



Resolving the Tiao-Kuai Conflict in River Chief System: Evidence from institutional setting at the local level

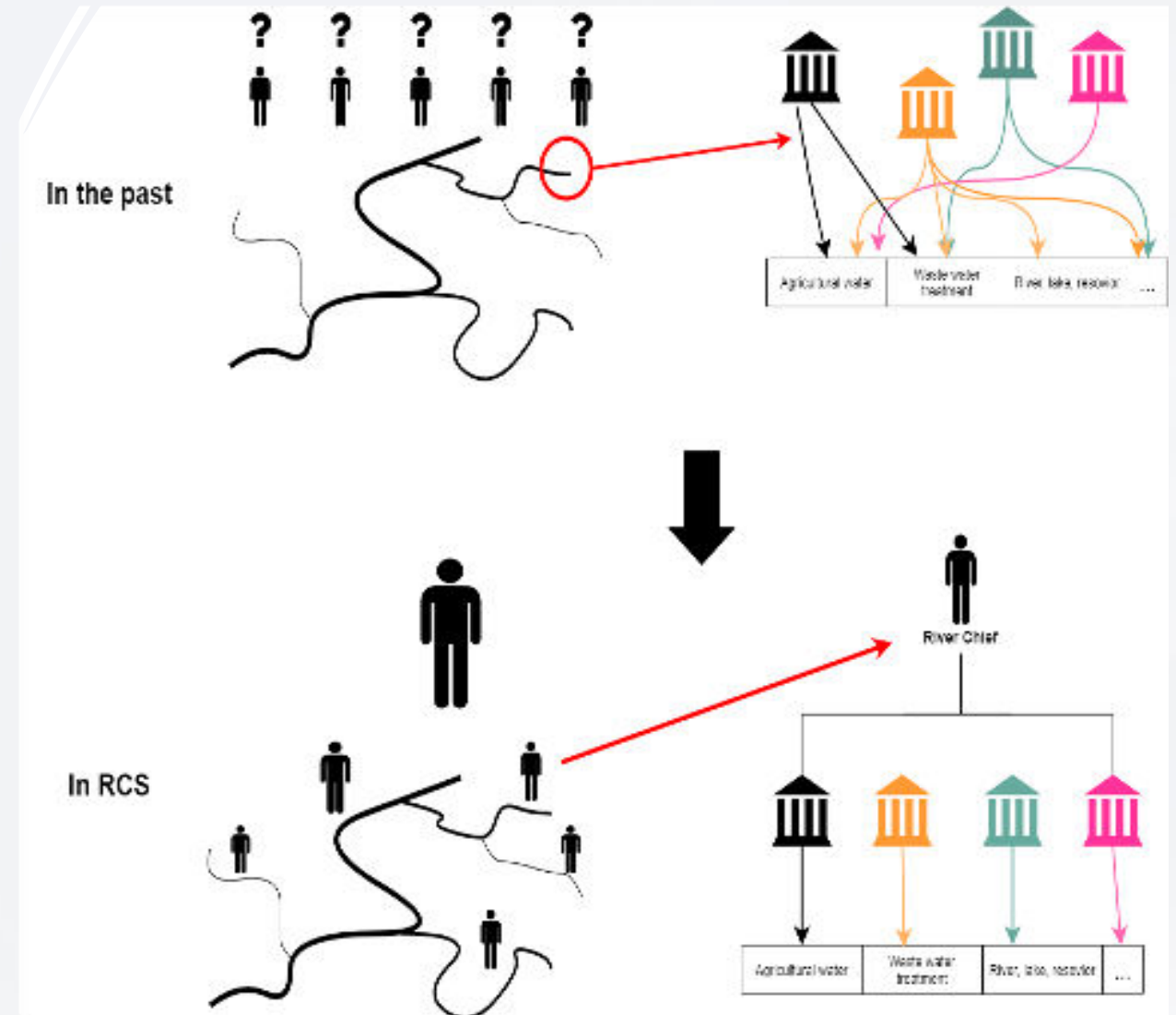
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1. China's River Chief System ("RCS")

•River Chief System:

- Assign the primary water management **responsibilities** of local **waterways in the jurisdiction** to the local **head officials**.
- River Chiefs' water management performance will be assessed and link to their career path.
 - Need to patrol the river regularly
 - Make Coordination in the management between different departments
- Five-level RCS has been established from Provincial level to Village level.
- From Wuxi City (2009) to the whole nation (2017)
- **By 2018, there are one million river chiefs in China** (Xinhua Net, 2018)

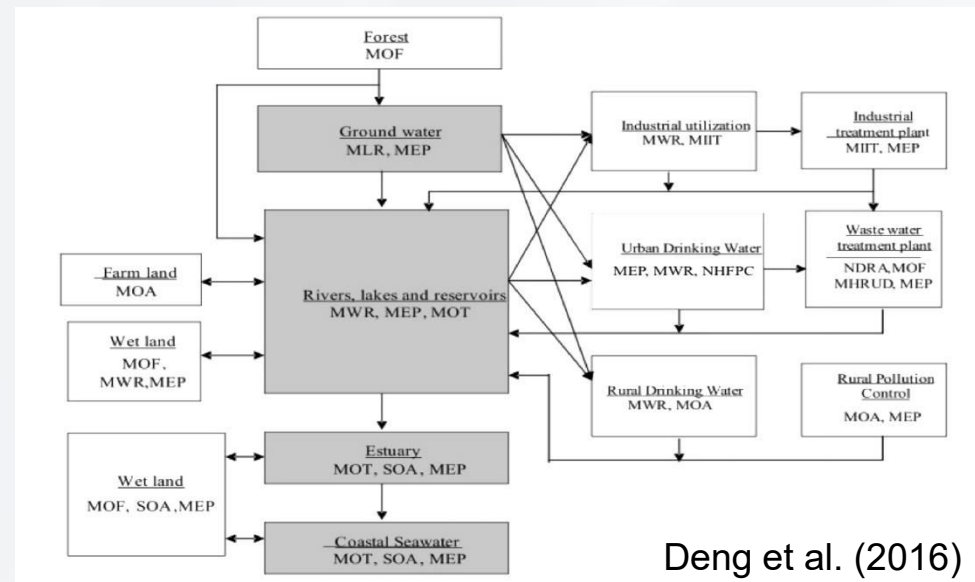
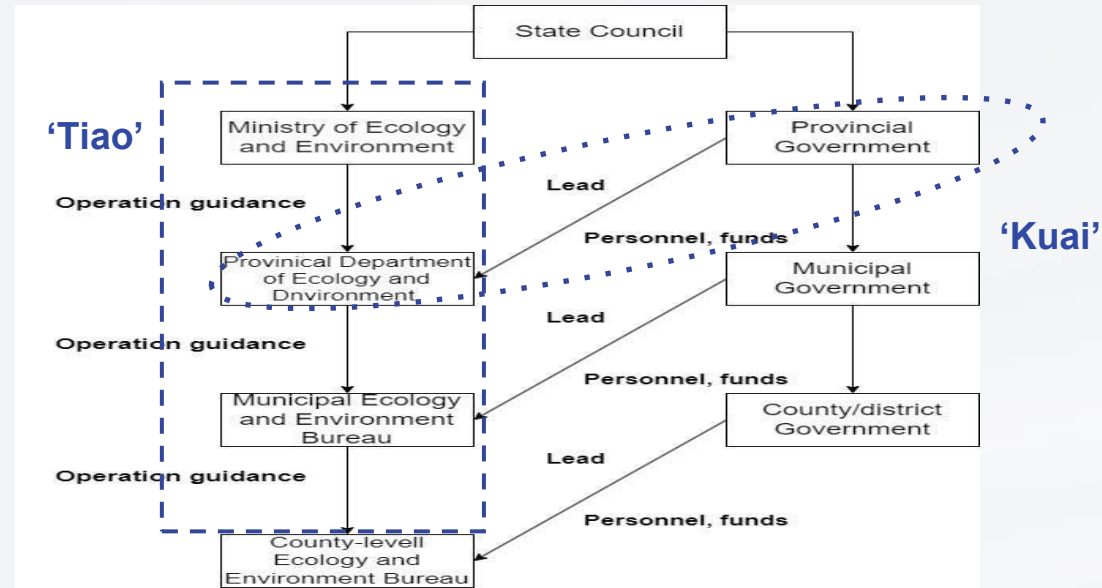


