

AWP India Investment Strategy

2018–2023 (v2.0)



THE
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PARTNERSHIP

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1 Introduction

Australia's relationship with India is a high priority for the Australian Government, and water is placed as a key element of this relationship. Correspondingly, India has been identified as a priority geography for the Australian Water Partnership (AWP). Second only in size to Myanmar, AWP's India program has to date comprised 38 Activities; 21 Activities with a total value of \$1.73M as part of Phase I and 17 Activities with a total value of \$2.68M as part of Phase II. Strong demand from Indian water agencies for Australian expertise, Australian Government priorities, and opportunity for impact mean that India will continue to be a priority for AWP to 2023.

The first AWP India Investment Strategy (2018-2023) was developed in early 2018 based on a workshop with AWP Partners. The Strategy was endorsed by the AWP Advisory Committee (AWPAC) in April 2018.

The AWP India Strategy aims to:

1. Describe why India is of strategic, diplomatic and development importance to the AWP
2. Build on lessons learnt from AWP activities in India to date
3. Provide a snapshot of AWP's current program in India
4. Define AWP's short, medium and long-term outcomes in India
5. Outline a set of strategic directions and outcomes for AWP's future investments in India
6. Provide a Work Plan for the year ahead (updated annually).

In January 2019, AWP completed a review of its India Strategy in consultation with key stakeholders, including the Australian Department of Foreign Affairs and Trade (DFAT) India Posts, Government of India (GoI), Ministry of Jal Shakti (MoJS)¹, and our Australian and International Partners. During consultations, no stakeholders identified a need to revise AWP's intended outcomes in India. Hence, in this version of the Strategy we do not propose any changes to the outcomes but continue to build the strategy around establishing pathways to achieve these outcomes. One of the key recommendations from the review was to develop an Annual Work Plan to operationalise the Strategy by providing further detail on planned proposals, activities to implemented, partnering and a summary of events of interest for each year. This Strategy 2.0 includes the Annual Work Plan 2019-20 for AWP's engagement in India in Chapter 6. The Work Plan provides a summary of:

- Ongoing Phase 1 investments in 2019 – funded through AWP Core Grant Phase 1;
- Phase 2 investments implemented in 2019 – funded by AWP Core Grant Phase 2;
- Remaining Phase 2 investments to be implemented in 2020;
- Emerging opportunities for consideration in 2020 and beyond;
- Key events for AWP engagement.

Risks and mitigation measures for the Strategy are also presented in Chapter 7.

The AWP India Strategy 2.0 looks out to 2023 (end of Phase 2 funding) and beyond to 2030 to align with the UN's Sustainable Development Goals.

¹ In May 2019, the Ministry of Jal Shakti (MoJS) was formed by merging of two ministries; *Ministry of Water Resources, River Development & Ganga Rejuvenation* and *Ministry of Drinking Water and Sanitation*.

2 Strategic context

2.1 Water as a strategic issue for India

India is facing a set of severe water challenges, with demand expected to outpace supply by 50% by 2030 unless major water management reforms are undertaken. Surface water is commonly over-allocated and groundwater is being extracted at unsustainable rates, particularly for agricultural use. The agricultural sector accounts for more than 90% of total water use, and with a growing population, the demand for water for agriculture is rapidly increasing. Water quality is declining due to urban waste and untreated sanitation and industrial pollution. Droughts and floods claim many lives each year, and climate change evidence suggests the frequency and severity of both are increasing.

2.2 An India Economic Strategy to 2035

In July 2018 the Australian Government released “An India Economic Strategy to 2035: Navigating from Potential to Delivery”. The report outlines the need for Australia to engage with India as one of the fastest growing economies in the world and suggests that Australia should set itself the goal by 2035 to lift India into its top three export markets.

AWP is mentioned in several sections of the Economic Strategy as bringing Australian water sector expertise together to support collaboration with Indian entities and multilateral organisations. Whilst the report takes a view of economic rather than development opportunities in India, it helps to identify the areas where Australia has expertise that is in demand and therefore should be a focus of AWP.

The Economic Strategy builds its recommendations around a ‘sectors and states’ focus. It identifies 10 sectors where Australia is identified as having competitive advantages: a flagship sector (education), three lead sectors (agribusiness, resources and tourism) and six promising sectors (energy, health, financial services, infrastructure, sport, science and innovation). Whilst water is not listed as a key sector, it is recognised as an important area of Australian expertise that cuts across many of the key sectors including agribusiness, energy, health, infrastructure, education and science.

Whilst the Economic Strategy recognises the importance of the Indian Central Government in setting the macroeconomic policy framework, it identifies the states as having control over many of the aspects that make working in India easy or difficult; for example, the provision of infrastructure and the application and interpretation of regulation. The Economic Strategy therefore identifies 10 states that Australia should focus on based on their ease of business and Australia’s competitive advantages. There is good crossover with the states that AWP is working in including Andhra Pradesh, Karnataka, Telangana, Maharashtra and the National Capital Region of Delhi (which includes part of Rajasthan).

The key messages related to water outlined in the Economic Strategy largely confirm the AWP focus to date and include:

- The Economic Strategy recognizes AWP as an initiative that is already having success in India and AWP is put forward as a potential framework to be replicated in the health sector; Water scarcity is one of the key challenges facing India and new models for water resources management, water infrastructure development and wastewater management will be required in India to meet the needs of urban consumers, agriculture and industry;
- Australia should contribute to helping the Indian agriculture sector deal with water scarcity through policy engagement, research, water information systems, water use efficiency, water governance and irrigation projects;
- Australia needs to “Increase the priority of engaging India on urban water management” as India has a dire need for more efficient water use and management in urban areas. Australia

should contribute to urban development through its competitive advantages in innovative water resource management, industrial and urban water recycling and treatment systems;

- Engagement on water management requires government to government collaborative frameworks, such as the MoU on Water Resources Management between Australia's Department of Agriculture (DA) and India's Ministry of Jal Shakti (MoJS).

2.3 India-Australia MoU on Water Resources Management

As outlined in the AWP India Investment Strategy (and re-iterated in the India Economic Strategy), formal cooperation on water matters is undertaken through an MoU on Water Resources Management managed through the Australian Department of Agriculture (DA) and MoJS.

Work under the MoU is planned and managed by a Joint Working Group (JWG), which meets biennially. Since the development of the first AWP India Strategy, a Joint Working Group (JWG) meeting was held in July 2018.

The JWG meeting was attended by the Secretary of the then Indian Ministry of Water Resources (MOWR) and Deputy Secretary of DA. Topics covered included an overview of water management in Australia with a focus on basin planning, environmental flows and water quality management; current issues in India on water resources management with a focus on NHP, groundwater and the Ganga; existing Australia/India water cooperation; urban water; and identification of key priorities for future cooperation.

The parties agreed to jointly develop and progress a couple of small initiatives as a sign of mutual commitment to ongoing cooperation, these included i) irrigation efficiency pilot project, ii) Brahmani-Baitarni Integrated Water Resource Management Phase 2. Work to progress these activities on the ground has largely been led by the Delhi Post.

The next step in project development was further discussion between Australian and the concerned Indian States for exploring the feasibility and development of the projects, including funding. AWP is not involved in either identifying proposals, Australian Partners or subsequent negotiations with Indian States. It is expected that any funding requests to AWP for these concepts will be for seed funding only as there are already considerable resources at India's disposal in these areas.

2.4 DFAT India water strategy

Given the importance of water in the Australia-India relationship, the DFAT India post has a DFAT Australia – India Water Strategy that sets out the approach and partnerships that DFAT's India posts will pursue to achieve strategic objectives related to water in India. DFAT has been updating the strategy. The revised strategy will emphasise changes to the Indian policy, including the creation of MoJS and increased focus on water use efficiency (particularly in agriculture), urban water and wastewater reuse. These focus areas are well aligned with AWP's existing and prospective Activities in India.

2.5 Australian state strategies for engagement with India

India strategies have been developed by New South Wales (NSW), South Australia, Victoria and Western Australia. Most of these strategies cover water issues (Table 1). The AWP India Strategy 2.0 has been developed to align with the existing India strategies, whilst focussing on the AWP Strategic Plan (2018-2023).

2.6 Other Australian water related initiatives in India

In addition to the engagement through government, there have been numerous engagements through research and training institutions, NGOs and the private sector. Both these government and non-government initiatives support a strong basis for further engagement on water issues.

Table 1. Existing Australian Government Strategies for engagement with India

Strategy	Description	Relevant water focus
Australian national government (DFAT) – India Economic Strategy	The Strategy focuses on the economic opportunities India presents.	<ul style="list-style-type: none"> • In late 2017, DFAT called for submissions on how Australian expertise can be utilised to support economic reform in India (including water)
DFAT Australia – India Water Strategy	This Strategy sets out the approach and partnerships that DFAT’s India posts will pursue to achieve strategic objectives related to water in India.	<ul style="list-style-type: none"> • Assist India to improve sustainable management of water resources • Position Australia as India’s partner of choice in water resources management • Support greater commercial engagement in India’s water sector by Australian entities
New South Wales – India International Engagement Strategy	The NSW government seeks to grow their relationship with India across trade, investment, education, tourism, planning, culture, partnerships and infrastructure.	<ul style="list-style-type: none"> • River Basin Management in Maharashtra • Water Security in Gujarat • Information exchange on irrigated agriculture and water management • Attract Indian investment in NSW research programs and commercialise research in key industries including water
South Australia – India Engagement Strategy	The SA Government’s vision is to enhance and deepen economic engagement with India and build a long-term mutual partnership encompassing investment, trade and business, education, sport, culture, the arts and sciences including an exchange of people, skills and ideas. South Australia has extensive experience and knowledge in the water sector and therefore water management is a key focus in their strategy.	<ul style="list-style-type: none"> • Support for cleaning of the Ganga River including investment in water and wastewater management • Partnership with Rajasthan on water reform, improving water management and water resources • Information exchange on water management • Support for Smart Cities focussing on wastewater and urban reform

	South Australia Government has developed a draft International Water Strategy that is currently being passed through cabinet seeking funding. Elements of this strategy will be applicable to India if/when it is implemented. Possible new SA Water Council to be established.	
Victoria – Victoria’s India Strategy: Our shared future	Victoria seeks to be a valued knowledge and business partner to India, supported by India-capable businesses, strong ties to leaders and sustained connections with the community and public sector.	<ul style="list-style-type: none"> • Information and policy exchange on water management, irrigation and agriculture technologies- particularly in regional areas • Water management collaborations with Maharashtra, Karnataka, Tamil Nadu, Telangana and Andhra Pradesh
Western Australia – Sister State Agreement with Andhra Pradesh	In December 2016, the Governments of the states of Western Australia and Andhra Pradesh committed to working together in mining, agriculture, energy and education through the signing of a new Sister State Agreement.	<ul style="list-style-type: none"> • Current key focus on agriculture and fisheries, specifically on ‘agribusiness’.

