ToR April 2018

SDIP Advisor 2019 Work plan 080719

SDIP2 Brian Dawson ToR April 2018 Final Report

SDIP Management Advisory Services Final Signed both parties 23 May

SDIP2 Pakistan Mission Aug 2016 Aide Memoire

SDIP2 MELIODPARC contract services

TOR SDIP2 Political Economy (Food Security) Advisor

Water Advisor- John Dore- Responsibilities as per performance and development agreement

Topic: Annual Dialogues (SDIP 1 and SDIP 2)

Feedback from Annual Dialogue 2015- Synthesis

SDIP Annual Dialogue 2018 Summary of Proceedings final for decision

SDIP partner workshop 2017 Proceedings- Final

Topic: Annual Reviews- ACIAR

ACIAR SDIP Annual Report 2018

ACIAR SDIP Annual Report 2019 Final

ACIAR SDIP climate change synthesis Final

Annexed 3 Climate Change Briefing note for the EGP

Annex 4 ACIAR SDIP Climate change synthesis

Topic: Annual Reviews- CSIRO

CSIRO Annual Report 2013-14

CSIRO SDIP Annual Report 20190731

SDIP2_CSIRO_AnnualProgressReport_2017-18

Topic: Annual Reviews- ICE WaRM

SDIP Phase 2 Year 2 2017-18 Report-ICE WaRM

SDIP Phase 2 Year 3 Report- Final 20 August 2019

Topic: Annual reviews- ICIMOD

ICIMOD Change-pathway-plus work plan- progress-draftssubm-0190804

SDIP- Annual Report- ICIMOD -final revised

SDIP-II-Annual Report-ICIMOD 2017-18

Topic: Annual reviews- IFC

IFC SDIP Report- Jul 2017- Jun 2018- Final

Topic: Annual reviews- SAWI

SAWI Annual Report- Draft for Donors

SAWI Annual Report- FY18-Final

Topic: Annual Reviews- TAF (SDIP2 only)

TAF revised SDIP 2018-19 Annual Review

TAF revised SDIP2 PAF- May 2019 (revised June 2019)

TAF- SDIP- Annual Report 2017-2018

Topic: Communications

SDIP Communications Strategy revised July 2019

SDIP Portfolio Brief 2017-2018

Topic: Designs- Program Framework (SDIP1 and SDIP 2)

Energy in the Sustainable Development Investment Portfolio- Final document

Overview of the portfolio approach V1.3 21 July 2014

SDIP1 Fact Sheet 2014

SDIP2 Design- Final document July 2016

SDIP2 Framework

SDIP Attachment Revised

SDIP Design Document final

Topic: Investment Strategies (SDIP2)

SDIP2 Investment Strategy ACIAR

SDIP2 Investment Strategy CSIRO

SDIP2 Investment Strategy ICE WaRM

SDIP2 Investment Strategy ICIMOD

SDIP2 Investment Strategy IFC

SDIP2 Investment Strategy TAF

Topic: PAFs-M&E (SDIP1 and SDIP2)

Attachment 1- Overview of SDIP1 M&E System

SDIP Domains of Change- Outcome of Areas August 2015

SDIP M&E Appraisal Report- John Winter

SDIP M&E Strategy Annex SDIP Change Pathways- v25june14

SDIP M&E Strategy Final Draft 12062014

SDIP Phase I PAF

SDIP2 PAF-15 August 2016

SDIP2 PAF v1 May 2018

Topic: Partnerships

ACIAR-DFAT Partnership arrangements 2019
Final DFAT-TAF partnership arrangements
SDIP Annual Partnership Report 2018
Signed DFAT-CSIRO Partnership Agreement
Signed DFAT-IFC Partnership agreement
Signed ICIMOD-DFAT partnership arrangement
Update Report on Partnership 2014
Year 3 2015-2016 Update Report on partnership

Topic: Performance information AQCs APPRs

2018 AQC
2019 AQC
FAQC SDIP1 2016
INK999 AQC AID QUALITY CHECK 2015
INL594-AQC17-AID-QUALITY-CHECK-2017 FINAL
SDIP QAI- March 2014- Final
South-Asia-appr-2015-16
South-Asia-appr- 2016-17
South-Asia-regional-aid-investment-plan-2015
South-Asia-regional-appr-2013-14
South-Asia-regional-appr-2014-15
South-Asia-regional-appr-2017-18
South-Asia regional programme strategy 2013-17
South-West Asia regional appr 2012-13

Topic: Portfolio-level annual reviews

APPR South and West Asia regional appr- 2018

ICAI-DFID VFM report 2018

ODE evaluation of Australia's climate change assistance 2018

ODE evaluation of Australia's climate change assistance literature review

SDIP 1st Annual Update Report Final

SDIP Annual Report 2015 Draft v 14-03-16

SDIP Annual Review 2016-17

SDIP Annual Review 2017

SDIP Annual Review 2017-2018

Synopsis of SDIP Annual Reports (no date)