2. Tiao-Kuai and water management problems

- China's **administrative hierarchy**: Tiao-Tiao (“条条” , line, the functional department) and Kuai-Kuai (“块块” , Piece, administration government)

- Tiao-Kuai relationship in water issues management presented significant fragmentation and division

- Unmatched goal
- Unclear responsibility & poor communication and information sharing



Deng et al. (2016)

3. Objectives

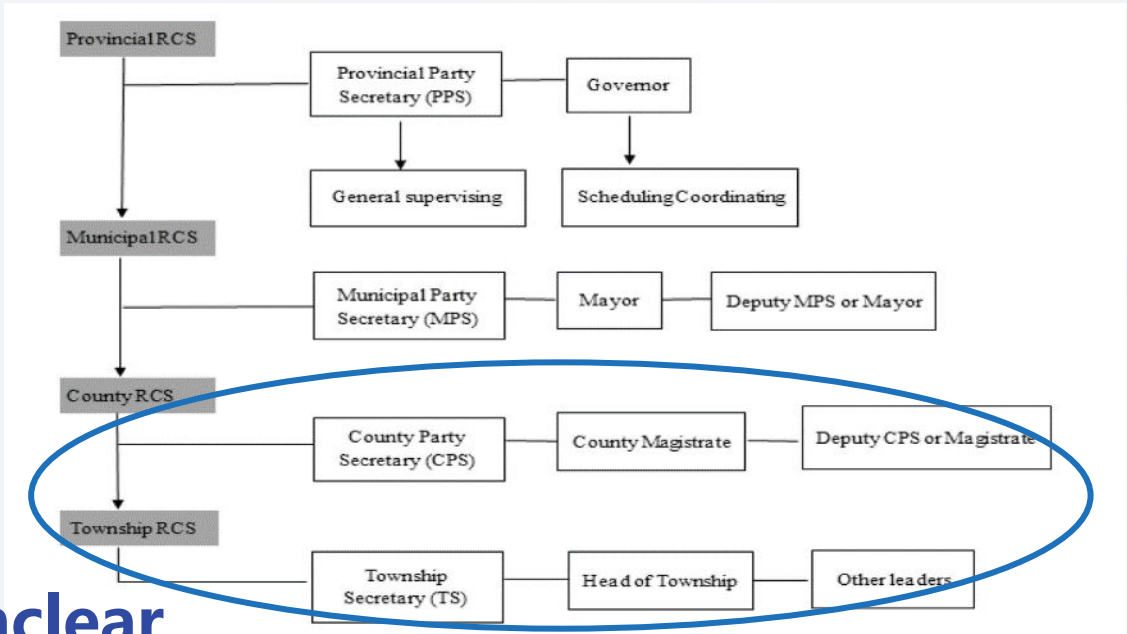
- To understand the RCS' s institutional setting at the local level
- How RCS' s institutional setting change the Tiao-Kuai Relationship

4. Literature Reviews and Gaps

• China's 'Tiao-Kuai' division and management

- China's tiao-kuai division shows the absence of management responsibility and uncompleted coordination system (Yan, 2022)
- The Tiao-Kuai division can be addressed by integrating the Tiao and Kuai, and clarifying their relationship (Shi & Li, 2021; Tian, 2022)

