

River Basin Management Cycle Training Series

Case Study – Pamba River Basin



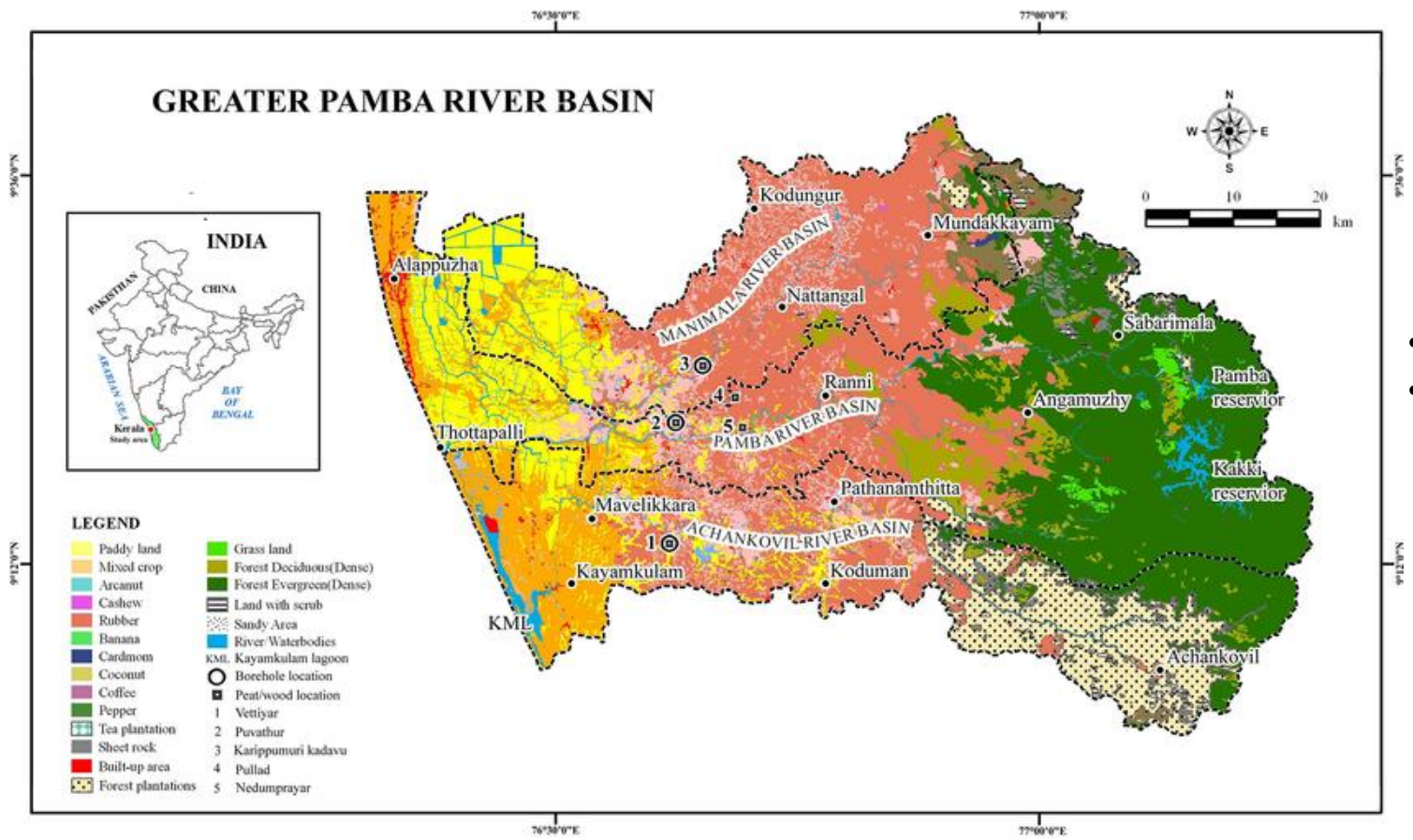
Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