Table 2. Existing engagement pathways for India-Australia water cooperation

Engagement pathway	Agency/Organisation	Area of engagement
Federal Government	DFAT	Plays a pivotal role interacting regularly with senior officials and Ministers of Central and State Governments, research institutions and private sector entities. Provided significant funds through SDIP, may be opportunities to building on these investments.
	DA	The Water Division (currently residing within DA) is the counterpart policy agency to India’s DOWR, River Development and Ganga Rejuvenation (under the MoJS). Holder of the MoU on water resources management with the Indian Ministry of Water Resources
	Austrade	Promotes and supports Australian businesses to pursue commercial opportunities in India

State Government	New South Wales Government	MoU with states of Maharashtra and Gujarat. Water and waste management are key areas of cooperation
	South Australian Government	MoU with Rajasthan which supports Water Centre of Excellence MoU with Maharashtra for cooperation in the water sector
	Victoria Government	Relationship with Karnataka
	Western Australia Government	MoU with Andhra Pradesh with a water related focus on water sensitive urban design
Government agencies/programs	Australian Water Partnership	Promotes and supports Australian water resources expertise to meet demands from India. Further detail on existing investments provided in Section 1.4.
	South Asia Sustainable Development Investment Portfolio (SDIP, funded by DFAT)	Aims to improve the integrated management of water, energy and food in three major Himalayan river basins—the Indus, Ganges and Brahmaputra—covering north-east Pakistan, northern India, Bangladesh, Nepal and Bhutan. Current phase due to end in June 2020.
	Commonwealth Science and Industry Research Organisation (CSIRO)	River basin modelling and management with a focus on the Bhramni-Baitarni Basin. The first phase funded through SDIP 1 (2012-16). Discussions are underway between DFAT, CSIRO and the Central Water Commission to progress a phase 2, as agreed by Australia and India following the JWG meeting in July 2018.
	Bureau of Meteorology (BoM)	Flood forecasting and weather services with a focus on working with the India Meteorological Department. Funded by DFAT and AWP.
	Australian Centre for International Agricultural Research (ACIAR)	Conservation agriculture and sustainable intensification farming systems. Joint DFAT /ACIAR funding under SDIP. Irrigated agriculture, groundwater and climate change interactions co-funding with AWP.
	eWater	River basin modelling and integrated water resources management at the state level with a focus on Maharashtra and helped establish the Advanced Centre for IWRM in Karnataka. Funded through Government of Maharashtra, ADB and DFAT. MoU with the Indian Institute of Technology Delhi to develop a Centre of Excellence in eWater Source modelling.
	International Centre for Excellence in Water Resources Management (ICEWARM)	Capacity development and training in water resources management. Assisted with the set up the Rajasthan Centre of Excellence in Water Resources Management. Funded under SDIP.

3 AWP context

3.1 Why should AWP invest in India?

There are several reasons for identifying India as a priority country for AWP investment. These include:

- **Australian Government priorities:** India is one of DFAT's highest priorities for country engagement for a range of security, humanitarian and economic reasons. As a key instrument of Australia's water-related foreign policy, trade and aid strategy, it follows that AWP should also focus significant attention on India. DFAT has made it clear that they see great strategic value in 'water diplomacy', particularly in India.
- **India's severe water challenges and interest in Australian expertise:** India is facing a many water challenges that already impacts millions of people, potentially leading to instability, conflict and internal migration. In response to these challenges, India is strongly interested in Australia's water resource management expertise and wishes to gain access to it.
- **Maintain momentum built from AWP Phase 1 funding and other Australian engagement pathways:** A solid basis of relationships and achievements has been established through AWP's existing Activities, as well as other Australian initiatives.
- **Opportunity to leverage larger investments:** There are several national water programs occurring in India including the National Hydrology Project III (USD 800M) and the National Groundwater Project (USD 1B). In addition, there are major state programs such as the Maharashtra Project on Climate Resilient Agriculture (USD 600M). These are supported by loans from multi-lateral banks such as the World Bank. AWP places a focus on leveraging Australian expertise to support larger investments and has built relationships with Government of India and World Bank to enable this leveraging to occur.
- **Opportunities for Australia's private water sector:** India's huge population, rapid modernisation and growing wealth present future business opportunities for a range of Australian companies if we can become one of their valued and trusted water partners.

3.2 AWP investments in India to date

Since its establishment in 2015, AWP has engaged with India primarily with MoJS and with the World Bank officers supporting water projects in the country. So far, AWP has funded 38 Activities to a total value of ~AUD 4.42M (see Appendix A for full list).

In August 2017, AWP contracted a South Asia coordinator with the aim of strengthening our ability to contribute as a trusted partner to the sustainable management of water resources in India. The coordinator is based in Delhi and is responsible for six key tasks: i) Support the development and successful implementation of AWP's strategy in India; ii) Facilitate progressive development of knowledge about AWP and the Australian water sector offerings within the India water sector; iii) Develop, maintain and strengthen AWP's links with government, development agencies and the private sector in India; iv) Increase knowledge of the Indian water market amongst AWP's Australian Partners; v) Provide informed and trusted advice on proposals for AWP support in India and South Asia; vi) Enhance the quality of AWP Activities in India and countries in South Asia.

The major Activities funded by AWP are:

National Hydrology Project III Support: We have continued to provide assistance to India's MoJS under the National Hydrology Project (NHP) Phase III, financed through the Government of India (GoI) and World Bank.

In 2018–19, we supported three NHP Phase III initiatives: 1) a guide for river basin planning, 2) development of a strategic operating plan for the National Water Informatics Centre (NWIC), and 3) supporting capacity development.

The River Basin User Guide is nearing finalisation after completion of a study tour to the Murray-Darling Basin in November 2018 and a reciprocal mission to India by the Activity team in early 2019. The study tour demonstrated Australia's approach to water resource management with a focus on state perspectives and was attended by eight state Indian Government Officials. The reciprocal mission to India included discussions around shared water infrastructure and water planning processes within Krishna and Godavari States, and sought feedback on the draft User Guide, which will be finalised in early 2020 following the distribution of a high-level version for initiating dialogue with key Indian Officials.

Australian Partners have been assisting an NHP core design team to establish the NWIC. Following initial engagements, the team has been asked to focus on the development of a Strategic Operating Plan for the NWIC, to be finalised in early 2020.

Capacity building is a major component of the NHP which aims to increase the number of specialists in key water management disciplines in Indian government agencies. We commissioned an Australian Partner to develop a proposal for a capacity development program to be delivered under the NHP. The training package has been delivered in India since July 2019 with a focus on groundwater management. The program is being fully funded by the GoI.

Andhra Pradesh: Under the auspice of the Andhra Pradesh-Australia Water Sensitive Cities Partnership MoU, Australian Partners have provided advice to the Government on how water sensitive city principles can be incorporated into the existing city of Vijayawada and new city Amaravati. The Amaravati component is nearing completion with the advice provided at two scales—broader advice for adoption of water sensitive city principles across the city, and specific designs for drainage for the Amaravati Government Complex. Designs for the latter will lead to improved water quality outcomes for the city and in doing so, secures an additional water source and enhances the landscape of the important complex area. More broadly, the activity has led to the development of a 'treatment train' for managing stormwater which implements water sensitive urban design as a continuous water management approach, linking houses to streets and then to water bodies within the central parkland zones.

The Vijayawada component has focused on demonstrating retrofit applications that are transferrable and beneficial to other Indian cities. A pilot project canal and its contributing sub-catchment has been selected and a co-design process was commenced in March 2019 for a water quality treatment train, including a constructed wetland on the banks of the canal that will provide a range of ecosystem services in addition to treating stormwater.

Scaling out of Managed Aquifer Recharge (MAR) and sustaining groundwater use through village-level intervention: AWP has provided support to refine and upscale the outputs of a project recently completed through ACIAR. The ACIAR project focused on training local farmers in groundwater measurement/mapping, rainfall and check-dam monitoring in the Indian states of Rajasthan and Gujarat. Outputs of the ACIAR project have included a 'MyWell' application to display current data alongside historical data for simple comparison, analysis and decision making. During 2018–19, MyWell was refined and updated to include water quality and check-dam water level monitoring along with groundwater level and rainfall monitoring. Version 2.0 of the application was

released in May 2019 and is currently being utilised in India and trialled in Pakistan, Laos and South Africa. The project is expected to provide proof of effective groundwater management strategies through village engagement for further upscaling through the Atal Bhujal Yojana (ABHY) National Groundwater Management Improvement Program. The ABHY Program is aimed at improving groundwater management through community participation to facilitate adoption of efficient water use practices.

The remainder of AWP's investments in India have been of much smaller scale (most less than AUD 50k), focused on supporting Australian water teams to gain exposure in India, targeted strategic or technical assistance to build relationships in country and to scope collaborative projects with Indian partners.

3.3 AWP successes in India to date

Through internal review and discussions with key stakeholders, the following successes to date have been identified.

The focus on one major program – NHP III – has increased visibility for Australian expertise and helped position Australia as a trusted advisor: The National Hydrology Project III is currently the key major water reform project being undertaken in India with funding of more than USD 400M supported by the World Bank. The visibility of AWP and team Australia has increased at the federal and state levels due to NHP-focused Activities implemented in 2018. Now that momentum has been developed, it will be important to continue our efforts to make Australia the partner of choice for the water resources management needs of India. This effort could be expanded to the USD 1B National Groundwater Project as it begins implementation in 2019.

Seed funding has led to further engagement of Australian Partners: Through supporting an initial scoping mission, AWP has assisted an Australian Partner to access NHP capacity building funding.

Whilst the initial scoping mission support by AWP helped start the process, the Partner had to undertake several more interactions with MoJS and WB to finalise the arrangements. Eventually, this support led to Government of India funding, through NHP, for a one-week groundwater training session in India for 30 participants and for 15 participants to travel to Australia for a one week intensive on groundwater management.

