

RIVER BASIN

WARDHA

[INDIA]

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)	Wardha 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	It originates at in Satpura Range in Madhya Pradesh. It is a tributary of the Pranhita River, which ultimately flows into the Godavari River.(Source-Maharashtra Water and Irrigation Commission report 1999)
1.4	Area (in Sq. Kms.),	22312sqkm. (Source-ibid)
1.5	Population (in Millions); Name of population centers/ Cites (duely marked on the map: refer 1.2) having Population - (a) More than 0.5 Million - 1 Million (b) More than 1 Million – 10 Million (c) More than 10 Million	Population in lakhs Wardha-1,236,736 Akola - 1,629,305 , Amravati- 9,941,903,Yavatmal- 2,458,271-,Nagpur- 4,067,637,Chandrapur- 2,071,101 (Source- http://en.wikipedia.org . Census 2001)
1.6	Approximate areas of upper regime, middle regime and lower regime;	Satpura rangesIn Madhya Pradesh,Wardha district in Maharashtra and Chandrapur district to the south
1.7	Country and States (Province) in which the basin lies (indicate % area covered);	State of Maharashtra --Akola, Amaravati, Yeovatmal, Wardha, Nagpur and Chandrapur.(Source-Maharashtra Water and Irrigation Commission report 1999)

2	Hydrological and Land use Features:	
2.1	Average annual rainfall (in mm);	1039mm(Source-ibid).
2.2	Maximum-minimum temperatures in Degree Centigrade	9.4.o C- 46 o C(Source- http://wardha.nic.in/htmldocs/glance.asp)
2.3	Average annual yield (discharge) of water in Cubic Meter and the average yield for last past five years	5633mcm (Source-Maharashtra Water and Irrigation Commission report 1999)
2.4	Major tributaries	Kar, Jam, Vena,Vembala, Wakali.(source-ibid)
2.5	Percentage shares of major water uses & Surface and groundwater abstraction in percentages-Convert intoTable	Surface water-3280mcm, Ground water- 2298 mcm. Available for agriculture- 694mcm.(Source-ibid)
	(a.) Agriculture,	
	(b.) Industries,	180mcm(Source-ibid)
	(c). Domestic,	145mcm.(Source-ibid)
	(d). urban,	42mcm.(Source-ibid)
	e). environmental flows.	not available
2.6	Major cropping pattern	Jowar, Pulses, Cotton,Soyabean, Chillies,Oranges and Vegetables.(Source-Maharashtra Water and Irrigation Commission report 1999)
2.7	Cultivable area under irrigation	1567Ha.(Source-ibid)
2.8	Cultivable area not under irrigation	498Ha.(Source-inid)
2.9	State other Water Uses- eg. Navigation, power, recreation etc.	681mcm for Industrial area of Amravati.(source-Maharashtra Water and Irrigation Commission report 1999) 6 proposed power plants with 2.35mega -watt capacity.(Source-ibid)
3	Ecosystem Features	

3.1	Agro-climatic zones	Central Vidarbha Zone / Zone of Moderate Rainfall (Source- http://agri.mah.nic.in/agri/stat/htmlarea/cli_table.htm#evz)
3.2	Major sub ecosystems (zoogeographical zones)	10%-subdivided hilly tracts, 52%-plateau region, 36%--flat lands, 2%- alluvial mud flat region. (Source-ibid)
3.3	Major soil types	Coarse shallow soil 39%, Medium Black soil 47%, deep black soil 10%, and alluvial soil 4%. (Source-ibid)
3.4	National parks/sanctuaries, lakes, wetlands, etc.	Total-4. Tadoba National Park, Andhrari, Kinwat, Bor game and Tipeswar Wildlife Sanctuary(Source-ibid)
3.5	Brief information about the delta region of the basin (area, location, major urban centers in the delta, etc.)	D N A
4	Water Quality	
4.1	Prevailing water quality standards (e.g. Class I, II, III.etc, indicating permitted uses)	Class II.(Source- http://envis.maharashtra.gov.in/notifieddrivers/wainGanga.php)
4.2	Stretches (along the River) in Kms. with water quality classes indicated (may be marked on the map)	From M. P. State Border to confluence with Wainganga River (Source- http://envis.maharashtra.gov.in/notifieddrivers/wainGanga.php).
4.3	Sources of Pollution, with data indicating quantum and/or severity.	D N A
4.4	Prevailing abatement techniques e.g: ETP, STP, legislation,etc.	D N A
5	Current status of the resource development & potential for development	
5.1	Water availability:	D N A
	a. Per capita water availability (in lpcd)	
	b. Per hectare water availability (in Cubic meters for cultivable command area):	694mcm(source-Maharashtra Water and Irrigation Commission report 1999)
	c. Availability of environmental flows (Current reserve, if any):	D N A

	d. Availability of ground water/ Average annual ground water abstraction/recharge.	2265mcm.(Source-Maharashtra Water and Irrigation Commission report 1999)
5.2	Structures:	419mcm(Source-ibid)
	a. Major dams/barrages (with utilization categories):	
	b. Proposed dams:	319mcm(Source-ibid)
	c. Live storage of major dams:	565.19mcm(Source-ibid)
	d. Live storage through proposed dams:	514.48mcm(Source-ibid)
	e. Inter basin transfer systems:	D N A
	f. Any Other:	Proposed 6 hydro electric small projects. (Source-Maharashtra Water and Irrigation Commission report 1999)
5.3	Command area of major dams	108587Ha.(Source-ibid)
5.4	Agencies functioning in the basins:	Hydro Power Corporation India, Vidarbha Irrigation Development Corporation (VIDC).Godavari Marathwada Irrigation Development Corporation (GMIDC)
	a. Public agencies/ CSOs which construct/ implement the infrastructures projects:	
	b. Private agencies/ CSOs involved in infrastructure development	
6	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	Godavari Tribunal , Maharashtra Water Resource and Regulatory Authority, National Water Policy, Maharashtra State Water Policy, Watershed Development Authority, Water Users Associations.
7	Key Issues:	D N A
8	Enabling instruments- Law/ Policy/ Economic & Financial Measures for introducing IWRM in the basin	Godavari Tribunal , Maharashtra Water Resource and Regulatory Authority, , Watershed Development Authority, Water Users Associations.

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.	Godavari Marathwada Irrigation Development Corporation (GMIDC)
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	
1.4	<p>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.</p> <p>1. Does the RBO have the responsibility and technical capacity to coordinate integrated water resources planning in the basin?</p> <p>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?</p>	
1.5	What are the major activities carried out by the RBO	

	since inception?	
1.6	What are the proposed activities of the RBO?	
1.7	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	
1.10	Does the RBO have an appellate authority?	
1.11	Is the RBO an autonomous body?	
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.)	
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 mode of delegation).	
1.16	Policy of the RBO on – (i) Water allocation between users/sectors/sub-basins; and	

	(ii) Procedures and processes for determining the above. (Kindly elaborate upon the above).	
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.)	
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).	
1.19	Is the RBO responsible for preparing Basin Management Plan. If yes, please enclose a copy	
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.)	
2.2	Elaborate the nature and frequency of public consultation initiated by the RBO (for example: Annual Public hearings, representations from individuals/public,etc.)	
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

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