Table 1 Gender Version Two

Topic: Published Analyses

The Hindu Kush Himalayan Assessment Book 2019

PEA of Koshi Basin- Short Version

PEA Pakistan Agriculture Lower Indus

State of the Kamala Basin- Draft- CSIRO

Summary of the Hindu Kush Himalayan Assessment Book 2019

The Price of Power. The political Economy of Electricity Trade and Hydropower

Topic: Risk and Due Diligence

IFC Portfolio Institutional Assessment

Portfolio Institutional Assessment 3 April Final

Topic: SDIP 1 Mid Term Review

SDIP Independent Review- Final

Annex D SDIP2 program framework

SDIP Goal:

Increased water, food and energy security in South Asia to support climate resilient livelihoods and economic growth, benefiting the poor and vulnerable, particularly women and girls.

NB: The SDIP Goal relates to a higher order, broader and longer term impact beyond the 12 year SDIP Strategy 2012-2024. It anchors the SDIP within the overall development goals of the countries/region and the political/ policy setting of Australian engagement.

SDIP Objective - End-of-Strategy (2024):

Improved integrated management of water, energy and food in the major Himalayan river basins – especially addressing climate risks and the interests of women and girls.

SDIP2 Objective - End-of-Investment (2020):

Key actors are using and sharing evidence, and facilitating private sector engagement, to improve the integrated management of water, energy and food across two or more countries - addressing gender and climate change impacts.

SDIP2 Outcomes (2020)

1. Strengthened practices for regional cooperation: *operating at a regional, national and/or sub-national level in the sub region.*

2. Critical new knowledge generated and used for regional cooperation: *within the priorities acknowledged by regional forums, governments and national bodies and addressing said knowledge gaps through science and/ or well evidenced and reflective practice.*

3. Improved regional enabling environment for private sector engagement: *within the policies, regulations, market systems and investment conditions for cross border management of shared water, food and energy resources.*

Evidence of outcome level change and SDIP's contribution to this will be principally assessed through the focus areas (domains of change) where the portfolio is investing in SDIP2 is detailed below:

- Institutional capacity in data management and modelling to promote collaboration for sustainable water resource management, considering the differentiated impacts and needs of women and men; and climate change
- Integrated practice (proven at scale) for cross-border management of floods and other water-related disasters, accommodating gender and climate change

- Improved understanding of water-energy-food systems, and their interaction, including consideration of the differentiated impacts and needs of women and men; and climate change

- Development of new models and approaches to support uptake and investment in renewable energy initiatives (may include PPP's), accommodating gender and climate change considerations
- Enabling environment for outscaling and upscaling sustainable food systems in the Eastern Gangetic Plains, accommodating gender and climate change considerations

		<ul style="list-style-type: none">• Development of new models and approaches to support uptake and investment in resource efficiency initiatives, accommodating gender and climate change considerations
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Annex E Summary of SDIP2 investment strategies

	Partner	Focus of SDIP2 investment
1	ACIAR	Works towards removing the key constraints preventing the adoption of sustainable intensification/conservation agriculture technologies; specifically focusing on state and national policies on agricultural mechanisation, farm level water use efficiency and green energy.
2	CSIRO	Employs repeatable, quality assured, evidence-based approaches (modelling and multi-issue analysis) to improve policy development and planning around water and its intersection with issues concerning energy and food security. This will build institutional capacity and support improved regional cooperation.
3	ICE WaRM	Designs and delivers technical and policy level capacity building programs (including sharing and promoting Australia's integrated water resources management experience) to strengthen essential skills and knowledge and provide a platform for improved cross-agency/border relationships between current and emerging decision-makers and institutions in the region.
4	ICIMOD	Coordinates science, policy and practice to overcome the critical knowledge gaps required for sustainable development of mountain regions; specifically considering upstream-downstream relationships, climate change impacts and adaptation, gender transformative change and the food-water-energy nexus.
5	IFC	Employs its technical and transaction expertise to: improve government process and regulatory requirements for energy sector project development and approval whilst working with the private sector to build capacity to identify and accurately appraise energy and water related projects.
6	SAWI	Increases regional cooperation in the management of the major Himalayan river systems in South Asia by (i) informing new or existing bilateral or multilateral governance processes and (ii) facilitating investments secured through bilateral or multilateral governance processes and improving the quality of planning processes leading to new investments.