**GNANAMI
GANGE**



GREATER PAMBA RIVER BASIN

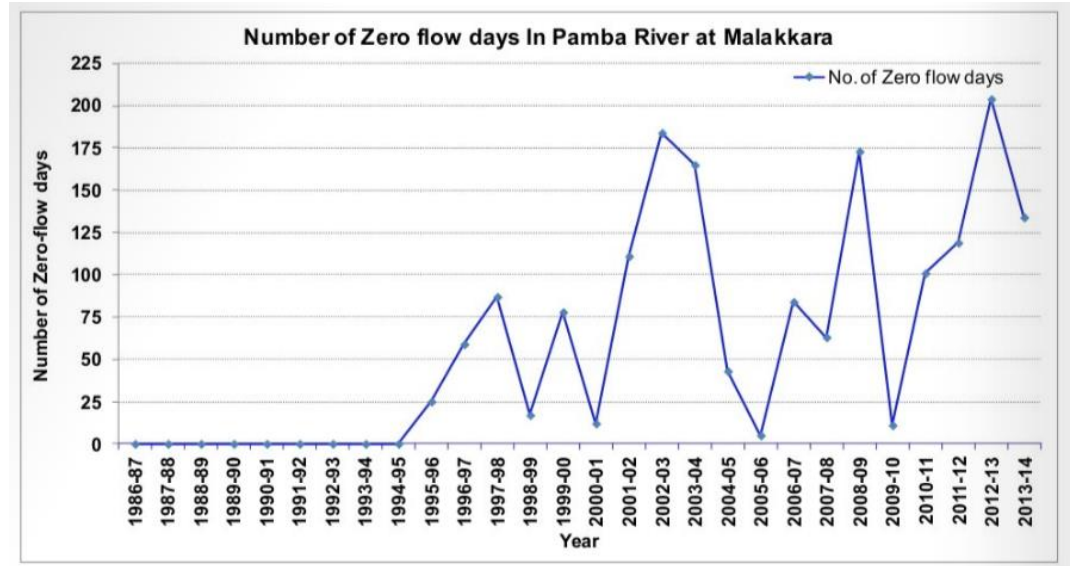


- About 2,200 km².
- Third largest river in Kerala.

Pamba River Basin – Pamba River Basin Authority

Main challenges in the basin

- Reduced water availability
- Anthropogenic waste: lack of sanitary latrines, lack of facilities for sewage collection and treatment
- Turbidity and organic pollution: sand mining, encroachment, sedimentation of reservoirs



Source: Report on the issue of decreasing flows in Pamba and Periyar Rivers in Kerala (2014)

Pamba River Basin – Legal Background for Pamba River Basin Authority

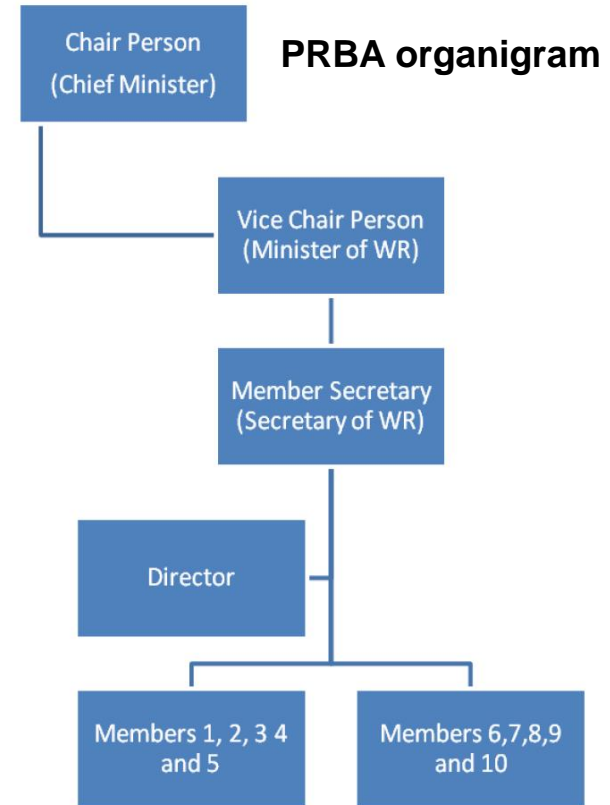
Pamba River Basin Authority Bill (2009)

- The bill established the Pamba River Basin Authority as a statutory body for conservation of water resources in the Pamba River Basin.
- Preamble states “the government is bound to ensure the quality of water in the river and to take measures to prevent pollution and to undertake integrated planning, monitoring, management and development of water resources in the river with the **river basin as an integral unit.**”
- It has the power to impose controls or restrictions over the exploitation of natural resources or encroachments that have an impact on the water resources and the basins of the Pamba River.

