

RIVER BASIN

JHELUM / ZELUM

[PAKISTAN]

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)	Jhelum It passes through the Srinagar district. In the city of Srinagar, lake Dal lies in its course. It also connects with Pakistan and Pakistan-held Kashmir on Kohala Bridge east of Circle Bakote. Then it flows into the Mangla Dam reservoir in the district of Mirpur. The Jhelum enters the Punjab in the Jhelum District. From there, it flows through the plains of Pakistan's Punjab. It ends in a confluence with the Chenab at Trimmu in District Jhang.
1.2	Relief Map and Index Map of RB with Country/ State/	Refer Annexure 1
1.3	Geographical location of the place of origin (Country/District. Please indicate on relief and Index Map)	The river Jhelum rises from north-eastern Indian held Jammu and Kashmir
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 -	936,957 Jhelum (Source 1998 Census Report)
	(a) More than 0.5 Million - 1 Million	
	(b) More than 1 Million – 10 Million	2,665,979 Sargodha (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);	Indian and Pakistan held Jammu and Kashmir, 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	Freezing point in Jammu and Kashmir 30 C at Jhang.
2.3	Average annual yield (discharge) of water in Cubic Meter and the average yield for last past five years	2776767391 cubic m
2.4	Major tributaries	River Neelam,River Kunhar River Poonch
2.5	Percentage shares of major water uses & Surface and groundwater abstraction in percentages-Convert intoTable (a.) Agriculture,	100%
	(b.) Industries,	N.A
	(c). Domestic,	N.A
	(d). urban,	N.A

	e). environmental flows.	N.A
2.6	Major cropping pattern	Rice 4%,fodder 3.5%,Sugarcane8%,oilseed &Vegetable 0.5%each, wheat 15%
2.7	Cultivable area under irrigation	829471 hectares
2.8	Cultivable area not under irrigation	158049 hectares
2.9	State other Water Uses- eg. Navigation, power, recreation etc.	Hydropower
3	Ecosystem Features	
3.1	Agro-climatic zones	Punjab Mixed Cropping(PMC), Punjab Sugarcane Wheat(PSW)
3.2	Major sub ecosystems (zoogeographical zones)	Dry subtropical semi evergreen scrub forest
3.3	Major soil types	Sandy, Silty, Clay
3.4	National parks/sanctuaries, lakes, wetlands, etc.	Lake Dal, Khabeki wetlands
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)	Class I
4.2	Stretches (along the River) in Kms. with water quality classes indicated (to be marked on map)	N.A
4.3	Sources of Pollution, with data indicating quantum and/or severity.	N.A
4.4	Prevailing abatement techniques e.g: ETP, STP, legislation,etc.	N.A

5	Current status of the resource development & potential for development	
5.1	Water availability: a. Per capita water availability (in lpcd)	2111 lpcd
	b. Per hectare water availability (in Cubic meters for cultivable command area):	2811 cubic m/hectare
	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: a. Major dams/barrages (with utilization categories):	Mangla Dam, Rasool Barrage
	b. Proposed dams:	N.A
	c. Live storage of major dams:	Live Storage Capacity Design 6.617 b cubic m. Live Storage at Present 5.75 b cubic m.
	d. Live storage through proposed dams:	N.A
	e. Inter basin transfer systems:	Rasool Qadirabad link, Upper Jhelum canal
	f. Any Other:	N.A
5.3	Command area of major dams	
5.4	Agencies functioning in the basins: a. Public agencies/ CSOs which construct/ implement the infrastructures projects: b. Private agencies/ CSOs involved in infrastructure development	a. Water and Power Development Authority b. N.A
6	Existence of National/State/Provincial Laws or Notifications relating to water- Management / use/development/opportunity for private sector	N.A

	participation or for privatization of water resources	
7	<p>Key Issues: 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>	N.A
8	Enabling instruments- Law/ Policy/ Economic & Financial Measures for introducing IWRM in the basin	N.A

SCHEDULE B
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	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

	data management and information dissemination process to inform all stakeholders of basin conditions, water resource availability, and major issues?	
1.5	What are the major activities carried out by the RBO since inception?	
1.6	What are the proposed activities of the RBO?	<ol style="list-style-type: none"> 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
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	If 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 Government
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.	•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 themselves 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	Response
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)	