Obtaining co-funding from Government of India: The Government of India has committed to funding half of the \$1.2M Godvari streamflow forecasting capacity development program to be implemented by the Bureau of Meteorology. In addition, the Government agencies of the state of Andhra Pradesh have contributed half the funding for water sensitive urban design work in the state. There are other ongoing discussions which may lead to more Activities moving forward with co-funding from Government of India.

Leveraging high level Australian Government interest in Indian water issues assisting in unlocking slow Activity progress: The Australian High Commissioner to India has attended several AWP supported events and has shown a strong interest in progressing water related support to India. In addition, a monthly water related teleconference is hosted by DFAT Post in Delhi and involves representatives from DFAT, DA, Austrade and AWP. High level Government of India support is essential for Activity success in India, therefore AWP and its Activity teams will continue to leverage the high-level India-Australia engagement to encourage high level MoJS buy-in on AWP Activities.

Sustained engagement with government agencies unlocking slow Activity progress: Australian water teams have learnt that it is vital to be flexible in timing, adaptable in focus and to develop a broad constituency of support for projects. On-going and regular engagement (preferably in country) at a range of levels is critical to maintaining relationships and keeping Activities progressing. The in-

country engagements of the NWIC Activity team is an example of how regular interactions to showcase Australian expertise with Indian counterparts can lead to improved understanding of the needs and opportunities for Australian support.

AWP support in India is opening up commercial opportunities for partners: The basin planning support Activity along with coordination by the AWP South Asia Coordinator has helped create commercial opportunities for partners. For example, three Australian Partners have joined with universities in India to respond to recent World Bank and Government of India opportunities for basin planning studies for two river basins.

In-Country presence allowing for sustained engagement: The presence of a South Asia coordinator has been essential for maintaining momentum and increasing visibility of AWP among Indian counterparts. Relationships with MoJS have been strengthened and Australia is now one of the preferred partners for MoJS. This is reflected in the progress of ongoing activities and encouragement from MoJS for increased participation of Australian partners in various commercial opportunities.

3.4 Lessons learned to date

With multiple AWP teams working in India over the past three years, there have been several lessons learned on how AWP can best approach and maximise the impact of its Activities:

- **Be realistic with what we can achieve:** Although we are unlikely to make a transformative impact in India across all water sectors or win a large share of the addressable market there, Australia can certainly make high-value niche contributions. This requires that we differentiate ourselves from competitors, focus on a limited number of carefully-selected opportunities and organise ourselves well.
- **Recognise and respect India's existing abilities:** India is a proud and advancing nation with the world's sixth largest economy growing at 6-7% per annum. Indian water agencies and academic institutions are very capable and expect to engage with us as equals. Indian professionals have proven to be averse to hard-sells from foreigners and have embraced the Government of India's *Make in India* mantra and ethos. India prefers to develop its own solutions and not simply adopt prescriptions from abroad. AWP is more likely to succeed in India if we help them do that.
- **Australian efforts need to be better coordinated:** As outlined in Table 2, there are several Australian government agencies working in India. In addition to the government agencies, there are private sector, NGO and education sector organisations also actively involved. Given the large number of activities, there is a risk of overlapping efforts, and of Australian teams appearing to be uncoordinated. AWP and the Australian High Commission together can assist in developing a more coherent 'One Australia' approach.
- **Sustained engagement with government agencies requires consistent effort and links at multiple levels:** A key challenge in creating longer term engagement in India is that senior staffing arrangements in Indian governmental agencies change regularly and can suddenly disrupt relationships that have taken considerable time and effort to forge. Indeed, some water projects that were catalysed with senior-level bureaucratic support have floundered following staffing rotations. From these experiences, Australian water teams have learnt that it is vital to be flexible in timing, adaptable in focus and to develop a broad constituency of support for projects. On-going and regular engagement (preferably in country) at a range of levels is critical to maintain and deepen relationships.
- **Partnering with local service providers enables more consistent engagement:** Some of the potential benefits of teaming up with local service providers include access to specialist knowledge regarding priority problems and clients in India; local support for assisting with adoption of project outcomes; access to project support infrastructure; and reducing the

overall cost of Australian teams operating in India. Partnerships could be strengthened with education and training institutions, research agencies, specialist technical agencies of government, private water businesses, consulting firms and industry associations.

- **Indian financial contributions to AWP Activities:** AWPAC has taken the view that India, as a fast-developing country, now advanced in many fields, is in a position to co-contribute to AWP activities. Indeed, there is growing evidence that India will fully fund water projects on occasions, and increasingly through tender processes. On the other hand, Australian Partners have on occasion had difficulties in receiving agreed payments from Indian organisations in a timely fashion or at all. Hence adequate financial risk management processes need to be incorporated into all such projects.

3.5 Recommendations from the review of the India Strategy

The review of the India Strategy was completed in January 2019 to: i) Provide an update on Australian government initiatives related to water in India, ii) Review successes to date and how these can be built upon, iii) Identify key challenges and opportunities, and, iv) Identify recommendations for AWP's India Investment Strategy. The key recommendations from the review of the India Strategy are summarised below and provided in detail in Appendix 2:

- **Develop an Annual Work Plan:** To operationalise and put effect to the Strategy, it is recommended that the South Asia Coordinator and AWP prepare an annual work plan that provides further detail on planned proposals to be development, Activities to be implemented, partnering and events for each year.
- **Leverage where momentum has been developed:** Continue to prioritise Activities where progress has been made and there is clear commitment and engagement from Gol to continue.
- **Continue support of in-country Coordinator:** The South Asia Coordinator role should be continued to ensure ongoing relationships, momentum and visibility.
- **Explore alternative Partnerships outside of the Public sector:** As part of its 2019 Work Plan AWP will place a renewed focus on actively explore Partnerships outside of the public sector including with Indian Institutes of Technology (IIT), think tanks such as NITI Aayog, large non-governmental organisations (NGOs) and the newly created River Basin Authorities.
- **Explore possible collaboration with the International Centre for Integrated Mountain Development:** AWP will hold discussions with the International Centre for ICIMOD to identify possible opportunities for collaboration on Activities in India that draws on the expertise of Australian Partners whilst leveraging established presence, relationships and experience. AWP, ICIMOD, DFAT signed an MoU in April 2019 and are currently prioritising investments.
- **Balance the state and national focus:** AWP will continue to work with MoJS to strengthen and improve policy and planning at the national level. This will be balanced by and link to work within four key states Andhra Pradesh, Rajasthan, Karnataka and Maharashtra.
- **Continue targeted technical focus:** AWP will keep its technical focus on areas where high priority for India intersects with where Australia has a competitive advantage. This includes basin planning, water information systems, integrated urban water management and groundwater management. AWP will consider exploring additional technical focus areas of dam safety, water quality and agricultural water management.
- **Diversify between leveraging large programs and piloting smaller-scale interventions:** AWP ensure there is a diversity its investments between emending in large scale programs as well as piloting smaller-scale interventions with potential for upscaling. Options for both approaches will be outlined in the 2020 Annual Work Plan.

3.6 High-level visit in September 2019

The AWP mobilised Rob Vertessy and Don Blackmore to participate in a high-level visit to India in September 2019. This mission was undertaken at the request of the Ministry of Jal Shakti. The purpose of the mission was to engage with the new Indian Water Minister, Hon. Shri Gajendra Shekhawat and Shri Parameswaran Iyer the Secretary, Department of Drinking Water and Sanitation, to discuss river basin management. The context for these discussions was: i) the intention of the Government of India to bring forward a parliamentary bill for the establishment of 13 River Basin Authorities across India, and, ii) the recently announced aspiration of President Modi to provide piped water to every rural household by 2024. These events provide a significant window of opportunity for AWP to increase its influence in India. The mission identified several areas when AWP can make an impact in helping India meet its water security challenges in the future, including:

- **Drafting of new legislation:** senior water policy specialists from Australia could contribute to the drafting of the new water bills, especially guiding the design of the new River Basin Authorities. This involves specifying the appropriate powers, governance, functions, dispute referral processes and modes of operation. Basin modelling and water information management would be key aspects of this support.
- **River Basin modelling:** the emergence of River Basin Authorities provides a good opportunity to enhance and standardise river basin modelling approaches. *Source* could be used to standardise river basin models across the 13 new River Basin authorities and ensure an ongoing relationship between Australia and India. This could lead to Australia's assistance in developing a National Hydrological Modelling Strategy.
- **Water Information management:** engagement at the Secretary and working level is needed to ensure more resources are directed to the National Water Informatics Centre (NWIC) and the need for collaboration with States and establishing a national data sharing agreement. Staff placement could be mobilised at the Bureau of Meteorology (BoM), Murray-Darling Basin Authority (MDBA) and relevant State agencies in Australia for NWIC staff requiring further learning about user requirements analysis, service design and service operation and evolution.
- **Water utility reform:** with a big upswing of water infrastructure delivering to households underway, water utility reforms in India are needed to address regulation, pricing, asset management, governance and other matters. Twinning programs with Australian water utilities could be developed in the future.
- **Commercial opportunities:** there is a huge opportunity for Australian water business to assist the Indian water sector in reaching their ambitious target to deliver water to every Indian household by 2024. Further discussion between AWP, DFAT and AusTrade could determine a strategy for supporting commercial opportunities

4 Outcomes for AWP in India

In planning our future engagement and investment strategy with India, AWP needs to be clear about the high-level outcomes we are seeking and when we expect to realise them. In articulating these, it is vital that they link to the AWP Strategic Plan (2018–2023) and are realistic about how much we can achieve and by when. A set of high-level outcomes to be achieved over a range of time horizons is outlined in Table 3.

Table 3. AWP outcomes in India

Time frame	Outcomes
Short-term (2018–2020)	<ul style="list-style-type: none"> • We have implemented successful Activities in collaboration with Indian partners which provide the basis for India to better manage its water resources • AWP’s intended outcomes in India are understood within the Australian water sector and by our Indian partners • We are well networked in India, understand how the Indian water sector operates and understand what additional capabilities it seeks • We have oriented Australian water sector participants towards India and helped them understand how to operate effectively there • Our initial tranche of Activity investments has built trusted partnerships between Indian and Australian public and private sector actors
Mid-term (2018–2023)	<ul style="list-style-type: none"> • We have implemented successful Activities in collaboration with Indian partners which share Australian water reform experiences, policies, practice and tools to assist India to better manage its water resources • We have supported productive and enduring partnerships between Australian and Indian water sector participants • We have demonstrated the niche capabilities of the Australian water sector and proven their strategic value for improving water management in India • We have increased demand and capacity in India for adopting Australian water sector services • We have improved Australian water sector interest and capacity to access the Indian water market
Long-term (2018–2030)	<ul style="list-style-type: none"> • AWP has contributed to improved management of water resources across various government levels in India including sustained sharing of water reform knowledge, greater capacity of Individuals to implement water reforms and adoption of effective policies, practices and tools • The India and Australia partnership on water resources is an example of good collaboration for aid, foreign policy and trade objectives • Australian water sector partners are winning valuable* engagements in India

* Valuable related to financial, strategic and aid objectives

5 Setting the strategic direction for AWP in India

Drawing on the AWP Strategic Plan, there are six key elements of AWP's strategic direction in India. These are outlined below with an explanation and series of actions to give effect to the strategy.