Pamba River Basin – Legal Background for Pamba River Basin Authority

The Basin Authority is represented by stakeholders from 15 different governmental sectors as well as autonomous representatives:

- Chairman: the chief minister
- Vice-chairman: Kerala's Water Resources Minister
- Member Secretary : Water Resources secretary
- Chairman of the Kerala State Pollution Control Board
- Secretaries of various departments such as Revenue, Forest, Local Self-government, Health, Science and Technology and Environment, Finance, Power and Devaswom.
- Two water sector experts
- Two members of the House of the People, nominated by Government, representing the constituencies
- Two members of the Legislative Assembly, nominated by Government, representing the legislative constituencies
- Presidents of the District Panchayats



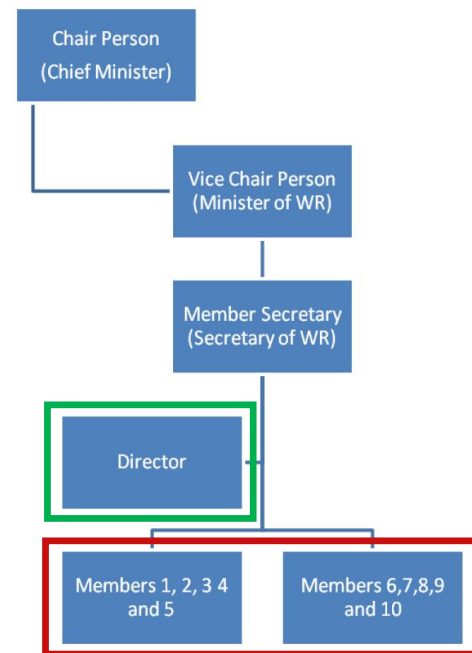
Pamba River Basin – Legal Background for Pamba River Basin Authority

Pamba River Basin Authority (PRBA) State level Members	Pamba River Basin Authority Executive Committee managed by the Project Director
Policy and Program Facilitation <ul style="list-style-type: none"> Develop legislation, internal policy in line with state water policy Develop catchment management strategies Develop or support other statutes, strategies, plans and IWRM-related bodies 	Physical Implementation and decision making <ul style="list-style-type: none"> Develop water resource infrastructure Operate & maintain water resource management system Implement water conservation and manage demand Manage flood and drought Emergency response
Funding and Finance <ul style="list-style-type: none"> Provide funding support Decide on water tariffs Decide on budgetary allocations To Authority Explore public private participation (PPP) 	Water Use <ul style="list-style-type: none"> Establish user connectivity Register water users Authorize water use Collect water use charges Enforce compliance Regulate dam safety Ensure supply equity and uniform accessibility
Regulation and Control <ul style="list-style-type: none"> Develop and maintain pricing policy and water tariff Develop and announce norms and standards (e.g. WQ) 	Basin Planning <ul style="list-style-type: none"> Assess demand-supply situation Involve stakeholders in basin planning Assess peak (pilgrimage) and seasonal requirements and adjust supply situation

Key functions of the PRBA

Inter-departmental Coordination <ul style="list-style-type: none"> Coordination with various state level departments Identify policy gaps and recommend solutions Facilitate state level inter-departmental coordination 	Information Management <ul style="list-style-type: none"> Data acquisition Data and information storage and management Information generation and dissemination Support for complex knowledge products Information Management Research
Institutional Support <ul style="list-style-type: none"> Establish statutory water management institutions Facilitate establishment of non-statutory participatory bodies (stake holder involvement) Build IWRM-related capacity Coordinate activities of various water management agencies and institutions 	Water Resource Audit <ul style="list-style-type: none"> Water Resource Audit strategies and their outcomes Audit water use regulation and its efficacy Conduct periodical water audits and develop feedback loop with water use regulations
Monitoring & Evaluation <ul style="list-style-type: none"> Define Monitoring & Evaluation (M&E) Systems Build capacities in M&E Carry out impact evaluation 	Monitoring & Evaluation <ul style="list-style-type: none"> Set up baseline data Carry out basin level M&E surveys Report on physical and financial progress Assess benefits derived out of IWRM