7	TAF	Contributes to improved regional cooperation on water, energy and food security in South Asia by expanding stakeholder engagements among state, civil society and market actors; providing them with alternative dialogue spaces.
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Annex F Case study 1: Mega solar projects

One component of IFC's work in India under SDIP relates to advising government agencies throughout the 12-24 month process of designing and procuring mega solar projects. One such project, the Rewa Ultra Mega Solar project in Madhya Pradesh, has become a flagship project for how it has been structured and procured as a result of IFC's influence under both SDIP 1 and 2. This case study explores some of the features of the project and the contribution of IFC under SDIP.

The key features of the Rewa project

The Rewa project was pioneering for a number of reasons. Firstly, at the time it was the world's biggest solar project. The average project size previously was 35-38MW and at maximum 100MW. In contrast, Rewa has an installed capacity of 750MW. There was also a large reduction in the power tariff, from INR 4.34 to INR 3.3. The project helped India achieve grid parity for solar and received a lot of media coverage. Secondly, it was the first international project working directly with state governments, rather than negotiating at the national level.

Most significantly, the preparation and structuring of the project has become a best practice in India, influencing national guidance and state level practice. The Rewa project demonstrated that if you prepare a project so well in advance of bidding, then the risks are very low when you take it to market. IFC's role in advising the state government entity appears to have been a key reason for both the success of the Rewa project, and its influence on wider policy and practice.

IFC's contribution to the Rewa project

IFC's role was advising Rewa Ultra Mega Solar Limited (RUMSL), the implementing agency of the project, a joint venture between the Madhya Pradesh Urja Vikash Nigam Limited (MPUVNL) and the Solar Energy Corporation of India (SECI). SDIP was the sole funder of IFC's advisory support to RUMSL. IFC supported RUMSL to spend significant effort in preparing the project to make it 'investment ready' prior to bidding, resulting in lower financing cost, increased competition, and decreased reliance on viability gap funding. This included 9 months of political and bureaucratic engagement to move the state government away from a public sector driven approach, using concessional finance with a World Bank loan, to a more private sector orientation. The winning bidders also approach IFC (without any involvement of the advisory team working on the SDIP project) and due to structuring of contract, they were able to leverage a landmark amount from other lenders (AUD128m from IFC, and AUD309m from other lenders).

Some of the distinct features of how the Rewa project was contracted and structured as a result of IFC's support to the state entity includes:

- Introduced best practices into the contract design, particularly in terms of the risk allocation to minimise and share risks across parties;

- Developed unique power scheduling protocol across procurers. This raised the credit profile by integrating Delhi Metro as the procurer along with the utility;
- Applied global best practice for environment and social impact assessments and mitigation actions (beyond what is required by Indian law) to minimise opposition to the project;
- Carefully managed, planned and coordinated the public sector components of the project in advance, such as evacuation infrastructure planning;
- Adopted a professional bidding process, including redesigning the online auction process, and advertising it at road shows, investor marketing and pre-bid conferences.

The Rewa project has become a model across India for other large-scale solar projects. For example, national guidelines on tariff-based bidding now include elements from the Rewa structuring. It also demonstrated the potential of inter-state sale of renewable energy, with Delhi Metro buying power from Rewa, which has become central to national and state government strategy and practice. IFC's support to RUMSL over that period significantly enhanced their capacity to carry out complicating project preparation and procurement processes. As a result, they have since taken initiatives on their own without IFC's support, including leading a landmark rooftop solar tender, and developing a 1500MW solar project with Indian railways.

IFC's contribution to this flagship renewable energy project has helped ensure its success, but also its wider impact and influence. For SDIP it offers large-scale and quantifiable results against the objective of mitigating climate change. Due to IFC's own internal accountability and reporting systems, the process and outcomes have also been well documented. With approximately AUD600,000 of SDIP funding, IFC were able to leverage a total of AUD575 million for various parts of the project. It also therefore demonstrates significant value for money.

Alignment to SDIP outcomes

IFC's support to the Rewa project has had a significant impact both in terms of ensuring the solar project was well designed, sustainable, and delivering solar energy at a low cost. It has built the capacity of the state government entity to design and procure other solar projects and has also informed national practice. However, it is less clear how this project fits within the stated purpose and end-of-investment outcomes of SDIP.

Firstly, there is no immediate regional dimension to IFC's support to the Rewa project. The IFC team have discussed with their counterparts in other countries, such as Pakistan and Bangladesh, their experiences with the Rewa project, however the other countries are waiting for a mandate from the government to provide advice. The IFC team are interested to scale-up from inter-state procurement, to cross-border purchasing with neighbouring countries, but they think the political barriers are too high currently.

Secondly, this is clearly and solely an energy sector project, and it does not easily fit within the integrated nexus framing of SDIP. In the project specifications, as well as the environmental impact assessments that were carried out, the IFC team did make a careful consideration of the use of water resource efficiency and tried to encourage the market to propose technological solutions for water efficiency. However, this was not a primary focus of IFC's support.