5.1 Strengthening and diversifying our partnerships

State and National Government

The natural entry point for much of what AWP partners have to offer in India is through central and state government agencies. In India, as in Australia, water management is primarily the responsibility of State Governments, but the lead in developing a national policy framework for water management, investment and coordination is the responsibility of the Central Government. In a country the size of India with 29 States and 7 Union territories, the legislative and administrative arrangements become very complex, so AWP needs to be strategic in its partnerships.

It is vital to have a strong, strategic relationship with the Indian central government. The key Central government bodies with responsibility for water are:

- Ministry of Jal Shakti (MoJS), including the Central Water Commission (CWC), Central Groundwater Board (CGWB) and River Development and Ganga Rejuvenation has the prime responsibility for managing water resources under the National Water Act/ National Water Policy 2012.
- Ministry of Agriculture has responsibility for watershed management and irrigation.
- Ministry of Power has responsibility for hydroelectricity and has to maintain close technical links with the CWC.
- Ministry of Environment and Forests has responsibility for pollution and includes the Central Pollution Control Board.
- Ministry for Rural Development has responsibility for watershed management and for groundwater development
- Ministry for Drinking Water
- Ministry for Urban Development is responsible for drinking water in urban areas.
- National Institute for Transformation of India (NITI Aayog) replaced the Planning Commission in the Modi Government

To date, the AWP has engaged mostly with MoJS and one of its implementing agencies, the Central Water Commission (CWC).

To ensure strong engagement at the national level with the key agencies related to ongoing water reforms in India, AWP will continue to strengthen our relationships with MoJS and its agencies involved in implementation of national level water projects (Central Water Commission, Central Ground Water Board, National Institute of Hydrology and National Water Academy). It is important to build relationships with these agencies to continue to develop our understanding of demand from India and to showcase Australian expertise related to these demands.

Although the relationship with central government is critical, water is managed by state governments and this is where most of the resources, expertise and opportunities for impact lie. Given AWP's limited resources, we will need to focus on a small number of states.

AWP and other Australian initiatives have already begun to build relationships in four key states – Maharashtra, Rajasthan, Karnataka and Andhra Pradesh. AWP will continue to assist in fostering state level relationships between India and Australia. AWP will also encourage information sharing

among Australian partners who are engaged in various activities in India to bring partners together to better know and work with each other.

Partnering with research institutes and training centres

The senior staffing arrangements in India are quite dynamic and frequent transfers happen at senior levels. Some of the key research and training institutions, such as the Indian Institutes of Technology, have more stable staff and play a key role in influencing water policies. Therefore, AWP will place more focus on engaging with research and training institutions to ensure some continuity in our relationships with India and further showcase Australian water expertise.

AWP partners have already been involved in valuable engagements with several national and state-based institutes and training centres and it makes sense to build upon these. Local service providers that could be considered for engagement include:

- The National Institute of Hydrology, Roorkee, which sits under MoJS
- Several Indian Institutes for Technology teach elements of water resource management in their program: IIT Delhi, IIT Roorkee, IIT Kanpur, IIT Mumbai
- Universities: There are a very large number of public and private universities in India of varying quality. Australian organisations have worked for example with TERI University, Punjab Agricultural University and Nalanada University
- More recently, Centres of Excellence in Water Resources management have been established in several states including ACIWRM Karnataka, RACEWARM Rajasthan.
- Three planned new national Water Resource Management centres will be established under NHP at NIH, Guwahati and Hyderabad. Each will have a specific water focus.

Key actions: Strengthen and diversify our partnerships

- AWP will continue its relationship with MoJS at the national level, using the Australia-India water MoU as a basis for engagement.
- AWP will strengthen its relationships with MoJS implementing agencies such as CWC, CGWB, National Water Academy, National Institute of Hydrology and Department of Water Resources (DOWR).
- AWP will identify the key agencies to develop relationships within the areas of groundwater, irrigation and water sensitive cities.
- AWP will explore the potential for partnerships with research and training institutions such as the Indian Institutes of Technology as they play a valuable role in influencing water policy in India.
- AWP will continue to support state to state relationships where it leads to achievement of AWP's intended outcomes in India.
- AWP will continue to engage Indian partners in the development of our Investment Plan for India to ensure that we are meeting their demands, and receiving their buy-in and collaboration.
- AWP will encourage collaboration within the Australian water sector to implement activities in India and for sharing and cooperation between activities.
- AWP will continue to identify Indian partner demands for Australia's niche expertise and assist Australian partners in responding to this demand.

5.2 Focusing our scope and geographies

The AWP is a 'demand-led' model, responding to needs rather than supplying off-the-shelf solutions and technologies. A broad range of demands have been identified for India including in the areas of:

- capacity development
- basin planning and water policy
- basin modelling; water data and information services
- hydrometeorological forecasting
- water sensitive cities
- urban water utility reform
- modernising irrigation system management
- groundwater mapping and management
- climate change resilience
- water quality and river restoration
- dam planning and safety.

Given the broad range of demand arising from India and AWP's limited resources, AWP must be strategic in the demands it focusses on. AWP will focus on demands that:

- will lead to transformational changes in how water resources are managed across various government levels in India
- are aligned with Australian niche water expertise and the Australian water reform journey
- provide a pathway for broader engagement and strengthen ongoing relationships
- shows India's commitment in addressing (either through co-funding or other forms of commitment).

AWP engagements in India are also driven by the India–Australia MoU on water management. The MoU has led to multiple visits by senior officials from both countries and helped establish Australia's capabilities in the areas of river basin planning (driven by the Murray-Darling Basin experience), water information systems, groundwater management, water accounting/sharing and irrigation modernisation.

While remaining focussed on core areas, we will also maintain flexibility by setting aside a portion of funding to respond to demands of more immediate or opportunistic diplomatic and development importance.

Key actions: Identify and respond to priority demands

- The Australia-India water MoU will remain a key framework for shaping how we understand and respond to demand for Australian water expertise in India.
- AWP will continue to work at the national level, as well as with a small set of strategically selected states. State engagement will occur depending on origin of demand, similar water resources issues as Australia and ability to build on existing relationships.
- AWP will primarily focus on river basin planning, water sensitive cities, irrigation modernisation (in recognition of agriculture being the key water user), water information systems, groundwater management and water accounting.
- While primarily focussing on the areas mentioned above, AWP will maintain flexibility by setting aside a portion of funding to respond to more immediate demands of diplomatic and development importance.

- AWP will regularly consult with Indian partners to update our understanding of their key needs and how they align with Australia’s niche expertise.

5.3 Enhancing two-way sharing of knowledge and tools

AWP aims to be an incubator, knowledge hub and space for collaboration. We are establishing a knowledge architecture for Australian water knowledge and tools to effectively capture and promote our expertise.

The work done by some of AWP’s Partners such as CSIRO, BoM, eWater and ICEWaRM, as well as interactions under the India-Australia water MoU, has helped showcase the Australian water reform journey and has developed interest in Australian water sector expertise and knowledge management tools among Indian stakeholders. Examples of the knowledge and tools in which India has shown strong interest include:

- Use of the eWater Source model to inform basin planning
- BoM’s flood forecasting methods and water information systems
- Water Sensitive Urban Design (WSUD) in relation to India’s Smart Cities Mission
- The Murray-Darling Basin Plan. There is considerable interest to understand the basin planning process in detail and replicate that experience in India – for example through the Guide for River Basin Planning being currently developed with MoJS.

The ongoing activities of AWP are also opening up new opportunities with Indian water sector partners to showcase Australian expertise, knowledge and tools for sustainable water management.

AWP will continue to participate in key conferences and events in India to profile and showcase our partners’ capabilities and expertise which will lead to more demand-led approaches. Some of the key events that we will participate include India Water Week 2018, Water India 2018, International Water Conference and Water Innovation Summit.

AWP is also planning to support a workshop in India in 2019 to celebrate 10 years of the Australia-India Water relationship, provide a space for two-way sharing of knowledge and tools, and to continue to identify areas of possible Australian support for water management in India.

Key actions: Enhance two-way sharing of knowledge and tools for sustainable water management

- AWP will draw on the Australian water reform journey to develop knowledge products for informing improved water management in India (for example the Basin Planning User Guide and the WaterGuide).
- AWP will support the application and adoption of proven Australian Water Tools in meeting demands from India.
- AWP will engage in events which present an opportunity for sharing Australia’s knowledge and tools for sustainable water management. The level of engagement will vary from attendance by the South Asia representative, attendance by Activity teams and attendance by AWP Senior Management.
- AWP will support a workshop in India to celebrate 10 years of the Australia-India Water relationship, provide a space for two-way sharing of knowledge and tools, and to continue to identify areas of possible Australian support for water management in India.

- AWP will support exposure visits by Indian water officials to provide them first-hand experience of the Australian water reform journey and the niche water capabilities of the Australian water sector.
- AWP will support two-way sharing of knowledge of recognised water experts in India and Australia through the online *Kini* platform.

5.4 Securing highly leveraged development outcomes

Over the next 10 years India will be investing around USD 10B in water related projects with support from the multilateral development banks such as the World Bank, Asian Development Bank and Asian Infrastructure Investment Bank. These projects will cover the entire spectrum of the water sector including Integrated Water Resources Management, irrigation modernisation, Water Resources Information Systems, and Urban Water Infrastructure. AWP is a relatively small international development program and it needs to be highly strategic to ensure funding and resources are applied in areas that make the most difference.

In India, AWP has been supporting the National Hydrology Project through basin planning, water information system and capacity development support. Given the success to date in supporting this program and the potential for transformational change in how water is managed in the country, AWP will continue to work with the NHP.