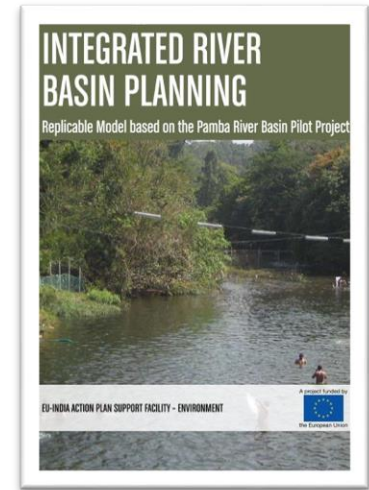
PRBA organigram



Source: Project "Developing a Roadmap for the Pamba river"
(EU-India Action Plan Support Facility, 2010)
Pamba River Basin Authority Bill (2009)

Pamba River Basin – Roadmap Development

- The EU-India Action Plan Support Facility conducted in 2010 the project “Developing a Roadmap for the Pamba river”.
- Implemented through targeted training/working sessions and consultations of a broad spectrum of stakeholder.
- It supported the newly set up Pamba River Basin Authority in devising a management plan for future priority actions.
- Objective was to evolve water management in the State to a sustainable water resources management practice that is cross sectoral, decentralized, and at the scale of the basin.
- The main actions identified in the Roadmap were:
 - the immediate need for operationalization of the Pamba River Basin Authority,
 - adequate and thorough capacity building at State and local level in IWRM practices,
 - and the development of a full IWRM Action Plan for the Pamba River.



Pamba River Basin – Roadmap Development II

Development of an IWRM Action Plan

- Involvement of ca 80 representative stakeholders.
- Water resources issues identified and ranked in accordance to their importance.
- Identification of water management constraints and possible solutions.
- Preparation of an IWRM Roadmap, with identification of measures, timeline, responsible organisation and definition of monitoring indicators.

Pamba River Basin – Roadmap Development III

Development of an IWRM Action Plan

Next steps	Milestones	Indicators
Form an operational body for water resources management in the Pamba River Basin	June 2011	Pamba River Authority operational - offices, staff, work plans and budgets identified.
Capacity building in IWRM	December 2011	Capacity need assessment conducted, IWRM training conducted at central and de-centralised level
Development of a communication strategy	September 2011	Communication strategy formulated and being implemented ensuring stakeholder involvement
Enforcement of existing legal framework	Immediately	Identified priority issues addressed e.g. illegal sand mining
Adjustment of existing legal water framework for the Kerala state	January 2012	Enactment of primary water legislation
Full assessment of the water resources situation (quantity & quality) in the Pamba Basin	March 2011	The quantity and quality of the resource assessed based on data from the numerous intutions involved in monitoring.
Setting-up a sustainable monitoring and evaluation system for water resources management &	August 2011	MIS operational - databases, GIS and modelling tools Collaboration with the World

Establishment of an information system on water resources		Bank supported Hydrology II project for developing Hydrology Information System (HIS)
Initiation of elaboration and adoption of an IWRM Action Plan for the Pamba Basin	August 2011	IWRM action elaborated and endorsed by the Government
Elaboration of DPRs (Detailed Project Reports) for implementation of different actions identified	December 2012	Detailed project reports prepared for the actions identified in the IWRM plan
Elaboration of financing plan and investment strategies	December 2011	Financing strategies and development plans adopted
Implementation of the IWRM Action Plan for the Pamba River Basin	January 2012 – December 2015	Identified actions implemented.
Development of IWRM indicators to monitor the effects from implementing the IWRM plan	June 2012	Set of indicators developed to monitor that the desired effect from the reform process is being achieved. Regular evaluation reports.

