

SCHEDULE A
ASSESSMENT OF RIVER BASINS (RBs) IN SOUTH ASIA

Sr. No.	Details	Response
1	Physical Features - General Information	
1.1	Name of River basin (also indicate regional names)	Ravi It originates in the Himalayas in the Chamba district of Himachal Pradesh following a north-westerly course. It turns to the south-west, near Dalhousie, and then cuts a gorge in the Dhaola Dhar range entering the Punjab plain near Madhopur. It then flows along the Indo-Pak border for some distance before entering Pakistan and joining the Chenab river
1.2	Relief Map and Index Map of RB with Country/ State/ Province boundary marked to be attached.	Refer Annexure 1
1.3	Geographical location of the place of origin (Country/District. Please indicate on relief and Index Map)	India, District Chamba
1.4	Area (in Sq. Kms.),	
1.5	Population (in Millions); Name of population centers/ Cites (duely marked on the map: refer 1.2) having Population -	N.A
	(a) More than 0.5 Million - 1 Million	
	(b) More than 1 Million – 10 Million	6,318,745 Lahore, 2,232,992 Okara, 1,843,194 Sahiwal 2,068,490 Khanewal, (Source 1998 Census Report)
	(c) More than 10 Million	N.A
1.6	Approximate areas of upper regime, middle regime and lower regime;	
1.7	Country and States (Province) in which the basin lies (indicate % area covered);	Total length 720 km. India, Pakistan

2	Hydrological and Land use Features:	
2.1	Average annual rainfall (in mm); (Support with distribution pattern on Relief Map of RB {at 1.2} - indicating regions receiving high, medium or low rains);	600 mm
2.2	Maximum-minimum temperatures in Degree Centigrade	Min. 19.8 C & Max. 31.6 C
2.3	Average annual yield (discharge) of water in Cubic Meter and the average yield for last past five years	The waters of RB Ravi are allocated to India under the Indus Water Treaty 1960 between India and Pakistan. So to irrigate command area of this RB water is diverted from westren RBs (Indus, Chenab, Jhelum) through link canals. The quantity of diverted water is 691682608 cubic m.
2.4	Major tributaries	N.A
2.5	Percentage shares of major water uses & Surface and groundwater abstraction in percentages- Convert intoTable	100%
	(a.) Agriculture,	
	(b.) Industries,	N.A
	(c). Domestic,	N.A
	(d). urban,	N.A
	e). environmental flows.	N.A
2.6	Major cropping pattern	Rice 17% fodder 3%, Sugarcane 5% Wheat 14.5%,
2.7	Cultivable area under irrigation	1342682 hectares
2.8	Cultivable area not under irrigation	215650 hectares
2.9	State other Water Uses- eg. Navigation, power, recreation etc.	N.A
3	Ecosystem Features	
3.1	Agro-climatic zones	Punjab Rice Wheat (PRW), Punjab Cooton Wheat (PCW)
3.2	Major sub ecosystems (zoogeographical zones)	
3.3	Major soil types	Sandy, Clay
3.4	National parks/sanctuaries, lakes, wetlands, etc.	N.A

3.5	Brief information about the delta region of the basin (area, location, major urban centers in the delta, etc.)	N.A
4	Water Quality	
4.1	Prevailing water quality standards (e.g. Class I, II, III.etc, indicating permitted uses)	
4.2	Stretches (along the River) in Kms. with water quality classes indicated (may be marked on the map)	
4.3	Sources of Pollution, with data indicating quantum and/or severity.	
4.4	Prevailing abatement techniques e.g: ETP, STP, legislation,etc.	
5	Current status of the resource development & potential for development	
5.1	Water availability:	152 lpcd
	a. Per capita water availability (in lpcd)	
	b. Per hectare water availability (in Cubic meters for cultivable command area):	444 cubic m/hectares
	c. Availability of environmental flows (Current reserve, if any):	N.A
	d. Availability of ground water/ Average annual ground water abstraction/recharge.	N.A
5.2	Structures:	Baloki Headworks, Sidhnai Headworks
	a. Major dams/barrages (with utilization categories):	
	b. Proposed dams:	N.A
	c. Live storage of major dams:	N.A
	d. Live storage through proposed dams:	N.A
	e. Inter basin transfer systems:	BS link canal, Sulemanki link canal, Sidhnai-Mailsi-Bahwal link
	f. Any Other:	N.A
5.3	Command area of major dams	N.A

5.4	<p>Agencies functioning in the basins:</p> <p>a. Public agencies/ CSOs which construct/ implement the infrastructures projects:</p> <p>b. Private agencies/ CSOs involved in infrastructure development</p>	<p>a. Water and Power Development Authority</p> <p>b.N.A</p>
6	<p>Existence of National/State/Provincial Laws or Notifications relating to water- Management / use/development/opportunity for private sector participation or for privatization of water resources</p>	<p>N.A</p>
7	<p>Key Issues:</p> <p>Critical issues in water resources development and management in the basin- that constrain economic and social development. (e.g. Water Rights, Need for Negotiations, Levels of participation, disaster management, Equity, Water sharing, Allocations, Conflicts, etc). Kindly provide copies or abstracts</p>	<p>N.A</p>
8	<p>Enabling instruments- Law/ Policy/ Economic & Financial Measures for introducing IWRM in the basin</p>	<p>N.A</p>

SCHEDULE A		
ASSESSMENT OF RIVER BASINS (RBs) IN SOUTH ASIA		
Sr. No.	Details	Response
1	Legal / Political Mandate	
1.1	Is there any RBO? If yes, Give Name.	Indus River System Authority
1.2	How has it been constituted? (Statutory/ Voluntary/ Any other form).	Statutory
1.3	State objectives and organizational structure of the RBO in outline & enclose brochures	Organizational Structure: -Comprises of five Members nominated by each Province and the Federal Govt. Chairman of the Authority by rotation for one year in the order Balochistan, NWFP, Punjab, Sindh & Federal Chairman WAPDA and Chief Engineer Adviser shall be ex-officio Members
1.4	Functioning level of the RBO (watershed/micro basin/sub-basin/basin, etc.) (eg. Upper Bhima Water Partnership, restricted to Bhima river flowing through the State of Maharashtra – A reference literature can be provided by Gomukh for comparison. 1. Does the RBO have the responsibility and technical capacity to coordinate integrated water resources planning in the basin? 2. Does the RBO have a proactive and efficient data management and information dissemination process to inform all stakeholders of basin conditions, water resource availability, and major issues?	Basin level. 1. Yes a) The Advisory Committee will be consisting of IRSA, CEA, Members WAPDA, Secretaries Agriculture & Irrigation Departments of the Provinces b) The Advisory Committee is being assisted by a Technical Committee comprises Directors Regulation Punjab & Sindh, S. E Pat feeder Balochistan & S. E HQs NWFP 2. Yes
1.5	What are the major activities carried out by the RBO since inception?	

1.6	What are the proposed activities of the RBO?	1. Regulation & distribution of surface waters amongst the provinces. 2. Review & specify river and reservoir operation patterns 3. Compilation of canal withdrawal indents and issue of operational directives 4.To settle any question that may arise between two or more provinces in respect of distribution of water
Sr. No.	Details	Response
1.7	Details of Contact person/s (Name, designation and contact numbers, address, & emails).	
1.8	Presence of a regulatory framework wherein national or regional supra basin authority regulates the functioning of the RBO (eg. Indus Commission).	
1.9	Legal/political mandate wherein stakeholders can appeal for redress/decision and conflict resolution	Indus River System Authority
1.10	Does the RBO have an appellate authority?	Yes
1.11	Is the RBO an autonomous body?	Yes
1.12	Is it regulated by a supra basin authority, if so, how?	
1.13	Is the RBO authorized to raise capital for management and/or implementation in open market? (Please elaborate the authorization).	
1.14	Does the RBO receive direct budgetary grants? (From Govt./ Statutory Bodies/ Public donations/ Any Other Agencies.)	From Govt.
1.15	Nature of mandate for delegation of powers and/or functions (within RBO's constitution) to the lowest possible scales so as to encourage stakeholder participation. (Kindly elaborate the mode of delegation).	It protects the existing uses of all the Provinces. It recognizes the need for constructing new storages on the Indus and other rivers wherever feasible for planned further Agriculture development. It recognizes the need to escape some water below Kotri to check sea intrusion. It lays down the mechanism of sharing shortages and surpluses in the water availability

1.16	Policy of the RBO on – (i) Water allocation between users/sectors/sub-basins; and	•Crop season – forecast of Water Availability in the system Provincial shares as per Accord. Criteria for Reservoir operation and preparation of Rule Curve
	(ii) Procedures and processes for determining the above. (Kindly elaborate upon the above).	•Vetting by the Technical Committee and approval by the Advisory Committee. Provinces prepare their canal withdrawal plans as per their shares (Similar to a deposit in a Bank Account). Provinces supply their Water Account on 10-daily basis. The statements are reviewed & circulated to all the Provinces by IRSA for transparency
1.17	Presence of Trans-boundary Water Agreement or Treaty in case of a trans-boundary basin, (and a common RBO representing the countries/provinces) (eg. Indus Treaty in case of River Indus flowing through India and Pakistan) (Kindly indicate the agreement/ treaty. Also, indicate RBOs are representing Trans boundary Basins.)	Indus Water treaty 1960
1.18	Presence of a 'Tribunal' appointed in case of intra basin or inter basin disputes (eg. Krishna Water Disputes Award Tribunal established between states of Maharashtra, Karnataka, and Andhra Pradesh); (Kindly indicate name & nature of tribunal).	Indus River System Authority
1.19	Is the RBO responsible for preparing Basin Management Plan. If yes, please enclose a copy	N.A
2	Processes of community/stakeholder participation in the functioning of the RBO	
2.1	Are the stakeholders from the basin included in the governing body of the RBO? (e.g.: farmers, academics, CSO representatives, etc.)	Yes
2.2	Elaborate the nature and frequency of public consultation initiated by the RBO (for example: Annual Public hearings, representations from individuals/public,etc.)	N.A

2.3	Elaborate efforts at outreach/communication by the RBO.	
2.4	Elaborate efforts made for creation of participatory platforms at minor/major tributary or watershed levels for encouraging participation .	
2.5	Interaction of the RBO with organizations working in water management at different watershed/ micro basin, sub-basin or basin level (eg. Interaction of RBO with Water User Groups).	
2.6	Stakeholder participation sought by the RBO for preparing Basin Management Plan	
3	Conflict resolution and negotiations	
3.1	Involvement of the RBO in negotiations between stakeholders at various levels through an appellate authority mentioned above;	
3.2	Negotiation and participation encouraged at mini/micro basins for consensus building and/or conflict management.	

SCHEDULE C
ASSESSMENT OF RIVER BASINS (RBs) IN SOUTH ASIA

Civil Society RBOs (CSOs working in River Basin issues or those physically involved in infrastructure development and articulating / advocating a River Basin perspective maybe be considered as Civil Society RBO. Please note that some of these organisation may not be calling themselevs as RBOs. This is despite the fact that they function in most, if not all areas in which a statutorily constituted RBO operates)

Sr. No.	Details	
1.1	Constitution of the organization in terms of involvement of local action groups/initiatives, stakeholders, water users groups, and irrigation groups/ committees, traditional water groups urban and industrial users etc. are a part of the organization);	Envisaged as per WAA 1991 Para 13 Created in 1992 through an Act of Parliament (Act No. XXII of 1992)
1.2	Reflection of basin perspective in the organization's constitution/past/planned work and activities?	
1.3	Scale of work: Sub-basin/basin scale?	Basin Scale
1.4	Consideration of upstream and downstream impacts of water management activities in the RB and issues like inequitable distribution of water between intra and inter sectors;	
1.5	Has the organization prepared a Basin Master(Management) Plan? Does it contain elements different from or alternative to that of the government organizations?	
1.6	Efforts taken by the Civil Society RBO to upscale the vision/activities at basin level	
1.7	Participation in lobbying and advocacy at appropriate levels (provincial, national, international)	