Finally, there is no obvious learning from Australian expertise or experience that has contributed to this project. IFC appreciates SDIP for its long-term funding commitment (which they view as a 12- year commitment) and its flexibility and less burdensome accountability and reporting systems (compared to the IFC's internal systems). This meant the IFC management team had a higher level of tolerance for experimentation in the project. However, there was no apparent Australian expertise involved, nor inputs from the SDIP advisors. The relationship between SDIP and the IFC is primarily at the level of the coordinator for the program in IFC, and not the individual teams delivering projects such as this one. There was also no indication that India could learn from Australia on the structuring and procurement of large solar projects.

Annex G Case study 2: Integrated water resource management

Background

Australia's partners CSIRO and ICE WaRM have been instrumental in leading the engagement with key agencies in Pakistan and Nepal on improved water resource management. This engagement has laid the foundation for a transition to Government to Government relationships that are reflected in MOUs, both of which reference the link between water, energy and food, and the importance of considering gender and climate change. This pattern is being repeated in Bangladesh wherein a Letter of Intent is being prepared for signature between CSIRO and the Water Resource Planning Organisation (WARPO). This is a key stepping-stone to a potential Government to Government MOU.

Major achievements

The Indus River System Model, developed by CSIRO in collaboration with central and provincial governments in Pakistan, has been endorsed by the SDIP Strategic Advisory Group (which includes several different Government of Pakistan Ministries) as a potential common water modelling framework for the Indus Basin. This provides for a real break-through in the way in

Key achievements of CSIRO in Indus River basin

- An Indus River System Model
- Water Apportionment Accord (WAA) tool
- Food security analysis and Agricultural production systems research
- Gender and socio-economic analysis
- Surface and Ground water quality analysis
- River, cropping system, data management and gender research capacity building workshops
- Reports, research papers and data/knowledge products

which Pakistan addresses its water management challenges. To date, the securitisation and politicisation of water has meant there has been little to no data sharing between provinces. This, coupled with the recently launched Pakistan National Water Policy (for which Australia can also claim some influence), provides essential building blocks for intra national resource sharing. This is critical for Pakistan's growth agenda.

CSIRO and ICE WaRM have been working with key government organisations and the private sector to develop new tools and approaches to managing natural resources and to promote good practices around the collection and management of data. These are considered to be some of the essential 'pre-conditions' for strengthening cooperation (though most of the focus to date has been on strengthening practices at the provincial level (i.e. within countries)). The benefits of an investment with a long-term horizon are starting to be realised and good progress is evident, particularly in the area of integrated water resource management (IWRM), with national governments (including the Government of Nepal and the Government of Pakistan) increasingly adopting IWRM principles into their planning and policy frameworks.

There is evidence of good progress, with representatives from the Government of Nepal presenting the jointly authored Kamala Basin field trip report to the Australian Ambassador, which explicitly integrates IWRM principles and practices. A representative of the Water and Energy Commission Secretariat (WECS) co-authored and presented the methodology for the Kamala Basin Planning Initiative at a conference in Kathmandu in May 2018, reflecting WECS taking greater ownership of the Kamala Basin Initiative and demonstrating improved technical capacity in IWRM.

Contribution to climate change and gender

SDIP has contributed to the Climate change knowledge base. Modelling and climate information systems strengthened across several basins (CSIRO, ICIMOD, and SAWI). For example, it has supported in improved understanding national/provincial water impacts in Pakistan/Bangladesh. Australia and Nepal have established a Joint Advisory Committee (JAC) on Water Resources Management to guide Australia's water sector development assistance and is an increasingly useful vehicle for discussing strategic government to government initiatives.

Gender equality and women's empowerment being actively considered and promoted by all SDIP partners, with considerable progress relative to the difficult context. Nepal's National Water Policy specifically refers to the importance of including gender and social inclusion, which is an issue that Australian partners (CSIRO and ICE WaRM) have been promoting with the Government of Nepal over six years. In addition, technical training on gender equity is also being made available for water managers in the region, including through a short course on gender equity delivered by TERI School of Advanced Studies in India with support from ICE WaRM. The conference "Resilient Hindu Kush Himalaya: Developing Solutions towards a Sustainable Future for Asia" in December 2017 brought stakeholders from different levels together to discuss science, policy and practice, and incorporated a specific session on gender.

Contribution to public diplomacy

Australia is also considered to be a trusted source of technical expertise for the Government of Pakistan, with considerable investments made by ICE WaRM and CSIRO to build relationships and provide technical support to government ministries, including the Ministry of Water and Power and the Water and Power Development Authority.