Source: Project “Developing a Roadmap for the Pamba river” (EU-India Action Plan Support Facility, 2010)

Actual status of the Pamba River Basin Authority (PRBA)

- As of today, the PRBA is not operational. Actions on the ground were not taken to the level to which it should have been undertaken.
- According to the former Director of the PRBA, the reasons are:
 - It was not given priority by the Government
 - Lack of leadership
 - Lack of financial resource allocation
 - Apprehension by the stakeholders that this is not going to be feasible in Kerala/India
 - Frequent transfers of the officials
 - Lack of functioning of the various related departments in an integrated manner, even conflicts
- Departments members of the PRBA have undertaken their respective activities which happen to enable/facilitate the PRBA. But these activities were not integrated.
- A strong leadership can make a huge difference as the Chief Minister is the Chairman of PRBA.

River Basin Authority (RBA) in Kerala

In 2018, Kerala state government announced its plan to establish a River Management Authority for the 44 rivers in the State.

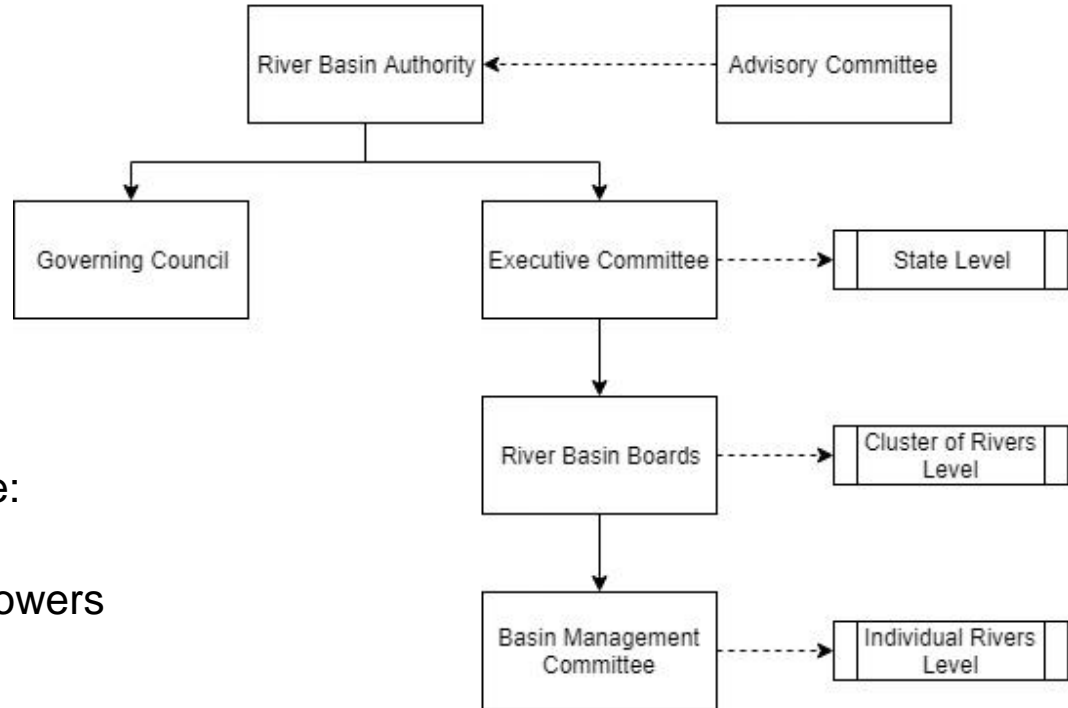
Proposed set-up of the RBA:

- Governing Council
- Executive Committee

Advised by an Advisory Committee:

- Provide technical advices
- Without any decision-making powers

RBA organigram



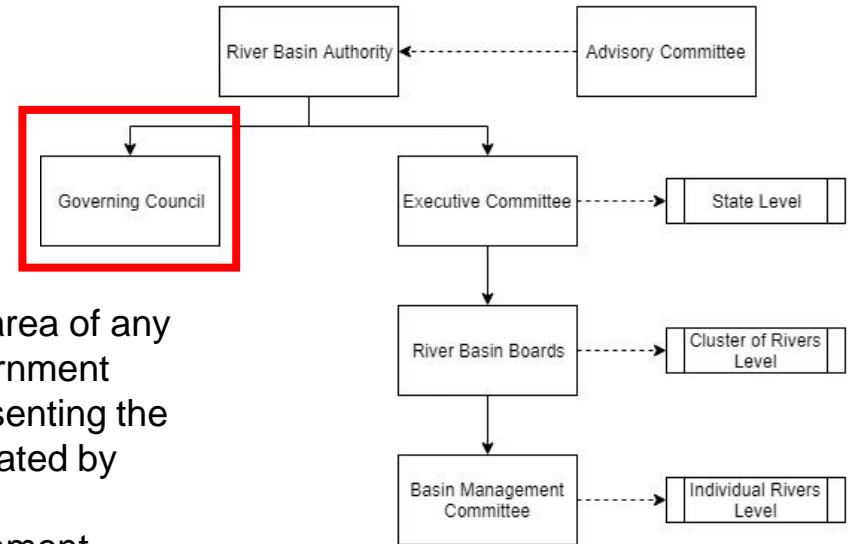
Source: Note from the Chief Engineer Irrigation & Administration
Thiruvananthapuram, dated 25/03/2019