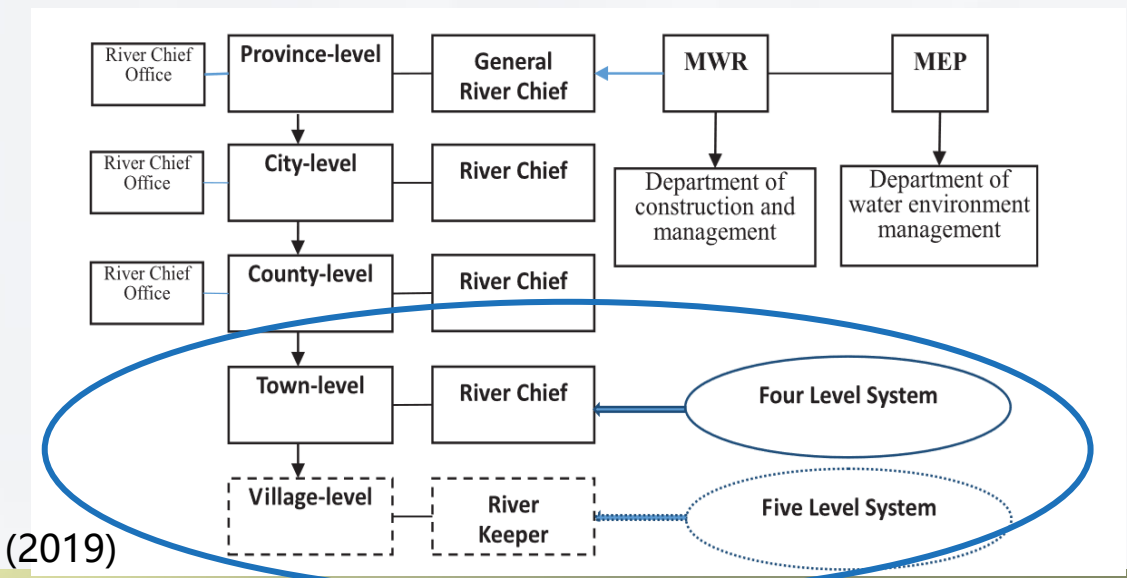
Gaps: How the Tiao-Kuai division management reflected in the actual practices remained to be addressed



• River Chief System Studies

- Most studies focus on regional view.

Gaps: Only a few works demonstrates RCS implementation practices at the local level, it is unclear that RCS structure inside the local government.



5. Study site: A County in Huizhou City

- From a City in Guangdong Province
- Has established the RCS since 2017 and achieved significant outcome:
 - From less than Grade V (*heavily polluted, unsuitable for any use*) water in 2018 to Grade III (*can drink after processing*) in 2020 (DEEG, 2020).
- Qualitative Approach
 - 15 interviews with the river chiefs, river chief office officials, and bureau officers
 - Local newspaper, documents from government website



6. RCS Structure inside the County

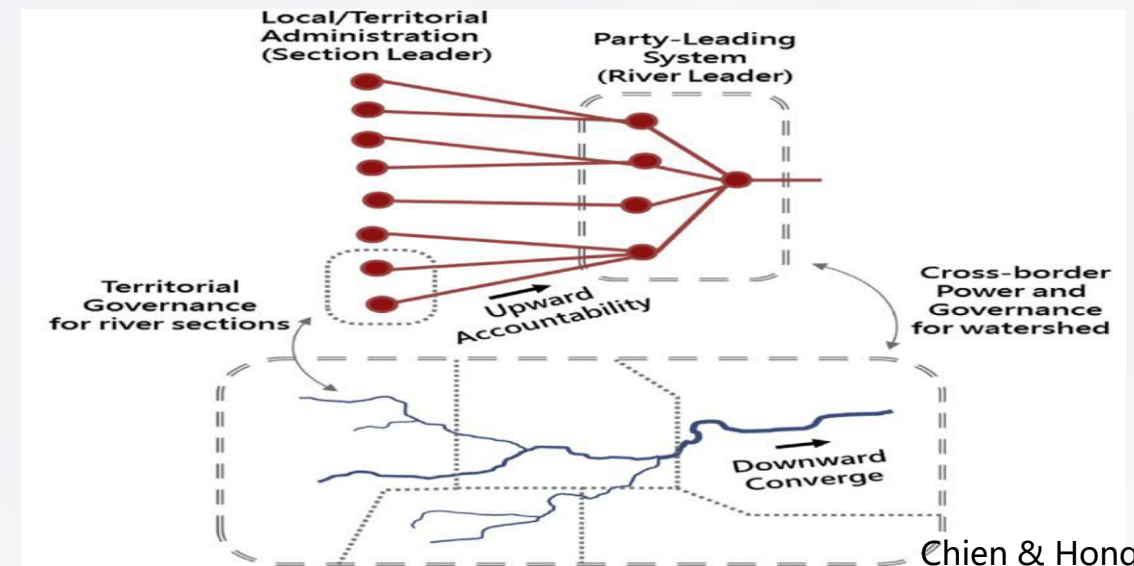
RCS as a county-based setting

- ❑ County becomes the basic unit
- ❑ Completed bureaucratic structure
- ❑ County structure:
 - ❑ County/District (Organisation & Allocation) >> Township (Implementation) >> Village/Community (Monitor & Report)