AWP will also look for opportunities for providing niche Australian expertise on other large-scale projects, to be selected based on: the potential for transformational changes in how water resources are managed; alignment with Australian niche water expertise; and potential strengthening of relationships. Potential projects which meet these criteria include the National Groundwater Improvement Program; Assam Flood Erosion and River Management Project; Tamil Nadu Irrigated Agriculture Modernisation Project; and Maharashtra Project on Climate Resilient Agriculture; and Smart Cities.

The DFAT and Austrade Posts in India, as well as the DFAT India desk in Canberra have provided strong support to AWP. This has included providing introductions to key agencies, high-level attendance at AWP events and co-financing. AWP will work closely with DFAT and Austrade in India to leverage the credibility of high-level government relationships in developing and implementing Activities. In addition, AWP will facilitate Partners working in India to engage with the DFAT India post and the India desk in Canberra.

Key actions: Secure highly leveraged development outcomes

- AWP will primarily focus its funding on providing niche Australian expertise to improve the outcomes of large-scale Government of India projects.
- AWP will continue to support the NHP in the areas of river basin planning, water information systems and capacity building.
- We will also look for opportunities for providing niche Australian expertise on other large-scale projects such as the National Groundwater Improvement Program; Assam Flood Erosion and River Management Project; Tamil Nadu Irrigated Agriculture Modernisation Project; and Maharashtra Project on Climate Resilient Agriculture; and Smart Cities.
- While primarily focussing on leveraging large-scale projects, AWP will maintain flexibility by setting aside a portion of funding to respond to other demands of diplomatic and development importance.

- AWP will strengthen its relationships with regional offices of the multilateral agencies to open up new opportunities for partners.
- AWP will work closely with DFAT and Austrade in India to leverage the credibility of high-level government relationships in developing and implementing Activities.
- AWP will facilitate Partners engage with DFAT and Austrade in India as well as the India desk in Canberra.

5.5 Implementing gender equality and social inclusion

AWP seeks to engage with our partners to build capacity to work in a gender and socially inclusive way. Integration of GESI into AWP's India Activities to date has included:

- Inclusion of a gender expert on the River Basin Planning team;
- Collection of M&E metrics on involvement of males and females in Activities (both Australian and Indian teams); and
- GESI expert assistance in development of the recently approved Andhra Pradesh Water Sensitive Cities proposal.

In its second phase of funding, the AWP will place a stronger focus on GESI as a cross-cutting issue across all of our programs. In India, we will integrate GESI through incorporation into our activity development and procurement process; encouraging partners to ensure more equitable representation on teams and in AWP supported events; development of case studies in the application of GESI in AWP Activities in India; and the implementation of at least one GESI focussed activity.

Key actions: Implement gender equality and social inclusion

- Partners will be provided guidance on incorporating GESI into Activities and all proposals will be reviewed by a GESI expert
- AWP will encourage partners to ensure more equitable representation of women and men attending AWP supported events
- AWP will initiate development of case studies in the application of GESI in AWP Activities in India
- AWP will design and implement an Activity aimed at building the capacity of women in the Indian water sector to promote inclusive water reforms and policies

5.6 Enhancing capacity development

Whilst demand from Indian agencies for capacity development from Australian teams is strong, the Indian water sector is very capable in many areas so the entry point for capacity development must be carefully identified. AWP also needs to deliver a coherent approach for capacity development that focusses on individual, institutional and system capacity.

To date, AWP has engaged ICEWaRM to scope the Indian demand for capacity building that could be provided by Australian teams under NHP III. Based on guidance from Government of India, the

proposed support has initially focussed on Australia's expertise in groundwater, with a longer-term plan to develop a broader capacity development initiative.

Going forward, AWP will adopt a three-pronged approach to capacity development in India. Firstly, where practical, AWP Activities will incorporate a capacity development component with a practical on-the-job training focus.

Secondly, advanced water sector skills development is arguably Australia's most demanded and high value service for India, and the one most likely to catalyse change in the long-term. In this area, AWP should focus on increasing capacity in water resources management, rather than water resources development. AWP will support delivery of targeted training programs aligned with Australia's niche water expertise by assisting partners to engage with the capacity building component of the NHP. This may include requests from national level agencies, state agencies and Centres of Excellence or similar organisations. In delivering this capacity development, links will be looked for with research and training institutes including the National Institute of Hydrology and the multi-nodal Centres of Excellence that have been established in Rajasthan and Karnataka.

With 50% of India's population less than 25 years old, investment into the next generation of water leaders is essential. AWP is successfully pioneering Young Water Professional (YWP) programs in Myanmar and the Pacific, and will draw on these experiences to explore the potential for a Young Water Professionals initiative between Australia and India. To help shift the dominant paradigm away from a supply focus, the Young Water Professional programs will focus on water resources management, rather than water resource development.

Key actions: Enhance capacity development

- AWP will adopt a three-pronged approach to capacity development in India:
 - Where practical, AWP Activities will incorporate a capacity development component with a practical on-the-job training focus;
 - AWP will support delivery of targeted training programs aligned with Australia's niche water expertise by assisting partners to engage with the capacity building component of the NHP. This may include requests from national level agencies, state agencies and Centres of Excellence or similar organisations; and
 - AWP will explore the potential for a Young Water Professionals initiative between Australia and India.
- AWP will facilitate partners to engage with research and training institutions in India who are involved with capacity development.

6 Annual Work Plan 2019-20

In India, AWP will continue to support the third phase of the National Hydrology Project (NHP III) funded by the GoI and the World Bank as well as supporting smaller scale solutions that have a clear pathway to upscaling across the country. AWP will also continue to strengthen Australia's ties with India in the water sector by supporting an AWP South Asia coordinator, based in New Delhi.

The AWP India Work Plan 2019-20 outlines the progress of ongoing and new activities implemented in 2019 and identifies the remaining investments to be implemented from 1 November 2019 to 31 December 2020. The priorities for 2020 aim to build on progress and learnings in Phase 1 and 2 with a view to being flexible and responsive to evolving partner's needs. This plan also provides a summary of emerging opportunities and key events planned in India.

6.1 Ongoing Phase 1 Investments in India

In 2019, there was a total of five ongoing Activities from Phase 1, these are summarised below.

Table 4: Ongoing Activities from Phase 1

Project / Activity	Funding	\$AU
Development of Basin Planning User Guide	AWP Core Grant (Phase 1)	\$563,350.94
National Water Information System Assessment	AWP Core Grant (Phase 1)	\$222,185.88
National Water Informatics Centre Implementation Support	AWP Core Grant (Phase 1)	\$105,257.17
South Asia Coordinator	AWP Core Grant (Phase 1)	\$153,514.24
Andhra Pradesh Water Sensitive Cities Partnership (APWSC)	AWP Core Grant (Phase 1)	\$208,290.00
TOTAL		\$1,252,598.23

Progress on these activities is provided below.

Development of Basin Planning User Guide: A User Guide for Basin Planning in India has been developed over the last three years in close collaboration with the Indian Ministry of Water Resources (now the MoJS). This activity will be completed in late 2019 with the delivery of the final User Guide and a shorter, more accessible, document for practitioners. The Ministry has raised the potential of piloting application of the guide. This further opportunity for engagement needs further assessment before AWP commitments are made.

National Water Information System Assessment: A small team of Australian experts has been assisting an NHP core design team to establish the National Water Information Centre (NWIC). Following initial engagements, the AWP team has been asked to focus on the development of a Strategic Operating Plan for the NWIC, to be finished by the end of 2019.

Andhra Pradesh Water Sensitive Cities Partnership (APWSCP): Over the past year, AWP has been supporting the APWSCP. The AWP consortium, led by the Cooperative Research Centre for Water Sensitive Cities (CRCWSC), has been utilising Australia's world-leading urban-water sensitive practice in the design of the new city of Amaravati. At the same time, the CRCWSC has been

developing a pilot project to demonstrate how alternative approaches to drainage infrastructure can be retrofitted in the existing city of Vijayawada. AWP's contribution to this partnership will finish by the end of 2019.

6.2 Phase 2 Activities prioritised for 2019-2020

The new Activities to be implemented in 2019-2020 were prioritised through: i) a series of consultations with key partners in India and AWP Management, ii) review of the India Strategy, and, iii) high-level visit in September 2019. A total of 9 new Activities have now commenced implementation. Some of them have already begun in 2019 and will continue in 2020. These are summarised below in Table 5.

Table 5: Activities for implementation in 2019-20

Project / Activity	Funding	\$AU
River Basin Planning Phase II Closure	AWP Core Grant (Phase 2)	\$51,019.00
South Asia Coordinator (February 2019 to February 2021)	AWP Core Grant (Phase 2)	\$209,758.00
BOM Streamflow Forecasting Project	AWP Core Grant (Phase 2)	\$600,000.00
NWIC support for development of the Strategic Operating Plan	AWP Core Grant (Phase 2)	\$131,525.00
KISTERS Pilot Demonstration Project in Gujarat	AWP Core Grant (Phase 2)	\$73,585.00
Water management for small-holder farmers - Outscaling Australian supported R4D in Andhra Pradesh Drought Mitigation Program	AWP Core Grant (Phase 2)	\$475,000.00
Outscaling of MARVI and Sustainable Groundwater use	AWP Core Grant (Phase 2)	\$153,250.00
Capacity Building- Global Leadership program on circular economy	AWP Core Grant (Phase 2)	\$53,800.00
Water Accounting in Practice - From Basin to Field - level applications and Training (India pilot)	AWP Core Grant (Phase 2)	\$553,000.00
DRIP Delegation Visit to Australia	AWP Core Grant (Phase 2)	\$92,129.07
River Basin Planning Workshop and Ministerial Meeting, Roorkee	AWP Core Grant (Phase 2)	\$31,935.60
TOTAL		\$2,425,001.17

Progress of these investments is summarised below.

South Asia Coordinator (February 2019 to February 2021): The South Asia Coordinator is currently contracted by AWP from February 2019 through to February 2021. The Coordinator is responsible for maintaining relationships with key stakeholders, ensuring the completion of Phase 1 investments and supporting the development, implementation and completion of Phase 2 investment. The Coordinator also assists in identifying opportunities for AWP Partners not funded by AWP.

BOM Streamflow Forecasting Project: BOM are being contracted to set up a real time streamflow forecasting project in Godavari Basin in India. The project is 50 percent funded by MoJS. The project duration is 2.5 years. The draft Memorandum of Agreement (MoA) prepared by MoJS has been approved by eWater Limited (eWL) Board and the BOM Executive. MoJS is proceeding with internal approvals. Once the MoA is signed an inception workshop will be conducted. It is expected that Project will commence from January 2020.

