



## India-EU Water Partnership (IEWP) Workplan 2017 – 2020

11/2017

PRIORITY AREAS Sub areas	Measurable Outcome after 3 years	2017-18 Plan	2018-19 Plan	2019-20 Plan
<b>PR 1 Sustainable development of river basins, water governance</b>				
<b>PR 1A</b> Pilot RBMP to be developed in a new (small) basin (Tapi), to apply EU good practices (methodology, tools, approaches)	1 RBMP developed (and possibly implementation of measures started), including several objectives Good understanding by the Indian authorities of the EU practices in RBMP	Facilitation of available data Identification and contacts of competent authorities and stakeholder Identification of KWMI and main pressures (incl. PR4B) Agreement of KWMI with authorities and stakeholders Development of DPSIR schema and further data needs Gathering of further data	Development of draft Objectives and a Programme of Measures Stakeholder dialogue, identification of financing opportunities Development of an agreed work programme	Implementation of measures according to work programme
<b>PR 1B</b> Sharing of experience, lessons learned and good practice, conflict management with other RBMPs in process (e.g. Krishna, Mahanadi and Godavari) and finalised (e.g. Ganga)	Capacity building and improved RBMP practice through comparative assessments of methodologies, tools and approaches	When other RBMP consortia are in place, regular (e.g. 6-monthly) coordination meetings can be held on specific RBMP/IWRMP steps, involving other relevant institutions (e.g. Sardar Vallabhbhai National Institute of Technology (SVNIT))		Good practice and learned lessons might be shared with other countries in the region
<b>PR 2 E-flows</b>				
<b>PR 2A</b> Developing data framework for assessment of e-flows	Guidelines for data monitoring, integrated in WRIS	Identification of available data and gaps (preliminary)		Recommendations (and action plan?) for monitoring
<b>PR 2B</b> Pilot e-flows assessment for designated River Stretches	E-flows assessments for (3) river stretches in (three)	Development of criteria for identification of river stretches	Completion of pilot studies Assessment review, incl.	Adoption of e-flows

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including the socio-economic implication	different hydro-climatic zones Methodologies for e-flows assessment in India in different hydro-climatic zones, including software requirements Strategy for e-flows implementation in India	Identification of river stretches Proposal for methodology and draft assessment	implementation strategy and stakeholders	
<b>PR 2C</b> Comparative assessment of e-flows methodological approaches in different social (demand) and hydrological regimes	Methodologies for e-flows assessment	Exchange and workshop on e-flows methodologies and their pros and cons Drafting of preliminary recommendations for e-flows assessments	Stakeholder review of preliminary recommendations for e-flows assessments	Final recommendations for e-flows assessments
<b>PR 2D</b> Recommendation of strategy for implementation of e-flows	Methodologies and strategies for e-flows implementation	Identification of good implementation practice (and the corresponding arguments/business cases behind them), and of barriers to implementation	Identification of ways, procedures or arguments to promote e-flow implementation and overcome barriers	Recommendations for e-flows implementation Pilot implementation of e-flows
<b>PR 3 River Rejuvenation, Restoration</b>				
<b>PR 3A: Baseline sources of pollution, hot spot identification and Water Quality Dashboard Development for river Ganga</b>	Identification of point (municipal and industrial) and non-point (agricultural) pollution sources  Identification of gaps and hot spots in terms of wastewater treatment  Preparation of short, medium and long term action plan for fixing the hot spots	Identify sources of pollution in Ganga basin in terms of quantum and parameters  Initiate and plan a demonstration project to identify hot spots for the Ganga river (based on policy questions)  Develop a demo water quality dashboard for river Ganga	Develop fully functional online dashboard with provision for entry of real time data and linking it with India WRIS  Suggest implementable action plans (short, medium and long term) for hot spots which can be adopted by the concerned agencies	Evaluate and refine dashboard and action plans  Prepare guidance document for other basins

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	Preparation of water quality dashboard for Ganga, its linkage with India WRIS and preparation of guidance document for other basins			
<b>PR 3B: Re-use of treated wastewater for industrial use in Ganga river basin</b>	Identification of international (EU) best practices for use of treated wastewater in industries  Assessment of market for treated wastewater  Development of PPP model for promoting treated water re-use in 5 selected schemes	Identify the water re-use pilots in EU and disseminate the results and lessons learned from them in India  Assess the barriers to the implementation of water reuse (location, economic incentives, etc.)	Engage with private businesses/water operators for their interest to invest in treatment and reuse scheme  Engage with industrial representatives to understand the market for treated wastewater  Provide insights on European scheme on water reuse and their economic set-up	Based on the process learning, develop a PPP model to be implemented on 5 selected schemes  Evaluate and refine further actions
<b>PR 3C: Legislations and multi-stakeholder engagement/ partnerships for river rejuvenation</b>	Identification of best practices from EU for river rejuvenation/restoration focusing on water quality  Improvement in regulatory set-up in India for river water quality improvement  Formation of a multi-stakeholder partnerships adopting tributary approach for river rejuvenation	Identify successful pilots from EU on river restoration and share the learnings with India  Dissemination of EU process for preparation of legislation on river restoration and improvements undertaken  Creation of multi-stakeholder partnership structure in a tributary of Ganga basin, to identify priority areas for interventions and action	Using the multi-stakeholder platform and expert knowledge from EU and India, preparation of draft regulation on river rejuvenation and restoration for India	Evaluate and refine further actions