Basin Management Bureau (Provincial)

- ❑ 'Administration + Basin' model:
 - ❑ Small river manage inside the county, large river manage within the basin area
- ❑ The basin management bureau:
 - ❑ Used to a very weak agency
 - ❑ Making coordination between counties
 - ❑ Allocate special funding for county' s project



6.1 Technology adopted inside the County RCS

❑ River Chief App:

Record the river patrol record and report issues

Communication between river chiefs

❑ River Chief Official Account on Wechat (Public accessible)

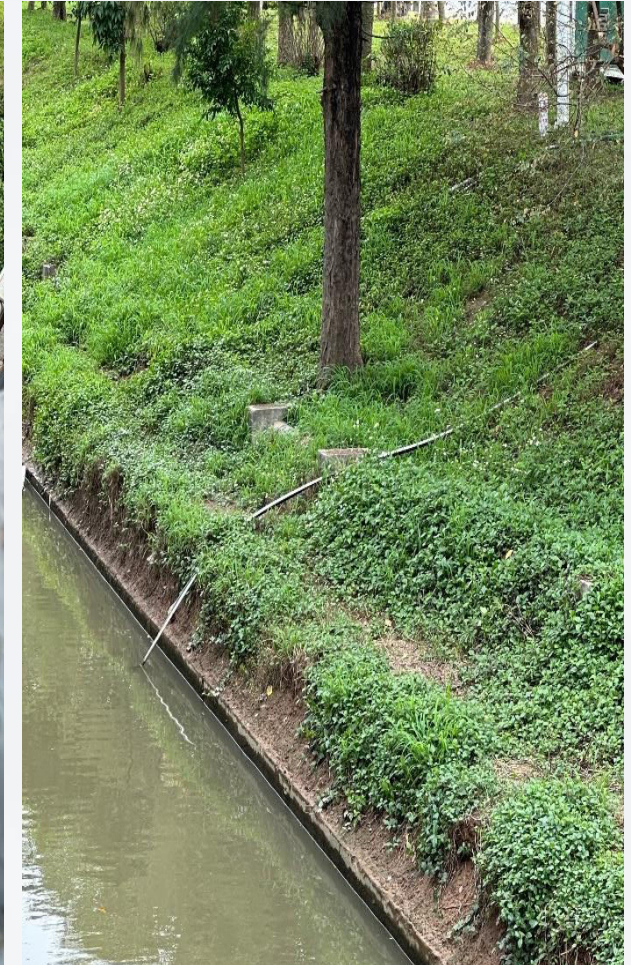
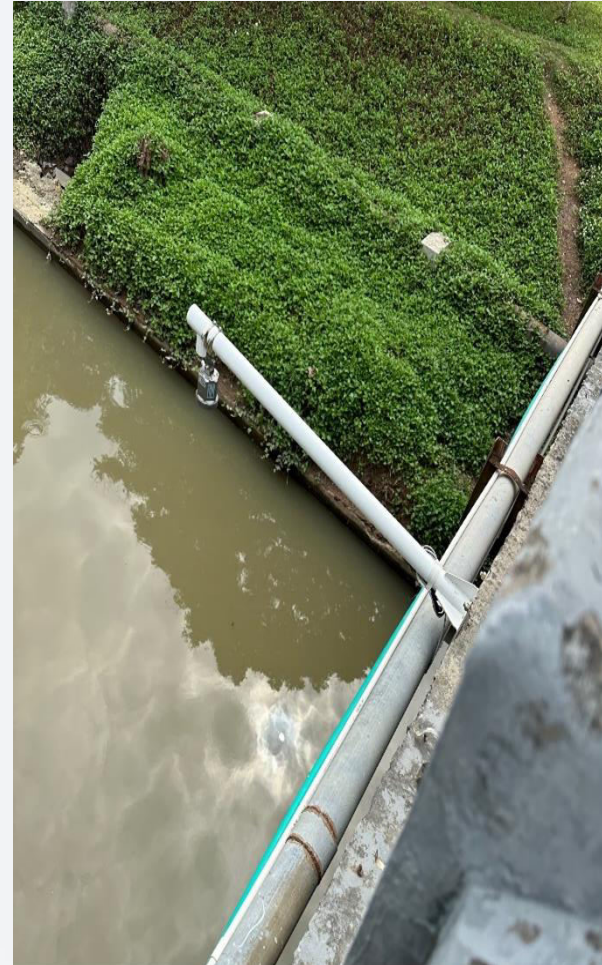
[Report the problems](#) (Includes: location, date, and management progress)