Australia's diplomatic presence was used to promote Australia's profile and reputation within the region. In Nepal, the Australian High Commission played a key role in securing the participation of the Minister for Energy and other high-level officials from the Government of Nepal in a high-level study program to Australia led by ICE WaRM, providing an opportunity

to share Australia’s knowledge and expertise in hydropower and our unique approach to energy markets. In Pakistan, the Australian High Commission facilitated several opportunities for CSIRO to share Australia’s expertise in water resource management with key government stakeholders. For example, the SDIP Indus team presented their work to the Punjab Planning Minister, Secretary and Planning and Development and participated in the Australia-Pakistan Joint Trade Meeting in Canberra (at the invitation of DFAT). The AHC also hosts ‘chai and chat’ meetings of water-related development partners and engages strongly with various water- food-energy-environment-climate change Ministries, the judiciary and CSOs.

Ownership of ICE WaRM work

- Discourse on water policy and governance through investment in people and process
- Building Australia’s water profile –and SDIP partners
- Achieved high level impact with proportionally smaller investment to other countries
- Focus on not just water –but also food (livelihoods) and energy.

Conclusion

CSIRO and ICE WaRM have made significant contributions based upon their niche expertise and points of opportunity. This includes policy and practices in integrated water resource management (IWRM) in Pakistan and Nepal and Bangladesh; These entry points are underpinned by a more integrated-systems– and the knowledge that addressing this complex set of insecurities/instabilities will take a number of different entry points, operating at different scales.

Annex H Case study 3: Agriculture and ground water management

Background

ACIAR is working to maximise agriculture's contribution to sustainable food systems for improved food, energy and water management. This work focuses on the Eastern Gangetic Plains (EGP) of Bangladesh, India and Nepal. The program-level objectives focus on collaboration and understanding of longer-term changes to food systems, identifying and promoting effective institutions, filling knowledge gaps at a range of scales for better decision making, and optimising learning from scaling.

CSIRO is working in Bangladesh for research partnerships to support sustainable groundwater management or coastal salinity improvement or integrated solutions to improve water quality.

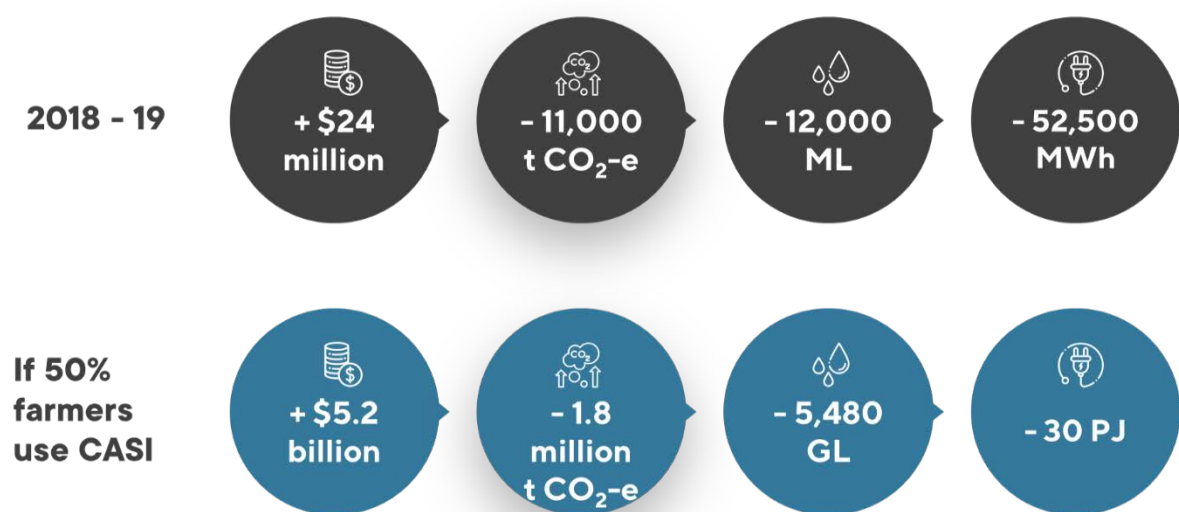
Key achievements of ACIAR

Continued scaling of conservation agriculture based sustainable intensification (CASI) farming practices that increase productivity and farm incomes and have emission reduction benefits. In 2018-19 the project reached a further 78,496 households (22% women) with 43,319 households using the techniques, bringing the total to 219,192 farming households exposed to CASI technique and up to 90,000 farmers (26% female) now using more productive, profitable and gender inclusive farming systems. The cumulative impacts of this adoption over the past five years include an additional AUD23.8 million in increased farm level profits; 11,000t.CO₂-e mitigated, and 11,926 ML water saved.