River Basin Authority (RBA) in Kerala

Governing Council:

- Chairman: Chief Minister
- Vice Chairman: Kerala's Minister for Water Resources
- Secretary: the Chief Secretary
- The Opposition Leader of the Legislative Assembly
- Different State Ministers: Finance, Agriculture, Environment and Forest, Rural Development, Panchayats, Urban Development, Revenue, Industries, Power, Fisheries;
- Vice-Chairman of the State Planning Board
- Two members of the Parliament, representing the area of any of the two River Basin Boards, nominated by Government
- Three members of the Legislative Assembly, representing the area of any of the three River Basin Boards, nominated by Government
- Two representatives of NGO, nominated by Government

RBA organigram



River Basin Authority (RBA) in Kerala

Powers, Functions and Responsibilities of the **Governing Council**

- Apex body for the coordination, convergence and integration of policies and programs.

Main functions

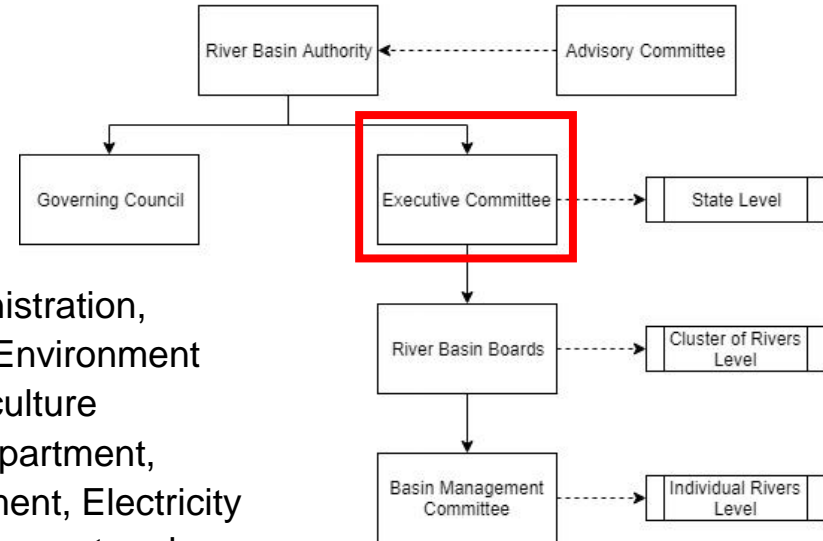
- Approve River Basin Plans submitted by the Executive Committee.
- Monitor the progress and outcomes of the implementation of the River Basin Plans;
- Lead the communication campaign and monitor the activities related to awareness creation and behavior change among the public and ensure the participation of all stakeholders concerned.
- Recommend to the Government on the inter-basin and intra-basin water transfer and allocations.
- Oversee the inter-state agreements.

River Basin Authority (RBA) in Kerala

Executive Committee

- Chairman: the Chief Secretary.
- Vice-Chairperson: Secretary of Kerala's Water Resources Department.
- Secretary: the Chief Executive officer.
- Member Secretary of Kerala State Pollution Control Board.
- Directors of State Department: Irrigation and Administration, Kerala Water Authority, Groundwater Department, Environment and Climate Change, Conservator of Forests, Agriculture Department, Soil Survey and Soil Conservation Department, Science and Technology and Environment Department, Electricity Board Limited, Center for Water Resources Development and Management.
- River Basin Board representatives.