❑ Water Environment Monitoring Techniques

Water level and water quality monitoring equipment

Satellite images

“Platformisation” of the governance



Water surface and quality monitoring equipment

7. Approaches to integrate the Tiao-Kuai

Administrative approach:
Organisational Re-arrangement

Technological approach: Real time
water environment monitoring &
information-sharing



**Goal-setting,
responsibility &
communication issues,
Tiao-Kuai Integration**

Goal-setting

The **River Chief Office** at the basin level and the prefectural set the goal collaboratively

Communication

Cross-administration Communication

- ❑ River chief organised meeting
- ❑ Basin Management Bureau coordination
- ❑ App-based instant communication

Accountability

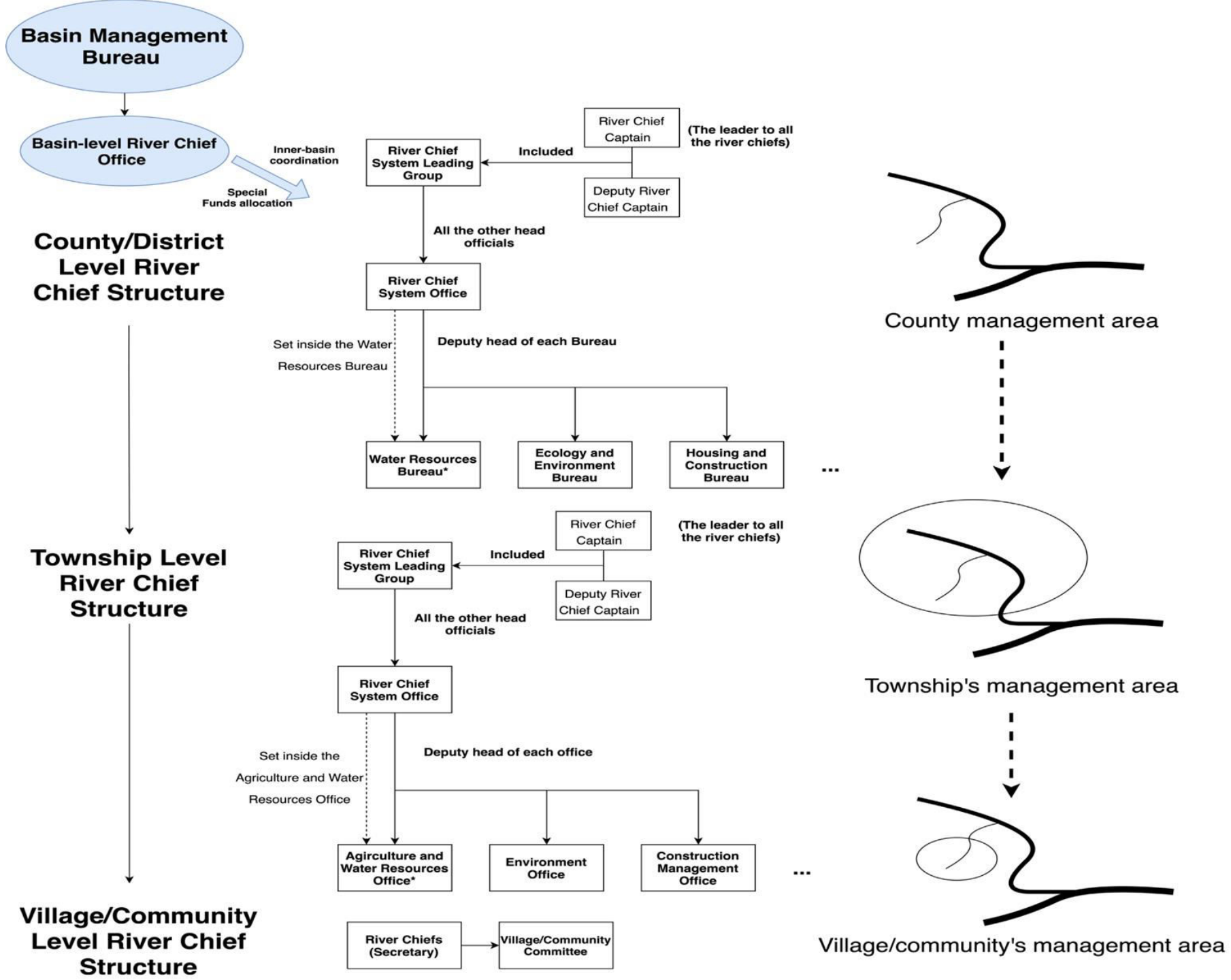
- ❑ Responsibility assigns to **individual river chiefs**

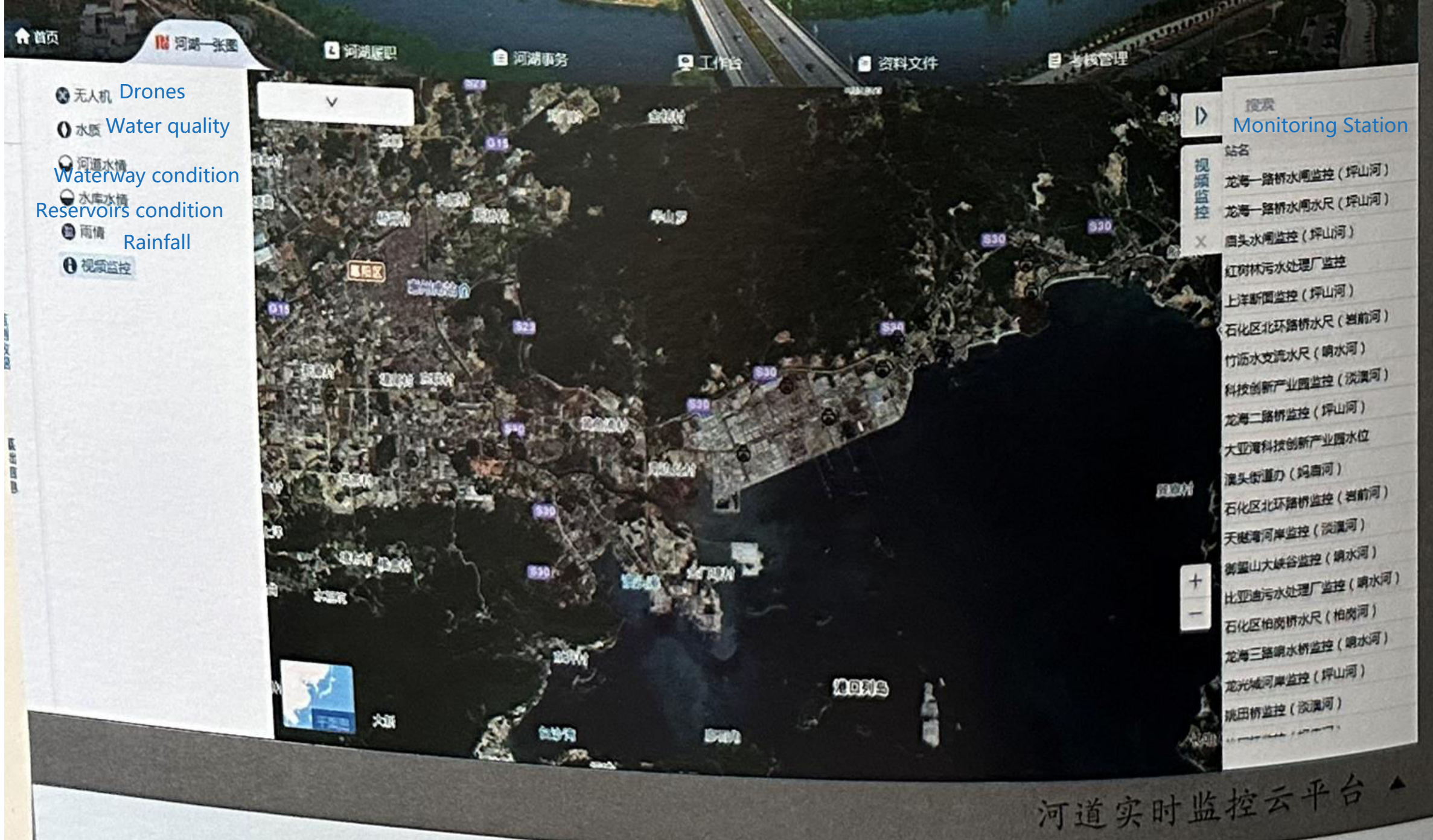
The actual implementation is done by the functional group.

- ❑ Enforcement tracking (River Chief App)
- ❑ River Chief Office assess the RCS performance of subordinate river chiefs and bureau
Assessment results link to **promotion opportunity** (River Chief) and **annual bonus** (river chief + bureau)

- ❑ 'Tiao' (Departments): Role is clarified by the River Chief Office
 - ❑ *"River Chief Office can clarify the detailed responsibility and targets of each bureau, then we (river chiefs) will nominate if the negotiation between bureaus and river chief office fails" --- County-level river chief H (CQ24052023)*
- ❑ 'Kuai' (Administrations): Responsibility is clarified by the water quality monitoring
 - ❑ *"For example, based on water quality criteria(e.g., COD), if our (county) has better criteria than the neighbour counties then the responsibility will be the their" --- County-level river chief H (CQ24052023)*

- The emerging ‘Planning at the basin level and coordinating between counties “流域统筹+区域协调” recalls the debates of management scale. Can this become a new or can act in-between the local scale and basin scale, or it just a modified local scale?
- The authority from the Kuai remains the fundamental factor to reach the ‘Tiao-Kuai’ integration in the RCS and further empower the authority-based management and might obstruct the horizontal collaboration.
- The River Chief Platform address the information asymmetry issue and water become an object for management surveillance, from problem detecting, problem management process and ongoing monitoring. New Central-local relationship?






Example of the Real-time River monitoring platform

事发地点	Location
惠州市惠城区德威摩卡小镇23-104东北方向70米金石一路桥	
问题河流	Name of the river
望江沥江北街道段	Jiangbei Street Section, Wangjiang Creek
事件类型	Issue Type
污水直排	Sewage Discharge to the creek
发现时间	Report Time
2023-09-01 11:18:25	
问题描述	Issue details
望江沥惠城区江北街道摩卡小镇1号市政生活污水排污口污水直排望江沥直流东江，已经很长时间	
	Sewage water discharge directly into the creek for a long time
现场照片	Attachments
	



处理意见	Management Comments
经交办市水务集团回复如下：所反映的望江沥惠城区摩卡小镇段污水直排问题为江北污水处理厂输送主管网出现损坏导致管道水流通不畅，近期正值雨季，管道水位高造成污水溢出，已协调有关管网修复单位加紧修复中，同时下来市水务集团所属市排水管理中心将继续加强巡查，对排口闸门进行检查维修确保无渗漏问题。	
处理图片	Responses from the Prefectural Water Affairs Group: The issue is a sewage leak due to broken pipeline and recent rainfall
	
处理时间	Management Time
2023-09-08 19:04:16	
处理状态	Status
已办结 Completed	



Source: Report from the county river chief office
 事件来源：河长办上报
 河湖段名称：望江沥
 行政区域：惠城区
 事件类型：排污口异常，水面异常
 事件内容：在省智慧河长平台接到公众（13316376006）投诉，反映望江沥惠城区摩卡小镇1号市政生活污水排污口污水直排望江沥直流东江，已经很长时间。请市水务集团加紧处理回复。



处理记录	Management Records
<ul style="list-style-type: none"> 事件审核 惠州市河长办 待审核 Management Audit: Huizhou River Chief Office Management taker: Prefectural Water Affairs Group 事件办理 市水务集团有限公司-杨刚佳 2023-09-08 15:16:46 已处理 	
<p>经现场排查核实，所反映的望江沥惠城区摩卡小镇段污水直排问题为江北污水处理厂输送主管网出现损坏导致管道水流通不畅，近期正值雨季，管道水位高造成污水溢出，已协调有关管网修复单位加紧修复中，同时下来我集团所属市排水管理中心将继续加强巡查，对排口闸门进行检查维修确保无渗漏问题。</p>	