The most significant success with scaling out of CASI has been in West Bengal, India, a priority state for Australia as identified in the India Economic Strategy. The institutional partnerships developed, and convergence with national and state government programs on agricultural development, have ensured sustainability. Adoption of CASI will have significant impact on rural incomes, water savings and reduced carbon emissions.

An interim report on shows that CASI based systems build resilience to climate change and have reduced the emissions footprint of food production systems in the EGP by 6 - 18%. Emissions reductions vary by cropping system (i.e. for individual crops, CASI techniques reduce emissions on average by 14% for wheat, 10% for maize, 18% for lentil and 8% for rice), and so any changes to the cropping system can have wider impacts on the carbon intensity of the agricultural sector. There is potential for significant impact if CASI systems are adopted widely; for example, increasing the use of CASI to 20% of the area of rice, wheat and maize systems would increase productivity by almost 2 million tonnes, generate more than AUD2 billion in farm profits, reduce irrigation water use by over 2,000 GL, reduce energy use by over 12 PJ and reduce carbon emissions by over 740,000 tonnes of CO₂-e (Annexe 4). CASI systems also have a positive impact on both the amount and types of carbon present in the upper soil layers.

Impact of scaling farming systems change- ACIAR



5

ACIAR, has specifically targeted women farmers and designed gender sensitive approaches and training in their roll out of climate resilient agriculture. The analytical studies Created new approaches to research and new knowledge which promotes a more nuanced macro-micro understanding of women’s roles in agriculture in the EGP across Bangladesh, India and Nepal. This research challenges policy makers, academics and donors to ensure they target their interventions based on an appreciation of both macro and micro drivers affecting the success of women farmers.

Key achievements of CSIRO

CSIRO has focused on improving the understanding of the causes of declining groundwater levels on agricultural communities, projected impacts of climate change and how different types of farmers can cope with these changes so that effective policies can support the marginalised and vulnerable. The work has included improving crop monitoring practices of the Bangladesh Agriculture Research Institute (BARI) through machine learning and big remote sensing data mining using a supercomputer. Availability of improved monitoring data enabled the introduction of improved and multidisciplinary modelling methods at the national water modelling agency in Bangladesh (Institute of Water Modelling, IWM). A key finding has been that – contrary to popular belief that irrigation expansion has caused groundwater decline – reduced rainfall and declining deep drainage (that contributes to groundwater recharge) are key reasons for declining groundwater in the southern districts of the region, while there is no current scientific reason for concern in the northern districts. It is expected that the possible rainfall decreases and increased evaporative demand due to climate change may exacerbate groundwater declines in the future. These insights are useful to understand how farmers can adapt to a changing environment.

Research was also undertaken to understand perceptions of gender-based contribution to agricultural activities in northwest Bangladesh. While men perceived women did not participate much in farm activities across a range of crops, women felt they contributed significantly in the production of wheat, maize and vegetables. These differences in perception must be considered to promote changes to the farming system.

Public diplomacy gains

Engagement with, and mentoring of, key institutional structures (BARI, BMDA, IWM, BAU etc.) responsible for water management in Bangladesh has created opportunities for high-level knowledge

exchange and diplomatic engagements between Australia and Bangladesh. For example, CSIRO arranged a high-level exposure visit of Bangladeshi water planners in September 2018 to Canberra to learn about Australia's rich expertise in water management. Bangladesh's High Commission in Australia visited CSIRO in Canberra to learn about our scientific achievements and reiterated that science-based collaboration can contribute to making Bangladesh one of Australia's top 15 trading partners. CSIRO signed a Letter of Intent with Bangladesh's apex water planning agency on IWRM during the year. These efforts provide an entry point for Australia to engage in policy and planning spheres and create commercial opportunities for Australia.

ACIAR has heightened the public diplomacy within countries. Julia Niblett, Australian High Commissioner to Bangladesh celebrated International Women's Day (8th March 2019) with women farmers of Mondolabari and surrounding villages in Rangpur District, a part of the ACIAR SDIP SRFSI project. The women farmers, including Lucky Begum, showed how

Benefits of scaling sustainable farming systems to address challenges in the wider food system

- West Bengal is a good example for where we are getting the best traction
- Australia is recognised for its expertise in dryland and water efficient agriculture globally. This enables Australia to broker relationships and partnerships, bring credible science and long-term visions to help partners connect from local level up to policy.
- ACIAR's work in West Bengal is deeply valued and appreciated by local partners and the policy makers at the highest level, for eg the Chief Minister and her agricultural advisor. There is tremendous scope to leverage the work that is being done in the state and link it with Australia's foreign policy, trade and diplomacy agenda in India. West Bengal is one of the priority states of the India Economic Strategy and agri-business is a focus sector.
- ACIAR's significant work on business innovations with women farmers is valued by the Government and matches Australia's India Economic Strategy and provides opportunities for public diplomacy that could be more deeply explored.
- There are be opportunities to link ACIAR's work in West Bengal with the broader global Sustainable Food Systems Agenda.
- The Governments in the region have large investments in agricultural development as 60 to 70% people derive their livelihoods from farming. For eg in the State of West Bengal, govt investment every year is about 2 billion Australian dollars
- The Australia-India Water partnership strategy recognises that it is advantageous to use agriculture as an entry point to engage on policy development e.g. through water-efficient agriculture. It is worth noting that the Ministry of Agriculture in India carries much more weight than the Water Resources Ministry.