RBA organigram



River Basin Authority (RBA) in Kerala

Powers, Functions and Responsibilities of the **Executive Committee**

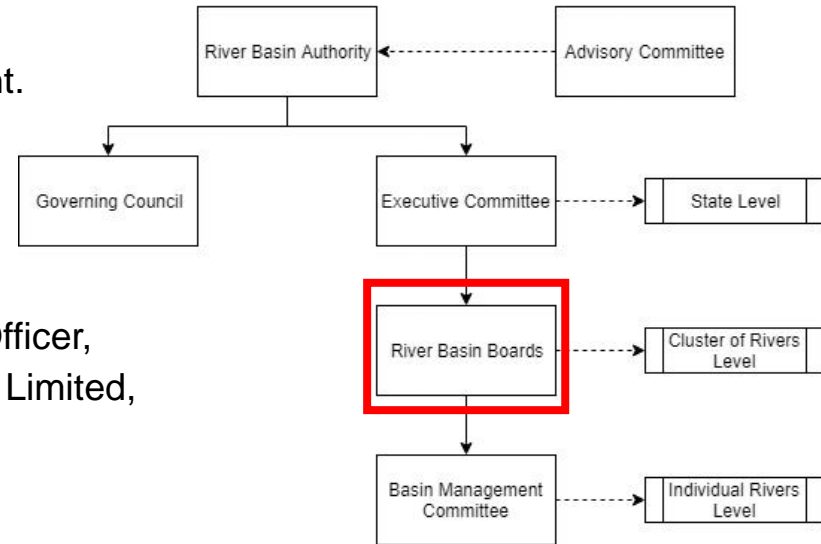
- Coordination, convergence and integration of policies, and programs.
- Approve River Basin Plans prepared by River Basin Boards.
- Prepare, implement and monitor river basin plans for rivers where separate boards are not formed.
- Recommend specific measures and programs.
- Monitor the progress and outcomes of the implementation of the River Basin Plans.
- Monitor the projects and programs of Government Departments and Agencies and ensure that they are in consonance with River Basin Plans.
- Resolve water disputes and conflicts in the River Basins through conciliation.
- Design and roll out effective communication strategy and campaigns for the conservation of rivers.

River Basin Authority (RBA) in Kerala

River Basin Boards (3 to 4)

- Chairman: Chief Engineer, Irrigation Department.
- Superintending Engineer(s) of the Irrigation Department.
- Regional Officer, Kerala State Pollution Control Board.
- Local Departments: Executive Engineers Kerala Water Authority, Groundwater Department, Agriculture Department, District Officer Soil Survey, District Soil Conservation Officer, Divisional Forest Officer, Kerala State Electricity Board Limited, Fisheries Department, Project Director, Rural Development Department.
- Basin management committee representatives.

RBA organigram



River Basin Authority (RBA) in Kerala

Powers, Functions and Responsibilities of the River Basin Boards

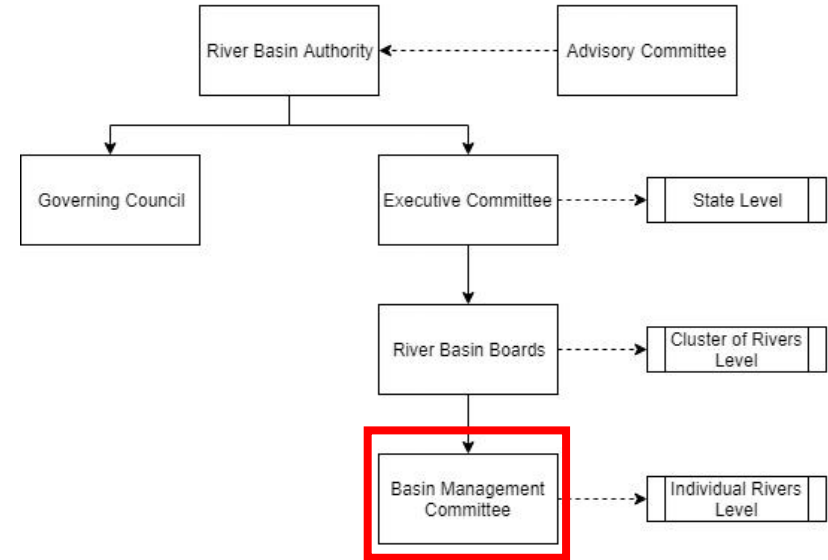
- To prepare River Basin Plan.
- Carry out activities under the basin plan, adopting a decentralized approach.
- Integrate and co-ordinate development works carried out by various departments.
- Design and develop an integrated data network and a Decision Support System (DSS).
- Determine and regulate water rights, water sharing, and water transfer both inter and intra basin levels.
- Redress the disputes on water related issues within the jurisdiction of the River Basin Board and to refer to the Authority such issues which could not be resolved at their level.
- Take measures, including penal or otherwise, to prevent water pollution, encroachment and any other adverse activities.
- Design and roll out effective communication strategy and campaigns for sustainable management of the river basin.
- Ensure participation and stakeholder engagement right from the preparation of basin plans to its implementation.