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<b>PR 4 Groundwater use and recharge</b>				
<b>PR 4A</b> Knowledge sharing on latest technologies for Aquifer Mapping (mainly use of isotope technology)	i) Standards and protocol for application of Heliborne TEM for Groundwater investigations for Indian sub- continent ii) Contribution to better understanding of the geometry & sub-surface disposition of aquifers iii) Contribution to timely completion of NAQUIM in identified areas	Exchange and capacity building on interpreting Heliborne mapped data Support for interpretation of Isotope / inert gas studies	Follow-up actions	
<b>PR 4B</b> Knowledge exchange on better integration of groundwater in IWRM planning (including climate change effects, pollution transport modelling, community management, and water markets); support in assessment of already designed programme and in its effective implementation	i) Improved understanding of various aspects of sustainable ground water management ii) Standards and protocol for In-situ quality remediation, Solute transport modelling and MAR iii) Integration of groundwater issues in the pilot IWRM plan for the Tapi basin (see PR1A)	Integration of groundwater issues in the pilot IWRM plan for the Tapi basin (see PR1A) Knowledge exchange on the use of constructed wetlands and other processes and standards for improving reused water quality for managed aquifer recharge (MAR) Knowledge exchange with EU experts on appropriate methodological approach for pollution transport modelling	Integration of groundwater issues in the pilot IWRM plan for the Tapi basin (see PR1A)	
<b>PR 4C</b> Development of pilot application(s) of the above and/or aquifer recharge	tbd	none	To be taken up after completion & based on the outcomes of PR 4B	
<b>PR 5 Water use in irrigation</b>				
<b>PR 5A</b> Pilot on irrigation canal automation	One pilot study on irrigation canal automation technology (Upper Indrawati, Odisha)	Identification of applicable methodologies Design of a pilot on canal	Implementation of pilot in parallel to promotion of Participatory Irrigation	Continued

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		control automation Implementation of pilot in parallel to promotion of Participatory Irrigation management (PIM)	management (PIM) Hand-holding and development of solutions to barriers identified in implementation process	
<b>PR 5B</b> Audit of water use efficiency in irrigation	Up to three pilot studies on the performance of irrigation efficiency (Mahuar, MP; Lower Panjara, MH; Golavagu, TG) Establishment of a methodology to audit water use efficiency of irrigation areas	Sharing of data and information Identification of the topics and methodology for the water use efficiency audit (technology, framework, performance) Definition of methodology for WUE assessment for the pilots	Development of an audit of the specific details Recommendations for establishing a methodology for water use efficiency audits of irrigation areas in India	Continued
<b>PR 5C</b> Experience Sharing	Uptake of solutions in other irrigation areas	Experience sharing and capacity building on the concepts	Experience sharing and capacity building on the results of the pilots	Continued
<b>PR 6 Solar pumping for irrigation</b>				
R 6A Support in assessment of already designed programme and in its effective implementation (including incentivisation)	a) Improved Scheme b) Implementation guidelines with focus on 1.Ensuring that the proposed interventions do not lead to unsustainable pumping 2.Identification of suitable areas for solar pumps and beneficiary 3.Design parameters, specification of solar pumps 4. Peripheral use. 5. Operation and maintenance issues c) Setting up a mechanism for monitoring and evaluation of the proposed scheme	<b>For outcome A and B</b> Study of already operational projects (April-July 2018) Both grid-based as well as off grid projects in Gujarat, Uttar Pradesh, Bihar and other states. Partner Organization-GIZ Technical exchanges on scheme elements (Dec-2017) Jan-Feb 2018 A roundtable of experts from CGWB, MNRE, EU, Discoms, Social Scientists, sector specialist and Industry representatives.	<b>For outcome C</b> Developing the outline for setting up the monitoring mechanism (Jan 2018) Piloting of the monitoring and evaluation of the proposed scheme (April 2018- Oct 2018) Feedback and finalization of the monitoring tool. (December 2018)	

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PR 6B Pilot project on technology 1. Types of solar pumps 2. Geotagging of solar pumping sites 3. Metering groundwater draft 4. Remote monitoring of water levels and draft.	Implementation guidelines	Determine the scope of the pilot study and selection for consultant/ consultancy firm (Jan 2018) ToR and selection of the consultant (March 2018) Pilot Study (Start Date: April 2018)	Pilot Study (End Date: Jan 2019)  Organizing a stakeholder meeting to share the findings from the pilot success (Feb-March 2019)	
PR6C Capacity Building (We need to also define the target audience like agi-extension workers)	a) Improved adoption of technology by farmers leading to increased farm income/ crop production	Undertake scoping for Training Needs Assessment (March-June 2018)  Designing of Training materials Training of Trainers (July-November 2018)	Capacity building and Training of Trainers (Dec-Feb 2019)	
<b>PR 7 Capacity building</b>				
PR7 A Hands-on Trainings	a. Indian experts have started utilising new tools, approaches from the international best practices in the domain of hydrological and ecological health. b. Indian institutes such as: (Ministry of Water Resources, RD & GR, Central Water Commission; Central Ground Water Board, State Irrigation/Water Resources Departments, and training institutions in the domain of hydrology and ecology) have developed systems and procedures to	<b>For Outcome a:</b> i. Identify and agree on the best practices from EU experience ii. Agreement and selection of tools and approaches relevant to Indian needs iii. Plan workshops/training programmes as per agreement. <b>For Outcome b:</b> iv. Carry out multi-stakeholder mapping, analysis v. Based on the results of the analysis develop a plan for multi-stakeholder	Continued...	

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	manage multi-stakeholder projects/programmes relevant as per the current requirements.	management (consider tools such as: dynamic stakeholder map, steering structure, operational plan)		
PR 7 B Project Visit	Best practices from European and domestic experiences are replicated and adapted to the local requirements and contribute in the overall improvement of Hydrological and ecological health of the river basin.	Availability of the resources with ministry for taking up domestic exposure visits or international exposure visit has to be looked into. Based on the decision, exposure visit within India or in Europe can be planned.	continued	
<b>PR 8 “Blueprint for Water Accounting in India”</b>				
PR 8A Water quality monitoring and dashboard development	Joint and functioning Dashboards (India WRIS/NMCG) based on policy questions that support targeted monitoring and well-informed decision making regarding water quality in Indian river basins Implementation of an Action Plan regarding pollution Hot Spots for the Ganga River Improved design of monitoring networks and pressure oriented water quality assessments	Further development and application of the living document on ‘Key policy issues and questions regarding water quality in India’ (inclusion of additional pressure types that can impact on water quality and as relevant in discussion with the Indian authorities) Development and implementation of a joint Dashboard (India WRIS/CWC/NMCG) on water quality for Indian river basins Identification of Pollution Hot Spots along the Ganga River and development of a tailor-made action programme to improve water quality (aligned to existing activities). Initial focus on municipal and then	Further development of the activities aligned to the Road Map and Action Plan (Ganga River). Planning for upscaling to other river basins and the national scale. Further development of the joint Dashboard addressing additional pressures on water quality. Improvement of monitoring and water quality indices.	Developing specific support and further activities (tbd)

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		industrial sewage water discharge. Initiate improvement of monitoring and water quality indices Development of a Road Map including an approach for upscaling. Development of an action Plan to set measures towards improvement.		
<b>PR 8B</b> Development of water accounts, including cost recovery	Improved water accounting in India	Support to the PMU activities, as requested (tbd) Support the training scheduled with IHE Delft, and incorporate findings in IWRMP under PR1A	Support to the PMU activities, as requested (tbd) Support the training scheduled with IHE Delft, and incorporate findings in IWRMP under PR1A	Further activities (tbd)
	Policy dialogue on blended financing mechanisms and pricing water in India	Workshop (6 Nov 2017) to decide outcomes, strategy and activities Further activities (tbd)	Further activities (tbd)	Further activities (tbd)
<b>PR 9 Collaboration in Research, Innovation &amp; Technology</b>				
<b>PR9 A</b> Collaboration of INCSW/ INCGW for Research Dissemination with JRC, WssTP, Water Reuse Europe	Agreed workplan, joint projects and Meetings with JRC/WssTP/WRE	Identification of Possible research areas on Monitoring /Measurement/Efficient Usage /Treatment /Waste water as water factory by EU & Indian Team which can be applied at pilot sites in India	<b>Desk Top Research-</b> Water Governance Model: Tailoring the Water Framework Directive to Indian needs, <b>Joint Water Research</b> , test and demonstration with Indian Universities (under R&D Scheme of Ministry of Water Resources) <b>with door opening of R&amp;D Hubs</b> of EU Development of the collaborative research on the	Dissemination of the Results and Information



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			research Areas with Indian Research Institutions	
<b>PR 9 B</b> Technology Dissemination Showcase either through virtual centre or by show case exhibition	B2B meetings  Web site display of technologies At least 50 EU water smart technologies applied or adapted to India	<i>By December 2018 :</i> Innovative Technology showcase from EU Companies/ Research institutes of Water Smart Technologies for application or by adaptation by Indian takers viz. Companies or by Implementing Authorities B2B meetings	Web site Showcase  B2B meetings	Web site showcase  B2B meetings