women are embracing new technology, participating in pre and post-harvest decision making and extending their entrepreneurial skills. Peter Budd, Australian Ambassador to Nepal, was a special invitee to the second Steering Committee meeting held in Kathmandu in February 2019. The ACIAR SDIP event was covered by a cable sent by Emma Stone, DFAT South Asia. Peter Budd, Ambassador to Nepal attended a high-level Foresight workshop on Federalisation and its impact on agriculture and water on 18 July 2019. Mandakini Surie, DFAT Program manager, New Delhi visited the ACIAR SDIP SRFSI program in Coochbehar, West Bengal along with the ACIAR team. She developed a cable for the DFAT system on the visit, focussing on women in agribusiness.

Conclusion

The work of ACIAR and CSIRO in Bangladesh is very significant. Examples of this include ground water research work in Bangladesh; and climate resilient agriculture across the Eastern Gangetic Plains of India, Nepal and Bangladesh. There is huge scope for replicating these learnings to a larger geographical area and working with government stakeholders.

Annex I Case study 4: Enhancing climate adaption & disaster risk reduction

Background

The Hindu Kush Himalaya (HKH) is one of the most dynamic and complex mountain systems in the world. It is also extremely fragile and sensitive to the effects of climate change. It is believed that climate change and other drivers of change are gradually increasing the frequency and magnitude of extreme weather events and natural hazards in the region, which is leading to higher levels of risk and uncertainty. Flash floods are a recurring hazard in the highlands which can cause loss of life and damage to property. Because governments tend to monitor floods on larger rivers and develop early warnings at the global, regional, or national level, floods in small rivers and tributaries strike with little or no warning and are often more disastrous. The Hyogo Protocol and the United Nations Framework Convention on Climate Change (UNFCCC) Special Report on Extreme Events and Disasters (SREX 2012), notes that timely and appropriate information does not reach the most vulnerable communities.

In Gilgit-Baltistan (GB) in northern Pakistan, which is home to 12 of the world's 30 tallest mountain peaks including K2 and Nanga Parbat, approximately 46% of the population in the 250 villages surveyed are at risk from different natural disasters including glacial lake outburst floods (GLOF) and flash floods. Natural disasters are considered a major hindrance to local development, affecting infrastructure and the functioning of schools' health facilities and other community institutions. Hence, timely warnings can go a long way in saving lives of humans and animals and safeguarding infrastructure.

ICIMOD's Response

To address vulnerability of communities in GB to natural hazards and enhance knowledge and capacity related to climate change impacts and adaptation, ICIMOD, under the Indus Basin Initiative (IBI) initiated the "Agriculture water, energy, and hazard management in the upper Indus basin for improved livelihood and building resilience" project, with support from SDIP. The objective of this project is to build resilience to climate change impacts by improving understanding of climate change, cryosphere, and water resources and strengthen regional cooperation and networks to develop water management solutions. The three components of the initiative include: (i) develop mechanisms for regional cooperation for sharing scientific knowledge, including for flood protection; (ii) create and use existing knowledge to address the food, water, energy nexus in the context of climate change for up and downstream basin populations; and (iii) promote best practices, capacity development, and innovations aimed at strengthening adaptive capacities of communities including support for community based flood early warning system (CBFEWS).

Knowledge, Research, and Coordination Platforms

The Upper Indus Basin Network (UIBN), an informal knowledge and research network of national and international researchers working in the Indus basin, was created in 2012 to foster coordination in research related to climate change, cryosphere, water hazards and vulnerability. The Network is guided by a strategic committee, a group of advisors, and technical working groups in six thematic areas: data collection, quality and sharing; climate and air pollution; cryosphere and black carbon monitoring and modelling; hydrology, and water availability and demand; hazards and risks; and managing socioeconomic impacts through adaptation. This platform has led to cooperation between interdepartmental and interprovincial departments, and national and international organisations on different issues related to data sharing, climate change impacts, glacio-hydrology, and disaster risk reduction. This is a significant achievement given that the work of concerned organisations (especially at the National level) was tangentially focussed on the upper Indus basin with little to no information sharing or coordination, which in many instances led to duplication of work.

Owing to the success of UIBN in bringing together and building trust between different stakeholders to advance cooperation through information and knowledge sharing, country chapters of the UIBN were created in 2018 in Afghanistan, China and India to replicate the experience in Pakistan. Given the positive contribution made by the UIBN, the World Bank suggested creation of another forum for coordination and knowledge sharing between organisations (working on water and climate change related issues) in the lower and upper Indus basin. This led to creation of Indus Basin Knowledge Forum (IBKF).

The purpose of the Forum, which has convened four times since its creation, is to assess the current state of knowledge, to push forward 'knowledge frontiers', and to explore ways of consolidating, strengthening and cooperating more effectively around scientific knowledge production and dissemination across the basin. Together, both platforms (UIBN and IBKF) are supporting and contributing to establishment of a baseline of knowledge and understanding on challenges, future impacts and possible responses for Indus basin development that works for all its resource users.

The level of interest shown by various stakeholders, particularly relevant government organisations, through their participation and contributions in both the Network and Forum, indicates the importance governments are attaching to domestic and regional knowledge-sharing and cooperation. That from little to no cooperation, government agencies are now increasingly engaged is testament to the years of hard work and steady persuasion carried out by ICIMOD. Stakeholders now appear convinced of the value of working together to address common threats and challenges.

Hazard Management at the Community Level

To supplement the knowledge sharing and regional cooperation, ICIMOD also led piloting of a four people centred hazard management in GB based on the success of its previous experience in implementing CBFWS in Nepal and India. CBFWS is an integrated system of tools and plans to detect and respond to flood emergencies that is managed by communities. Communities are trained to monitor flood warnings through a simple device installed upstream of a flood-prone river or stream. The device (station) measures rainfall

and water levels, and detects increasing water level beyond normal level, which it then communicates through a siren and/or by sending an SMS. As water level rises in the river or stream, an early warning is generated at the house of a pre-designated “caretaker”, who then relays the warning to downstream communities through pre-established channels to enable individuals, communities, and organisations threatened by flood hazards to prepare and take action to reduce harm or loss to life and property.

In the early hours of 3rd August 2017, such a system generated a flood warning siren in the village of Sherqila, one of the four pilot locations for the CBFEWS. The sound of the loud siren woke up the 2,800 people living in 350 houses, who knew immediately that they had an hour or so in which to evacuate to avoid getting swept away by an impending flood. In a short time, the entire community, led by pre-designated community guides, evacuated to high ground, taking with them 2000 heads of livestock and precious belongings, before the flood had reached even the upstream-most part of the village. In the absence of the EWS, the community felt certain that many people, and livestock would have been swept away. Subsequently, loss of life and property was averted in two other pilot locations, when the siren triggered by rising water levels set off the siren prompting people to move out of harms.

In the Future

Recognising the role these simple but effective systems played in saving lives by broadcasting timely warnings, the GB Disaster Management Agency with the help and support of ICIMOD partner, the Aga Khan Planning and Building Services (AKPBS), has decided to scale up CBFEWS. In its first phase this will be to 28 vulnerable locations (communities) in GB, and based on experience with this roll out, there are plans for further expansion to other vulnerable communities across GB. For its part, AKPBS hope to introduce elements in future roll out of the system to factor in the needs of marginalised and vulnerable groups (e.g., elderly, disabled) in pre-and post-disaster situations.

Annex J DFAT's standards

DFAT has comprehensive policies, guidance and standards in place that are designed to ensure that: (1) M&E practices and products meet DFAT's information needs; (2) performance feedback is available to inform SDIP's management practices and drive the continuous improvement of investments; and (3) external accountability requirements are satisfied. The key DFAT design and M&E requirements are specified in the following sources:

- The Aid Programming Guide's glossary of terminology (e.g. explains what an end of investment outcome is and how this differs from an objective, DFAT uses the term 'program logic' rather than 'theory of change', and so on)
- The 2019 DFAT-Led Design Investment Design Template (e.g. this specifies how outcomes need to be stated to ensure that they are measurable, and the minimum required standards for M&E at the design stage)
- DFAT's 2018 Explanatory Note on Program Logic (e.g. this explains how investments are meant to be structured, specifies the quality standards for program logic models, shows how program logic supports M&E, and how program logic is meant to be used to support the continuous improvement of an investment)
- DFAT's 2017 monitoring and evaluation standards (e.g. standards 1, 2 & 3 are particularly relevant to SDIP)
- DFAT's 2018 guidance note for Performance Assessment Frameworks (e.g. this includes a suggested PAF template, explains how program logic relates to a PAF, and specifies quality standards for performance indicators)
- DFAT's M&E training materials (this explains how the above guidance and standards are to be applied in practice).

These standards and guidance materials are updated every few years by DFAT. However, the underlying principles and requirements have not fundamentally changed since 2012.