NWIC support for development of Strategic Operating Plan: There have been several delays and changes in the focus of this project. The scoping mission was conducted and it was agreed that the Activity team would support the NWIC through the development of a Strategic Operating Plan (SOP). Three visits, including a two-day workshop have now been completed. A draft SOP has been shared with Gol. A half day workshop is proposed during the 2nd International Conference on Sustainable Water Management from 6-8 November 2019 in Pune.

KISTERS Pilot Demonstration Project in Gujarat: KISTERS are integrating a groundwater data management and associated hydrometeorological system for the Gujarat State. The trial aims to validate the suitability of the KISTERS Water Solution software for the management of Gujarat State archives of groundwater and hydrometeorological data. The Terms of Reference (TOR) were recently revised to include:

- A GIS based visualisation platform; and
- Study tour to Australia for 4-5 officials of the Gujarat Water Resources Department to get hands on experience with groundwater information system and other tools for decision support.

Water management for small-holder farmers - Outscaling Australian supported R4D in Andhra Pradesh Drought Mitigation Program (APDMP): is providing technical support from Australian experts to an International Fund for Agricultural Development (IFAD) and Andhra Pradesh (AP) Government funded project (US\$150 million) on drought mitigation. This Activity is co-funded with ACIAR. The focus of the IFAD and AP project is to improve water use efficiency leading to improved productivity and livelihoods in the drought prone regions of the state. The AWP support will focus on three broad areas that align with the priorities of AWP - efficient irrigation, groundwater monitoring and governance, and climate resilience.

Technical support will be in the form of working with a few case study locations within the project area to refine, fine tune, contextualise and outscale participatory groundwater management, strategic irrigation and climate risk management approaches that have been developed in previous Australian funded projects. This AWP-Australian CEACIAR Australia-India technical cooperation project will be carried out in close collaboration with IFAD-APDMP project partners in India and will help AP Government in their IFAD-APDMP project to implement key tools and practices from the Australian R&D projects carried out in the region with Gender Equality and Social Inclusion (GESI) considerations. The draft Agreement and milestones will be issued to ACIAR for final review in October 2019.

Outscaling of MARVI and Sustainable Groundwater use: The MARVI activity builds on the recently completed ACIAR project, "Managing Aquifer Recharge and Sustaining Groundwater use through Village-level Intervention (MARVI)" project. In particular, the Bhujal Jankaar training and participatory process to assist cooperative development are field tested and ready for extended outscaling across

India. The methods involve groundwater data collection at village level, a methodology to estimate groundwater recharge from simple measurements and a smart phone app (MyWell) for collecting and visualising groundwater, rainfall and checkdam data for village level decision making for groundwater use and management.

Capacity Building- Global Leadership program on circular economy: This project is to showcase Australia’s expertise in the area Circular Economy by delivering a capacity building program to India. AWP provided support to the Circular Economy Alliance Australia (CEAA) to enhance the engagement of high level Indian representatives from the public and private sectors. This exclusive “Master Class” program is designed for experienced government and business leaders, limited to 25 people. Developed in collaboration with the UN, the program focus is on experiential learning of circular economy through site visits, case studies, business to business networking, interactions with international peers and eventually helping with ongoing professional development by being part of an exclusive Alumni. The first phase of the program was delivered in July 2019 with the second phase to be delivered by February 2020.

Water Accounting in Practice - from Basin to Field - level applications and Training: AWP has been working closely with the International Water Management Institute (IWMI) and the BoM to develop this joint activity on water accounting. The activity is designed to: i) promote the use of water accounting tools at multiple scales (from the field - to basin-level scales), ii) demonstrate their usefulness in supporting project investment and policy interventions, and iii) enhance project-level outcomes for beneficiaries (this includes bringing water consumption within sustainable limits). To achieve these objectives, the activity plans to develop water accounting guidelines, pilot application of the guidelines in West Bengal and develop capacity in the use of the guidelines. The Agreement will be issued in October 2019.

Dam Rehabilitation Improvement Project (DRIP) Delegation Visit to Australia: The World Bank has requested AWP support to organise a visit of senior Indian water officials (including Principal Secretaries of the Water Resources department of Odisha and Karnataka) to Australia. The visit is in relation to the Dam Rehabilitation Improvement Project (DRIP). Phase II of the DRIP will be launched in 2019 with a funding of US\$ 1.2 billion covering 800 dams across India. The International Water Centre (IWC) has been engaged to deliver the activity, although approval from the Government of India for travel is yet to be received. Tentative date of the visit is scheduled from 28 October – 1 November 2019.

6.3 Remaining Phase 2 Activities to be implemented in 2019-20

There are three remaining Activities in the India Strategy to be implemented in 2019-20, these are summarised in Table 6.

Table 6: Remaining Phase 2 Activities to be implemented in 2019-20

Project / Activity	Funding	Proposed start data	\$ AU
Support for the 2 nd International Conference on Sustainable Water Management – 6-7 November 2019	AWP Core Grant (Phase 2)	November 2019	\$50,000.00
Scoping for India Young Water Professional (YWP) Program	AWP Core Grant (Phase 2)	Jan 2020	\$11,335.50
Hydromet Instrumentation Guidance- Central Water and Power Research Station (CWPRS)	AWP Core Grant (Phase 2)	Nov 2019	\$38,400.00
TOTAL			\$99,735.50

These Activities are summarised below:

Support for 2nd International Conference on Sustainable Water Management: AWP is providing support to the conference as Country Partner and has provided \$30,000 in sponsorship funding, with an additional \$20,000 earmarked for the mobilisation of Australian Partners. As mentioned above, the conference will run from 6 – 8 November 2019. Priorities for the conference include formal launch of the India River Basin Planning Guide and co-development of Indian Young Water Professional (YWP) program through a co-design workshop with National Water Academy YWPs. Several AWP Partners will be supported to deliver presentations at this event which is organised under the aegis of the National Hydrologic Project. Attending AWP Partners include: Alluvium, Western Sydney University, Global Change Advisory, Bureau of Meteorology (BoM) and Australian Hydrographers Association (AHA).

India Young Water Professional (YWP) Program: With 50% of India's population less than 25 years old, investment into the next generation of water leaders is essential. Building on the success of the Pacific and Myanmar YWP programs, we are exploring the potential for a Young Water Professionals initiative between Australia and India, specifically aligned to the needs of the NHP. The potential will be explored through a collaborative workshop approach by the end of 2019, the outcome of which will be a scoped India YWP program to be considered for funding. AWP has commissioned an Australian Partner to develop a concept note to form the basis of consultation with MoJS. The concept note will outline the intention to run a session at 2nd International Conference on Sustainable Water Management with Gol and YWPs to provide inputs for co-development of a three-year program.

Hydromet Instrumentation Guidance - CWPRS: The MoJS, Central Water and Power Research Station (CWPRS) have expressed interest in establishing a standardized national approach for the measurement of meteorology, hydrology and groundwater information. The Activity consists of a co-funding component weighted heavily towards MoJS contributions. \$38,400 (excl GST) is requested from AWP and \$477,360 (excl GST) from MoJS. The proposed mechanism would see AWP receive the entire budget envelope of \$515,760 (excl GST) and disburse to an AWP Partner.

6.4 Emerging opportunities for consideration in 2019-20 Work Plan

Through consultation with Gol, the review of the Strategy and recent high-level visit to India there is a number of emerging opportunities in India for inclusion in the 2020 Work Plan:

- **India eFlows Scoping:** AWP received a proposal to undertake an eFlows assessment in India. AWPAC agreed the Partner should submit a scoping proposal to assess demand from the Gol and States.
- **MoJS high-level visits to Australia:** MoJS has requested AWP to assist in coordinating high level visits of policy makers from state governments to Australia, including three one-week programs for 15-18 participants from November 2019 to March 2020. Areas of interest include: river basin planning, water allocation plans and water information management (data collection and use of data for decision making). The Gol will pay for the international and domestic flights and accommodation and Australian Partners will be engaged to coordinate the visit.

Based on the review and recent missions and discussions, AWP future investments in India could consider:

1. Drafting and implementation of new legislation on the River Basin Authorities;
2. River basin modelling;
3. Water information management; and
4. Water utility support
5. Water-Energy-Food nexus.

Identifying potential co-funding opportunities with Gol, Australian and International Partners is critical so that AWP can continue to prioritise Activities where progress has been made and there is clear commitment and engagement from Gol to continue.

In 2019 AWP signed an MoU with the International Centre for Integrated Mountain Development (ICIMOD) and will seek to define some joint initiatives for consideration by AWPAC at its 30 October meeting. One or more of these proposals may encompass an India component.

Capacity development is a major element of the NHP which aims to increase the number of specialists in key water management disciplines in Indian Government Agencies. The MoJS has recently requested AWP to assist in identifying four to five training programs to be run by Australian Partners and funded through the NHP. AWP has gone through a Call for Expressions of Interest to identify possible programs and is passing on a shortlist to MoJS for final selection and contracting. Selected Partner programs will be funded and contracted directly by MoJS. This process will be monitored as this may prove to be a good future model for Australian partners providing capacity development programs.

6.5 Summary of events

AWP will continue to participate in key conferences and events in India to profile and showcase our Partners' capabilities and expertise which will lead to more demand-led approaches. We will be flexible in accommodating events which may arise on ad-hoc basis. The list of events that AWP will participate in 2020 is presented in Table 7.

Table 7: List of priority events for 2019-20

Name of the Event	Date	Participation level
NHP – 2nd International Conference	6-8 November 2019	AWP Management, AWP Partners and South Asia Representative
ICOLD 2020 - New Delhi	4-10 April 2020	AWP Management, AWP Partners and South Asia Representative
NHP – 3 rd International Conference	November 2020	AWP Management, AWP Partners and South Asia Representative

6.6 Annual Work Plan for 2020

Table 9 below summarises the Annual Work Plan and key events for India in 2020.

Table 8: Annual Work Plan for 2020

Activities	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
South Asia Coordinator												
BOM Streamflow Forecasting Project												
KISTERS - Indian NWIC GroundWater System Trial-Gujarat												
Capacity Building- Global Leadership program on circular economy												
Outscaling of MARVI and Sustainable Ground water use												
Water Accounting in Practice - From Basin to Field - Level applications and training												
NWIC Support for development of Strategic Operating Plan												
Water Management for small-holder farmers- Outscaling Australian supported R4D in APDMP												
Support for CWPRS- Testing and Calibration Lab- Visit of CWPRS officials and technical support (TBC)												
India E-flows Scoping (TBC)												
India YWP Program (TBC)												
MoJS high-level visits to Australia (TBC)												
Events												
NHP- 3rd International Conference on Sustainable Water Management												
ICOLD 2020- New Delhi												

7 Risks and mitigation

The India Investment Strategy 2.0 has considered the following risks that may arise and suggested mitigation strategies for the risks as shown in Table 9.

Table 9: Risks and mitigation

Risks	Mitigation
Delays in decision making, cancellation of visits	Activities are planned to have flexibility with regards to dates and timelines.
Change of leadership at senior management in MoJS/State Governments	AWP has built relationships at mid-management and senior management level, which will help in managing the continuity.
MoU between Australia and India not renewed	AWP is working closely with DFAT post for renewal of the MoU. AWP activities may continue in the absence of the MoU but would need institutional coverage.
Australia loses influence due to increasing number of investments in the water sector from other countries	AWP will continue to work on niche areas of expertise which are known in India like river basin management, water information systems, and institutional reforms.
Indian financial contributions to AWP Activities are not forthcoming	Contracts will be designed with mobilisation and milestone payments to maximise certainty of financial contributions from Indian organisations. Activities will be designed to achieve specified outcomes, albeit more limited without funding from India.

Appendix 1: AWP Activities in India

Table 10. Phase I India Activities

Activity	Status	Expended
NHP III Conference	Complete	40,871.72
Andhra Pradesh Water Sensitive Cities	Complete	208,290.00
NHP Capacity Development Scoping Project	Complete	45,333.94
NHP River Basin Planning & Institutional Strengthening Stage 1	Complete	405,988.45
River Basin Planning and Institutional Strengthening Stage 2	Complete	230,588.33
Karnataka KISWRMIP Scoping Mission	Complete	2,830.54
Rajasthan Centre of Excellence	Complete	19,357.88
NHP National Water Information System Assessment (India WRIS)	Complete	222,185.88
Haryana Irrigation Training	Complete	12,000.00
Chennai Metro Water Board Mission	Complete	14,441.52
South Asia Coordinator	Complete	153,514.24
NHP Capacity Building Scoping Mission	Complete	26,364.42
Maharashtra - NSW State Water Management Workshop	Complete	23,690.81
International Seminar on National Hydrology Project	Complete	43,081.14
Hyderabad Delegation	Complete	21,380.76
National Groundwater Meeting	Complete	17,781.91
World Bank Mission to Maharashtra	Complete	18,807.54
MDB High Level Exposure Visit	Cancelled	49,971.28
National Water Resources Information Centre Development Support	Complete	105,257.17
CII Water Innovation Summit 2018	Complete	58,498.00
Aust. RBP Workshop	Complete	10,000.00
TOTAL		1,730,236.00

Table 11. Phase 2 India Activities

Activity	Status	Committed	Expended
CII Water Innovation Summit 2019	Implementation	50,000.00	0
Australia RBP Workshop	Implementation	112,305.91	78,676.22
Managing Aquifer Recharge and Sustaining Groundwater Use	Implementation	133,250.00	0
Dam Rehabilitation Improvement Project (DRIP)	Implementation	92,129.07	19,156.57
Capacity Building: Global Leadership Program on the Circular Economy	Implementation	53,800.00	26,900.00
India Young Water Professionals	Implementation	10,511.50	0
Gujarat Groundwater Systems Trail, Activity	Implementation	74,000.00	0
Andhra Pradesh Phase Two	Implementation	40,000.00	0
South Asia Coordinator Phase Two	Implementation	209,757.50	59,188.34
RBP Phase Two Finalization	Implementation	51,019.00	0
Streamflow forecasting pilot for the Godavari Basin	Approved	600,000.00	0
Strategic Operating Plan for NWIC	Implementation	131,525.00	16,380.81
River Basin Planning Workshop Roorkee, India	Implementation	31,300.60	6,669.48
2nd International Conference on Sustainable Water Management	Complete	50,000.00	0
Drought Mitigation Andhra Pradesh	Approved	475,000.00	0
Dam Safety conference, India	Complete	15,000.00	0
IWMI Water Accounting	Approved	553,862.00	0
TOTAL		2,683,460.58	206,971.42

Appendix 2: Outcomes of India Strategy Review 2019

Through internal review and discussions with key stakeholders, the following challenges and opportunities have been identified. Where relevant, recommendations for revisions to the strategy are made for the identified challenges and opportunities

Linking the Strategy to action

Most stakeholders reflected that the AWP India Investment Strategy provides a good high-level direction for AWP Activities in India, but several stakeholders indicated that they could not see the links from the Strategy to on-ground actions and funding. The development of an Annual Work Plan would provide a clearer and more concrete pathway to achieving the strategic directions outlined in the Strategy, and could be used to communicate to Partners on how on-ground actions are linked to AWP's longer term objectives in the country.

Recommendation – Develop an Annual Work Plan

To operationalise and put effect to the Strategy, it is recommended that the South Asia Coordinator and AWP prepare an annual work plan that provides further detail on planned proposals to be developed, Activities to be implemented, partnering and events for each year.

Dealing with the slow pace of Activity progress in India

Activity progress in India can be slow. This occurs for a range of reasons including cultural, institutional, financial, human resource and political factors. This is the reality of working in India, and a multi-faceted response is needed that prepares for the slow progress, ensures readiness to act when urgent opportunities arise and tries to move Activities along more rapidly when possible.

Several recommendations are outlined below for dealing with the slow pace of Activity progress in India:

- **Leverage existing momentum:** Activity progress is particularly slow during the inception phases compared to an ongoing engagement where momentum and Government of India commitment has been built up. Therefore, it is recommended that AWP continue to prioritise Activities where progress has been made and there is clear commitment and engagement from Government of India to continue.
- **Continue in-country presence:** The South Asia coordinator role should continue as their presence in-country has been essential for maintaining momentum and increasing visibility of AWP among Indian counterparts.
- **Explore alternative Partnerships:** As outlined in the original Strategy, expanding its Indian partners may provide AWP an avenue to more responsive Indian partners. This is discussed further in the following section.

Recommendation – Leverage where momentum has been developed

Continue to prioritise Activities where progress has been made and there is clear commitment and engagement from Government of India to continue.

Recommendation – Continue support of in-country Coordinator

The South Asia coordinator role should be continued to ensure ongoing relationships, momentum and visibility.

Exploring new Partnerships

New partnerships provide another pathway to dealing with the slow pace of Activity progress in India. As outlined in the original Strategy, expanding its Indian partners outside of the Public sector may provide AWP an avenue to more responsive Indian partners whilst also providing on-ground knowledge to Activity teams. The IIT consortium provides links to government whilst being independent. Large NGOs such as Tata Trust provide a potential avenue of co-funding with on the ground interventions experience. Government think tanks such as NITI Aayog provide another pathway to influence government policy. The creation of two new River Basin Authorities provide an opportunity for direct engagement with those responsible for basin planning.

Recommendation – Explore alternative Partnerships outside of the Public sector

As part of its 2019 Work Plan AWP will place a renewed focus on actively exploring Partnerships outside of the public sector including with IITs, think tanks such as NITI Aayog, large NGOs and the newly created River Basin Authorities.

AWP recently signed an MOU with the International Centre for Mountain Development (ICIMOD). The organisation is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries, including India. Its thematic areas of river basins, transboundary landscapes and adaptation are closely aligned to AWP's goals, and it is active in India. ICIMOD provides a new partnership opportunity for AWP activities in India that would enable us to draw on their established presence, relationships and experience in the country.

Recommendation – Explore possible collaboration with ICIMOD

AWP will hold discussions with ICIMOD to identify possible opportunities for collaboration on Activities in India that draws on the expertise of Australian Partners whilst leveraging established presence, relationships and experience.

Austrade provide another potential strategic partnership in India that should be explored further. Recent discussions with the South Asia Trade Commission indicated an interest in working with AWP and several possible ideas such as a platform for providing business to business introductions between Australian and Indian business.

Recommendation – Explore possible stronger collaboration with Austrade

AWP will hold discussions with Austrade to identify possible opportunities for collaboration to create opportunities for Partners in India.

Refining AWP's focus in India

The scale of challenges and opportunities in India is immense. It is therefore essential for AWP to be targeted in its interventions and engagements. There are three key aspects to refining the focus: i) geographic scale – i.e. state versus national; ii) technical focus areas; and iii) leveraging large programs versus piloting interventions.

State versus national focus

Engagement with national level agencies such as MoJS have the potential to have wide-spread impact but tend to be more difficult to progress. State agency engagement may lead to a relatively smaller impact (still large when dealing with states with populations of tens of millions) but is more likely to progress. There is also differing national and state diplomatic benefits when working at different scales. As one stakeholder put it, we “need engagement with the national level, but the guts of the action needs to be at state level”.

Therefore, a balance is needed between targeted engagement with the national level, as well as a small selection of states. Progress has been made by AWP and Partners in Andhra Pradesh, Rajasthan, Karnataka and Maharashtra (as well as other states of the Krishna Basin), so these states should continue to be a focus of AWP investments. These states align with where state to state relationships, including MOUs have been established, which may provide a framing for continued support but will not be the focus of investments.

Recommendation – Balance the state and national focus

AWP will continue to work with MoJS to strengthen and improve policy and planning at the national level. This will be balanced by and link to work within four key states Andhra Pradesh, Rajasthan, Karnataka and Maharashtra.

Focussing on key technical areas

Given the broad range of demand arising from India and AWP's limited resources, AWP must be strategic in the demands it focusses on. To date, AWP interventions in India have focussed on the following key technical areas:

- Basin planning – national and state engagement
- Water information systems including– national and state engagement
- Streamflow forecasting - national and state engagement
- Groundwater - national and state engagement
- Integrated urban water management – state engagement.

Most stakeholders, including MoJS, confirmed that these are a good set of technical foci which reflect the priority issues for India and the 'competitive advantage' of Australian knowledge and experience. Common areas of suggested additional focus include:

- Dam planning and safety
- Water quality
- Agricultural water management
- Environmental flows and cultural water.

Recommendation – Continue targeted technical focus

AWP will keep its technical focus on areas where high priority for India intersects with where Australia has a competitive advantage. This includes basin planning, water information systems, integrated urban water management and groundwater management. AWP will consider exploring additional technical focus areas of dam safety, water quality, streamflow forecasting, environmental/cultural flows and agricultural water management.

Leveraging large programs versus piloting interventions

To date, AWP has taken two leveraging approaches in India, both with some success:

- **Align with existing large programs:** Embed within larger scale programs to try and influence and improve their outcomes. For example, the river basin planning and national water information support for the National Hydrology Project.
- **Pilot smaller scale interventions:** Identify smaller scale interventions that require trialling and have potential to be scaled up if proved successful. For example, the village Managed Aquifer Recharge Activity which, if successful, has the potential to be adopted across India as part of the national USD1b groundwater project.

Recommendation – Diversify between leveraging large programs and piloting smaller-scale interventions

AWP ensure there is a diversity its investments between embedding in large scale programs as well as piloting smaller-scale interventions with potential for upscaling. Options for both approaches will be outlined in the 2019 Annual Work Plan.

The DFAT Sustainable Development Investment Portfolio (SDIP) has been active in India since 2016 with a focus on improving the integrated management of water, energy and food in three major Himalayan river basins — the Indus, Ganges and Brahmaputra — partially covering India. SDIP draws on Australia's expertise and technologies in the water, food and energy sectors and is delivered through a combination of Australian and South Asian partners including three AWP Australian Partners and one AWP International Partner (ICIMOD). There may be opportunities to build on some of the established project progress under SDIP in India.

Recommendation – Explore opportunities to partner with SDIP

Discussions will be undertaken with SDIP partners to identify opportunities to leverage the progress made by the SDIP over the past three years.

Maintaining capacity development

Whilst demand from Indian agencies for capacity development from Australian teams is strong, the Indian water sector is very capable in many areas so the entry point for capacity development must be carefully identified. AWP also needs to deliver a coherent approach for capacity development that focusses on individual, institutional and system capacity. AWP's three-pronged approach for capacity development in India is outlined in the existing India Investment Strategy and focusses on:

- Incorporating capacity development in activities
- Supporting delivery of targeted training programs through NHP aligned with Australia's niche water expertise

- Exploring the potential for a Young Water Professional (YWP) initiative between Australia and India.

Each of these approaches has seen some progress with capacity development being included in basin planning, water information and water sensitive urban design activities; a Partner being supported to attain a contract to deliver groundwater training through NHP; and initial scoping of a YWP initiative begun.

Recommendation – Continue the three-pronged approach to capacity development

The three-pronged approach to capacity development has seen progress and will continue, with a focus on moving forward the YWP initiative.

Centres of Excellence

There is some disagreement within the consulted Partners on the value of the Centres of Excellence approach. In this approach, centres are established, generally through existing relationships such as state to state MOUs, that focus on capacity development activities, connections to influencing government and forming long term relationships. Several partners are working on developing Centres of Excellence covering several states in India and are at different stages of development from fully established to initial talks.

Positives of the Centres of Excellence approach are seen as: i) establishing strong and long-term relationships; ii) providing good pathways for capacity development and knowledge development; iii) puts effect to the India Economic Strategy to 2035 recommendation to Establish Joint Research Centres of Excellence across key sectors (recommendation 68); and iv) potential for leading to commercial opportunities.

Key downsides of the approach are seen as: i) generally there is no longer-term funding model established which may mean continued calls for AWP funding; and ii) a focus on developing proposal for larger scale funding from other donor agencies, which hasn't seen success to date.

As an example of the types of Centres of Excellence Activities that AWP is requested to support, there is an Activity Concept being submitted to the 10 April 2019 AWPAC meeting for support of an existing Centre of Excellence in Rajasthan. In making a decision on the concept, and in discussion of this Strategy Review, AWP seeks AWPAC views on whether AWP should support the Centres of Excellence approach.

Recommendation – Resolve AWP position on support to Centres of Excellence

A separate paper will be produced for the 24 July 2019 AWPAC meeting on the Centres of Excellence approach and whether AWP should target support for Centres of Excellence, particularly in India.

Targeting water events in India

As noted in the existing Strategy, there are a large number of water events each year in India, many of which would be valuable for AWP to attend or support Partners to attend. Key events include the Dam Safety Conference, NHP conference, India Water Week, International Water Conference and the Water Innovation Summit.

Given AWP's limited resources, we need to better prioritise which events to engage in. In addition, invitations to events often occur at the last minute, causing higher expense due to late booked flights and limited opportunities for engaging partners due to limited availability. Therefore, AWP should take a more clear and targeted approach for which events it will engage in.

Recommendation – Focus on two to three targeted events per year and outline these in the Annual Work Plan

AWP will continue to participate in key conferences and events in India to profile and showcase our partners' capabilities and expertise which will lead to more demand-led approaches but will take a more targeted approach by outlining in the Annual Work Plan which two - three key events will be attended in each year, whilst allowing flexibility for important events that arise on an ad-hoc basis.

Sharing information on Australian efforts in India

There are several Australian government agencies working in India. In addition to the government agencies, there are private sector, NGO and education sector organisations also actively involved. Given the large number of activities, there is a risk of overlapping efforts, and of Australian teams appearing to be uncoordinated. DFAT initiatives such as a monthly teleconference between key Australian agencies active in India on water have made good progress in promoting coordination, and the AWP South Asia Coordinator is also playing a key liaison role. Continued efforts to coordinate across agencies and programs is needed.

Many stakeholders supported the idea that whilst it is not AWP's role to coordinate Australian efforts in India, we could make a useful contribution to ensuring knowledge is shared between Partners. At the practical level this could be done by organising a quarterly teleconference where Partners active in India are invited to share information on what they are doing. This will lead to improved knowledge between Australian Partners on what is being done in India, and open opportunities for Partners to collaborate outside of AWP's support. This meeting could be held in person once a year to further encourage relationship building and coordination – likely at the Partners own cost.

Recommendation – Promote information sharing through quarterly teleconference

AWP will instigate a quarterly meeting for AWP Partners working in India to share information on the projects, to be held via teleconference except for a once a year in-person meeting.

Compiled recommendations and proposed actions

The below table provides a compilation of recommendations and re-emphasising aspects of the India Strategy. The key recommendation of developing an Annual Work Plan provides an opportunity to put effect to most of the recommendations without a need to revise the existing strategy. Therefore, following feedback from AWPAC, the recommendations will be used to inform the development of an Annual Work Plan for 2019 which will be shared with Partners.

Table 12. Compilation of recommendations and the action pathway for each

Recommendation	Description	Action pathway
Develop an Annual Work Plan	To operationalise and put effect to the Strategy, it is recommended that the South Asia Coordinator and AWP prepare an annual work plan that provides further detail on planned proposals to be developed, Activities to be implemented, partnering and events for each year.	Annual Work Plan
Leverage where momentum has been developed	Continue to prioritise Activities where progress has been made and there is clear commitment and engagement from Government of India to continue.	Annual Work Plan
Continue support of in- country Coordinator	The South Asia coordinator role should be continued to ensure ongoing relationships, momentum and visibility.	Support approved through to Feb 2021
Explore alternative Partnerships outside of the Public sector	As part of its 2019 Work Plan AWP will place a renewed focus on actively exploring Partnerships outside of the public sector including with IITs, think tanks such as NITI Aayog, large NGOs and the newly created River Basin Authorities.	Annual Work Plan
Explore possible collaboration with ICIMOD	AWP will hold discussions with ICIMOD to identify possible opportunities for collaboration on Activities in India that draws on the expertise of Australian Partners whilst leveraging established presence, relationships and experience.	Annual Work Plan
Explore possible stronger collaboration with Austrade	AWP will hold discussions with Austrade to identify possible opportunities for collaboration to create opportunities for Partners in India.	Annual Work Plan
Balance the state and national focus	AWP will continue to work with MoJS to strengthen and improve policy and planning at the national level. This will be balanced by and link to work within three key states Andhra Pradesh, Rajasthan and Karnataka.	Annual Work Plan
Continue targeted technical focus	AWP will keep its technical focus on areas where high priority for India intersects with where Australia has a competitive advantage. This includes basin planning, water information systems, integrated urban water management and groundwater management. AWP will consider exploring additional technical focus areas of dam safety, water quality, streamflow forecasting, environmental/cultural flows and agricultural water management.	Annual Work Plan

Recommendation	Description	Action pathway
Diversify between leveraging large programs and piloting smaller-scale interventions	AWP will ensure there is a diversity in its investments between embedding in large scale programs as well as piloting smaller-scale interventions with potential for upscaling. Options for both approaches will be outlined in the 2019 Annual Work Plan.	Annual Work Plan
Explore opportunities to partner with SDIP	Discussions will be undertaken with SDIP partners to identify opportunities to leverage the progress made by the SDIP over the past three years.	Annual Work Plan
Continue the three-pronged approach to capacity development	The three-pronged approach to capacity development has seen progress and will continue, with a focus on moving forward the YWP initiative	Annual Work Plan
Resolve AWP position on support to Centres of Excellence	A separate paper will be produced for the 24 July 2019 AWPAC meeting on the Centres of Excellence approach and whether AWP should target support for Centres of Excellence, particularly in India.	Separate paper to be developed for AWPAC consideration
Focus on three targeted events per year and outline these in the Annual Work Plan	AWP will continue to participate in key conferences and events in India to profile and showcase our partners' capabilities and expertise which will lead to more demand-led approaches but will take a more targeted approach by outlining in the Annual Work Plan which two-three key events will be attended in each year, whilst allowing flexibility for important events that arise on an ad-hoc basis.	Annual Work Plan
Promote information sharing through quarterly teleconference	AWP will instigate a quarterly meeting for AWP Partners working in India to share information on the projects, to be held via teleconference except for a once a year in-person meeting.	Annual Work Plan

Appendix 3: Partners consulted

Note that due to the limited timeframe to prepare the strategy review, AWP was not able to consult with all intended stakeholders. Several stakeholders were contacted but were not available. Below is list of Partners consulted.

International Partners

- Caroline Mills, DFAT Delhi
- Neeraj Manglik, MoJS
- Deepak Kumar, – MoJS
- Rakesh, MoJS

Governments Partners

- Russell Rollason, DFAT
- Adam Sincock, DA
- Narendra Tuteja, BOM
- Steve Morton, Department for Environment and Water (South Australia)

Note that representatives from NSW and Victoria Government were also contacted but were not available in the timeframe available.

Australian Partners

- Darryl Day and Karleen Maywald, ICEWaRM
- Anu Kumar, Uday Nidumolu, Sreekanth Janardhanan, Amit Parashar, Wahid Shahriar, Jai Vaze and Neil Lazarow, CSIRO
- Carl Daamen, eWater
- David Winfield, Alluvium
- Clive Lyle