River Basin Authority (RBA) in Kerala

Basin Management Committees

- Members of Parliament.
- Members of the Legislative Assembly.
- Heads of Local Self Government Institutions.
- Representatives of all registered NGOs.
- District level officers of Irrigation, Agriculture, Kerala Water Authority, Groundwater, Forest, Soil Conservation, Pollution Control Board and Electricity Board.
- Representative of water user groups.

RBA organigram



River Basin Authority (RBA) in Kerala

Powers, Functions and Responsibilities of the **Basin Management Committees**

- Plan programs and projects at sub basin level.
- Collect baseline data and inventories.
- Support the Board in the preparation of basin plan.
- Monitor implementation of basin plan.
- Monitor water quality.
- Implement selected components of basin plan through community contracting.
- Mobilize community participation initiatives for enforcement of pollution control in the basins.
- Carry out communication campaign with specific focus on direct contact programs.

References

EU-India Action Plan Support Facility (2010) Developing a Roadmap for the Pamba river Project. URL:

http://www.indiaenvironmentportal.org.in/files/Final_Report_IWRM_Roadmap_Pamba_Pilot_Project_2_0.pdf (access date 18.01.2020)

EU-India Action Plan Support Facility (2011) Integrated River Basin Planning - Replicable Model based on the Pamba River Basin Pilot Project. URL:

http://www.indiaenvironmentportal.org.in/files/IRBPREvised_.pdf (access date 18.01.2020)

National Institute of Hydrology, Indian Institute of Technology Roorkee, Centre for Water Resources Development and Management, Central Water and Power Research Station, Central Water Commission (2014) Report on the issue of decreasing flows in Pamba and Periyar Rivers in Kerala <http://www.cwrwm.org/home/publications/3/0/9#> (access date 18.01.2020)

Continued engagement pre and post webinar

1. For queries and related engagements contact GIZ colleagues:

Delhi Office:

- Dr. Sumit Gautam (sumit.gautam@giz.de)
- Ms. Chhavi Sharda (chhavi.sharda@giz.de)

Uttarakhand (Dehradun) Office:

- Mr. Merajuddin Ahmad (merajuddin.ahmad@giz.de)

2. E-Learning platform - <http://78.46.247.119/>

(Temporarily hosted on AHT servers and will be transferred to the servers of training institutes.)

Contact: Rania - taha@aht-group.com/ Rebecca - roblick@aht-group.com

As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Published by:

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn

India office:

GIZ Office New Delhi
46 Paschimi Marg, Vasant Vihar
New Delhi 110057

Postal address:

Support to Ganga Rejuvenation
B-5/2, Safdarjung Enclave
New Delhi 110 029
India

E: [martina.burkard@giz.de/](mailto:martina.burkard@giz.de)
[chhavi.sharda@giz.de/](mailto:chhavi.sharda@giz.de)
sumit.gautam@giz.de

Author/Responsible/Editor, etc.:

AHT Group AG Management & Engineering

Design/layout, etc.: GIZ

Photo credits/sources: N.A.

URL links:

Responsibility for the content of external websites linked in this publication always lies with their respective publishers. GIZ expressly dissociates itself from such content.

On behalf of

German Federal Ministry for Economic Cooperation and Development (BMZ)
Support to Ganga Rejuvenation, Competence in Motion,
New Delhi, GIZ India

GIZ is responsible for the content of this publication.

In cooperation with:

