



Reforming China's Water Law through Reforms of the Division of Administrative Functions and Delegation of Ministry Powers and Tasks

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Abstract:

Statutory and case law at the provincial and local level provides critical legal frameworks for water management in China. As many provincial and local governments struggle to improve efficiency in water management and resolve conflicts over water usage, they must continually assess the efficacy of their national and local water laws and regulating bodies. China's water laws have undergone reforms but are still disconnected and overlapping. This paper assesses China's state water law. It takes first steps toward a comprehensive state water resources act by setting out an analytical framework for a reform process. The methodology of the paper focuses on issues and conflicts in water management at the state, and local level. It amalgamates management and legal analyses that incorporate the diverse perspectives of state water stakeholders. The results are identification of management issues, profiles of provincial water laws and regulating bodies, and explorations of legal reforms that are available to the national government.

Keywords: ALL, MEP, MWR, RBO, SEPA, Water Law, WCCP

1.0 Introduction:

In 1988, China enacted a national *Water Law*. This brought important institutions to clarify water use rights and improve overall water management, including water withdrawal permit system, water fee and water resource fees (Ongley and Wang 2004). The water withdrawal permit system empowers the State to issue permits for all water drawn directly from aquifers, rivers, or lakes (China Council for International Cooperation on Economic Development Secretariat (CCICED) Task Force, 2004).

The *Water Law* (1988) prescribed runoff allocation schemes for trans-boundary rivers. The allocation scheme divided water rights among different riparian administrative districts. These districts were usually provinces, and were given upper limits on drawing river runoff (Wang, 2006). However, this allocation scheme generally was not implemented because the Ministry of Water Resources (MWR) and the provincial governments neglected to create enforcement institutions. Moreover, river basin organisations (RBOs) lacked sufficient political clout and the ability to coordinate amongst the provinces (Chen, Jianfu).

In 2002, China amended the *Water Law* to promote a more integrated legal system of water management. The legislation gave RBOs greater power to enforce a new institution of unified water diversion. River water is now allocated by the requirements of water districts and in-stream ecological needs (Wang 2003a). In 1998, the State Council also revised the *Regulations of the People's Republic of China on Administration of Water Transport* (1987). The 1987 decree held the Ministry of Communications as the department responsible for water transport throughout the country. Local departments for communications were also responsible for the water transport in their respective regions, and could set up administrative agencies for water transport. The revision instead authorized the Yellow River Conservancy Commission (YRCC) to unify the diversion of water. However, the YRCC, the strongest RBO, has struggled to ration water allocation in the Basin, and weaker RBOs have faced even more difficulties in implementing a runoff allocation scheme (Wang 2003b).

1.2 Current Laws and Context

A water withdrawal permit system has been set up in most of China's watersheds. It has divided water use rights among factories and individual

users. However there is ineffective enforcement (CCICED Task Force, 2004). It is difficult for local water resource bureaus and RBOs to monitor all the users due to challenges of information asymmetry. Moreover, local governments do not always grant water agencies sufficient administrative power. The RBOs are chaired by nominal committees without members, and enforcing a unified water diversion system is difficult to coordinate for all water districts as there is no public participation or stakeholder involvement. RBOs also lack the financial means and man-power to implement, monitor, and enforce allocation schemes. This is because water conservation is viewed as a burden hindering economic development (CCICED Task Force, 2004).

Since the total amount control of regional water is not enforced by the provincial level water agencies, local water resource bureaus have little incentive to monitor water withdrawals of users (Wang 2006). In some areas, regulators abuse their authority and are involved in corruptive practices such as illegal water use or bribes and even allow users to draw water in excess of their permit in return for a water resource fee from them. These overdrafts essentially steal water already allocated to other users. They are also a major source of interregional water conflicts in China (Wang 2003b). Due to poor legislation and delineation of ministerial duties, policymakers face numerous challenges in creating sustainable policies in respect of water management.

Water quantity management falls under the jurisdiction of the State Environmental Protection Administration (SEPA) and The Ministry of Water Resources (MWR) (Wang 2003b). Under the Chinese legal system, SEPA is empowered under the *Environmental Protection Control Act* (1979) and the *Water Pollution Prevention and Control Law* (WPPC, enacted in 1984 and revised in 1996) to regulate water pollution. Yet, inconsistent stipulations in the WPPC (1996) and *Water Law* (2002) have resulted in inter-ministerial conflicts between SEPA and MWR. Much of the conflict revolves around who has the “power” or who is in charge of what projects (i.e. water quality protection or water quality planning), as well as competition over “turf” control such as testing sites, and station locations. This affects the implementation of water quality planning, protection and monitoring (Ongley and Wang 2004).

The WPPC (1996) further stipulates that SEPA develop water quality planning according to

national and basin-level targets (Wang 2003b). All operational responsibilities for pollution control plans are delegated downwards to Provincial Environmental Protection Bureaus (EPBs). The EPBs take direction from SEPA, but are mainly responsible to fulfilling demands by the provincial governments (Wang 2003b). Therefore, we can see that the central faults in China’s current water quantity management regime are ineffective enforcement of legal institutions and in undefined administrative laws.

1.3 The Water Quality Management Regime

Whereas the Ministry of Water Resources (MWR) is the main organ of State Council to control water quantity management (as stated above), water quality is overseen jointly by SEPA and MWR (Wang 2007). The *Water Law* (2002) authorizes MWR to oversee “water resource” management. Yet “water resource” lacks a clear legal definition in the statute. Thus, the MWR has regarded water quality protection also as one of its responsibilities. This has caused contentious administrative struggle between SEPA and MWR. There is little sharing of data or collaborative analysis of data, and there is no shared database of quantitative and qualitative monitoring results. They also do not have a common set or standard of monitoring parameters to gauge measurements to, and frequently compete for assignment of station and sampling locations (Wang 2007). This compromises any analytical value of current water quality databases for China.

As mentioned above, the WPPC (1996) also stipulates that SEPA develop water quality planning according to national and basin-level targets. Operational responsibilities of pollution control plans are delegated to the EPBs. These EPBs are run by SEPA (Ongley and Wang 2004, pg. 6). The EPBs are responsible for fulfilling demands by the provincial governments. These water quality plans are more bureaucratic than scientific. Thus, water quality targets tend to be quite unrealistic in practice, and have not, on the whole, been realized (Ongley and Wang 2004).

The *Water Law* (2002) also authorizes MWR to develop water resources protection planning. The aim is to establish water function zones, estimate pollution assimilation capacity of waterways, and propose pollution loading targets (Wang 2003a). However, SEPA has, instead, developed its own estimates of assimilation capacity and loading targets. This is because of the ambiguities

between the *WPPC* and *Water Law* (2002). These have created conflicting mandates for pollution control and water resources management (Ongley and Wang 2004). Moreover, this undefined administrative legal framework has resulted in the absence of an integrated basin-level water resource system. It also has resulted in a lack of pollution control planning and management (World Bank 2001).

China's seven major river basins are managed by RBOs. They have broad responsibilities to manage water quantity issues (World Bank 2001). RBOs are subordinate organisations under the MWR. They have no formal responsibility to implement pollution plans issued by SEPA. In 1980, to create stronger basin-wide water quality management of these major rivers, the central government mandated the creation of the Water Resource Protection Bureaus (WRPBs) within the RBOs (Wang 2006). The WRPB is jointly run by the MWR and SEPA. It is responsible for gathering water quality data and reporting to both ministries. However, since 1998, SEPA has been attempting to set up its own monitoring network. It has even proposed to set up its own river basin organisation (Wang 2006). This proposal has been rejected by the State Council. Furthermore, since 1998, the WRPBs fall under complete control of MWR. SEPA has still set up its own water quality monitoring sites. Now there exist two monitoring networks in some of China's major rivers. MWR and SEPA do not share their network data with each other (Wang 2006).

2.0 Problems and Difficulties

Institutional Conflicts

SEPA and MWR follow the same State-prescribed analytical procedures and water quality standards in their water quality studies. However, the monitoring results in the same river often differ. An interesting example is the divergence on water quality data of Huai River. According to the monitoring data from the MWR's RBO, more than half of the river quality was worse than type V in 2003 (Li Shilin, 2004).

In the same year, SEPA announced in its annual *China Environment Bulletin* that most of the stretches of the river was type IV (Li Shilin, 2004). This contradiction diverged even more with SEPA reporting the total amount of Chemical Oxygen Demand (COD) emissions in 2003 as approximately 700 thousand tons. COD is used to indirectly measure the amount of organic compounds and pollutants in water, making it a useful test of water quality. SEPA implied water quality had almost

been restored in the past ten years. Conversely, the MWR monitoring issued another figure of 1,230 thousand tons, almost approaching the maximal level in history (Li Shilin, 2004). This continuing mismatch of results between SEPA and MWR is counterproductive and results in poor water environment quality.

Another major problem is coordination between trans-boundary agencies. In China's top-down political structure, most trans-boundary affairs depend on the intervention and coordination of the central government (CCICED Task Force, 2004). Therefore, it is very difficult for the riparian provinces to solve problems by equal negotiation. Riparian provinces compete with each other to seek resolutions from the central government (Wang 2003b). This can be seen in runoff allocation development. Among the seven major river basins in Chinese territory, the runoff allocation scheme only has been implemented in the Yellow River Basin (Wang 2007). Since most trans-boundary rivers have not allocated runoff, it is difficult to implement *the Water Law* (2002)—Total Amount Control (TAC) system. TAC puts restrictions on districts for their total water withdrawal (Wang 2007).

2.1 Enforcement Difficulties

There are also enforcement problems that hinder the current laws. In areas with long-term water conflicts, the formulation of a water allocation scheme is a time-consuming process. It demands drawn-out negotiations and compromises among the riparian provinces (Wang 2007). Even if provinces and districts in a river basin come to an agreement on the runoff allocation, there remain difficulties in guaranteeing enforcement. For example, riparian provinces did not comply with the allocation scheme of the Yellow River that the State Council approved in 1987. In the 1990s, actual withdrawals by Shandong Province and Inner Mongolia Autonomous Region exceeded their permitted quotas. This caused the flow cut-off situation in the lower reaches to worsen (Wang 2004).

Taihu Lake serves as another example. Legislation is being urged for the Taihu Lake basin area. It covers two provinces and one municipality (Yanfeng, China Daily, 2010). However, officials state that administrative barriers among the governments of the three different regions and their self-interests have hindered improvements in Taihu Lake's water quality. Cross-region legislation is vital to ensure efficient cooperation among them (Wang 2007).

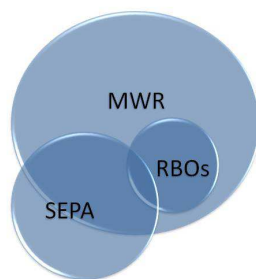


Fig. 1.1 Water Bureaucracies and Overlap of Power

The current governing body for the area is affiliated with the MWR. It is only responsible for flood prevention and utilization of water resources. It cannot address water pollution problems. Taihu Lake has witnessed massive outbreaks of blue-green algae in recent years despite efforts to cut pollution discharges into the Lake. One such outbreak disrupted water supplies to one million residents of Wuxi in 2007 (Yanfeng, China Daily, 2010). Further exacerbating the problem is the fact that very few provisions are provided for measures against non-compliers (World Bank 2001). *The Environmental Information Disclosure Decree* (EIDD) (2008) provides punishment for non-disclosure, with a maximum fine of 100,000 Yuan (Xie, Jian, 2009). This is too low to be an effective disincentive. Current laws also do not specify how to provide compensation for the losses caused by noncompliance with information disclosure requirements.

2.2 Lack of a Unified Legislative and Procedural System

The *Administrative Litigation Law* (ALL) (1989) was adopted to institutionalize the 'principle of democratic centralism' into law. It was also supposed to ensure that administration be carried out in accordance with law (Cheng, Jianfu). However, the ALL (1989) does not include principles of control or supervision of power. Article 1 of the ALL (1989) provides that it is enacted to protect the rights and interests of citizens, legal persons and other organisations. It is to safeguard and supervise the administration organs in the exercise of their authority and functions (Chen, Jianfu).

The 1996 *Administrative Penalties Law* (APL) and the 2003 *Law on Administrative Licensing* (LAL) stipulate the procedural requirements. They deal

with the misuse and abuse of administrative powers and lack of procedural control of administrative decision-making (Chen, Jianfu, pg. 228). However, a comprehensive code on administrative procedures has not been produced.

Internal reviews of administrative decisions are regulated by the *Administrative Reconsideration Law* (1999) (Chen, Jianfu). Nevertheless, there is still an absence of administrative legal regulations and transparency. This is particularly true for water rights, which undermine the ALL (1989), LAL (2003), and APL (1996) (Chen, Jianfu).

First, legislative conflicts in the administrative legal framework prevent a unified legal framework and coordinated institutions. For example, the WPPC (1996) and *Water Law* (2002) are inconsistent. They are notably missing important ingredients for river basin governance. This includes public participation provisions, requirements for information sharing among government agencies, and measures to enforce non-point pollution management.

Second, water regulation laws are drafted by the ministries that are later given power to enforce them. For example, the WPPC (1996) and the *Water Law* (2002) give power to SEPA and MWR, respectively. In these laws, it is stated that water legislation is created as sector-based laws, with each sector or ministry having the power to interpret and create their own legislation on water management and protection. There is no universal set of laws for SEPA and the MWR to follow or execute, and as a result, each ministry interprets and carries out water management/protection policies differently. Thus, a unified framework of river governance is difficult to create.

Third, laws cannot be implemented in practice (Qu Geping 2004). Reasons include China's huge population, scarce environmental resources, fragile ecological carrying capacity, economic developing pressures, and the overly top-down political power structure. The political power top-down structure lacks leverage of power over local governments (Qu Geping 2004, preface pages).

Fourth, RBOs are not real spokesmen for river basins. They have little administrative power. They are not mandated to manage river basins in a holistic context (World Bank 2001). An integrated regime of river basin management has not yet been established in China either.

Fifth, WRPBs manage quantity and quality of water in a fragmented manner. This is due to the inter-ministerial struggles between SEPA and MWR (Xie, Jian 2009).

Sixth, current river basin commissions of China's seven major rivers are nominal committees without members (World Bank 2001). These RBOs coordinate trans-boundary benefits as an agency of central government, and again, this top-down river governance structure makes trans-boundary conflicts difficult to coordinate in the current decentralized economic system. In addition, stakeholder involvement and public participation in water management decision-making is very limited.

The absence of these administrative legal mechanisms originates from the lack of relevant provisions in the existing administrative laws. There are absences in legal provisions on trans-jurisdictional and cross-departmental coordination. There is also a lack of legal procedures and methods for the settlement of trans-jurisdictional water disputes. The national trans-jurisdictional water resources management legislation is not procedural. Without any coordination offered by procedural provisions, it is very difficult to realize the objectives of substantive provisions.

Although regulations and laws specify organs for settling water disputes and pollution disputes, they lack provisions for how parties in disputes can apply for settlement. The law also does not specify what the settlement steps and formalities are, nor does it specify time limits for complaints to be registered, or how to appear in case a refusal to settlement occurs (Qu Geping 2004). Once disputes occur, parties involved and management departments in many cases have no idea of what course to take. This leads to constant postponement of the dispute without any decisive result (Xie, Jian 2009).

2.3 Poor Monitoring and Evaluation

Another significant issue is the lack of effective environmental damage compensation and insurance systems. In particular, pollution damage identification and evaluation systems are lacking (CCICED Task Force, 2004). This includes there being no current legal basis/precedent for the judgment of a violation of a water law, including a standard for what is deemed a violation of the law, a standard of what can be identified as a pollution incident, a standard/regulated assessment of the

pollution and damages caused, a set standard of penalties/fines for the polluter, or a corresponding liability plan like a water pollution liability insurance plan (CCICED Task Force, 2004). What this means, is that for sectors and enterprises with major environmental risks, no compulsory insurance system for environmental damages has been established yet. Thus, it is difficult to gain expenses for accident settlement and damage compensation from enterprises involved.

An important reason for this is the presence of local protectionism in practice. According to the EPL, local governments are responsible for the environmental quality within their own regions (Xie, Jian, 2009). For enterprises that cause severe environmental pollution, local governments shall order them to treat pollution within a specified time limit (Xie, Jian, 2009). They will also shut down those that fail to complete treatment tasks within the time limit. However, in practice, many local governments and enterprises focus only on immediate economic benefits. They think little of developing new production equipment and process technologies. As a result, much equipment currently used is obsolete and operate with defects. The use of obsolete equipment has become major cause of water pollution accidents (Qu Geping 2004).

Local environmental protection departments also rely heavily on local governments for financial expenditure and personnel matters. Therefore, environmental protection objectives are less valued than economic development goals. This is regardless of substantive provisions related to environmental protection, pollution discharge and law enforcement (Xie, Jian 2009).

2.4 Summary

In summary, the central problem is the ineffective enforcement of legal institutions. This mirrors challenges faced by the water quantity management regime. In short, China's pollution control is constrained by several issues including: (a) failure to implement water pollution prevention and control plans due to institutional conflicts; (b) problems with monitoring and enforcement; (c) lack of integrated river basin management (Xie, Jian, 2009).

3.0 Recommendations

Review and Consolidation of Existing Law

At present, legal defects exist in trans-jurisdictional water pollution management in China. This includes problems in coordination

among laws, absence of legal systems, and slack law enforcement. Also, substantial defects exist in the institutional arrangements for trans-jurisdictional water pollution management. This is especially true for administrative coordination among central and local authorities. Water resources and environmental protection departments also have substantial institutional defects.

It is imperative to make adjustments in management organs. Furthermore, mechanism-building is critical to trans-jurisdictional water pollution management. Legal adjustments must be carried forward concurrently with institutional reform. However, due to the involvement of substantial department interests, institutional arrangements will face huge resistance. Institutional reform will proceed slowly. Therefore, institutions, mechanisms, and laws need to be promoted concurrently.

At present, China is still in a period of reform and transition. Legislative and institutional adjustments need to be made gradually. In the short term, two tasks should be focused on. First is enhancing high-level inter-departmental coordination mechanisms. The second task is revising the *WPPC* (1996) and the *Water Law* (2002). Mid-term reform should include institutional adjustments. There should also be established river basin management organs. These should promote inter-departmental coordination and public participation. They should actively probe into legislation on river basin management. Long term reforms should establish river basin management organs with wide participation of stakeholders. They need to carry out work with rights authorized by laws. They also need to form democratic, coordinative and efficient river basin management models. Likewise, river management decision-making and implementation should be separated.

To summarize, China needs a permanent inter-ministerial coordination arrangement. This arrangement needs to deal with the institutional arrangements and operational practices between SEPA and MWR. Inter-ministerial conflict has strong connections with the deficiencies in the legal framework for water quality and water quantity management. Therefore it is crucial that China create better legislation to amend the deficiencies in the pollution prevention and control laws of the *WPPC* (1996) and its implementing rules. Equally important is the need to harmonize various laws, especially the

relationship between the water pollution control and water quantity laws.

3.1 Implementation of Laws

Of course, improving law enforcement is the number one priority to make the legal framework useful and effective. As stipulated in the State Council's *Compendium of Implementation for Fully Promoting Law-Based Administration* (2004) (Xie, Jian 2009), a series of actions need to be taken:

- 1) Detailed guidelines for implementing the *WPPC* (1996) should be developed.
 - a) The existing systems of total pollutant control and pollution emission permits should be improved.
- 2) Supervision and inspection by the national and local congresses and administrative branches should be strengthened.
 - a) Adequate budget and personnel for such inspection and supervision should be provided by law.
 - b) Local agencies responsible for law enforcement should be independent of local authorities.
- 3) Public-private partnerships should be encouraged by laws and regulations.
 - a) These partnerships should help monitor and track down violators.
 - b) They should supervise local agencies responsible for law enforcement.
- 4) The *Water Law* (2002) should clearly define the authorities, responsibilities, and coordination mechanism for different administrative organisations
 - a) Including the MWR, Ministry of Environmental Protection (MEP), River Basin Management Commissions RBMCs, and relevant organisations at the local level.
 - i) It should clarify the linkages between all these organisations
 - ii) Clarify the status, responsibilities, operational mechanisms, and process of RBMCs.
- 5) For other water-related laws and regulations, amendments are needed to make them consistent with the *Water Law* (2002) and the newly amended *WPPC* (1996).

To add to the State Council's recommendations listed above, the role of RBMCs in planning,

allocation, and development of water resources should be legally-specified as well. This should be done preferably in primary legislation. Local governments should be required by law to be members of the RBMCs in planning in water resource management.

It is also important and feasible to strengthen coordination among agencies. This can be done by establishing a proper coordinating mechanism. The mechanism should include regular interagency consultation, and compulsory information sharing. Cross review and endorsement of relevant policies and plans should also be implemented. Finally, joint policy-making is needed for coordinating mechanisms.

For coordination, a restructuring of water management governmental organisations must take place. One option is to establish a State Water Resources Commission (SWRC). The SWRC could serve as a coordinating and steering organisation on water-related affairs across the country. It should be chaired by the premier and members would be heads of all water-related ministries/agencies at the central level. It would direct the development of a national water strategy. It would also examine long-term plans for water development, allocation, and use. In addition, it would coordinate all water-related ministries/agencies to avoid policy inconsistency and conflicts before they are implemented.

At the ministry level, an option would be to merge major water-related duties currently put under the different government agencies (namely MWR, MEP). A new super ministry could be established instead. This ministry would implement a unified management of water quantity and quality, water resource conservation and use, and water environmental protection.

River basin commissions for all major rivers and lakes that run across different provinces/municipalities should also be established. Specific provisions should be added to the *Water Law* (2002) to provide legal status. These provisions should also clarify the authorities/responsibilities of the new type of RBMCs. Existing RBMCs should be reshaped to give them more authority and independence. RBMCs could consider the involvement of representatives from the MEP. They would eventually become independent of MWR. They would be held accountable to the State Council directly. Their governing board should include representatives from both the central government and

provincial/municipal governments. This would ensure appropriate accountability for basin-wide water resources management.

3.2 Right to Information

Transparency and information disclosure is also crucial. In the *Compendium of Implementation for Fully Promoting Law-Based Administration* (2004), administrative agencies are required to open to the public all governmental information. In 2005, the *Guidance for Further Enforcing Openness of Administrative Affairs* (GFEOAA) was promulgated (Xie, Jian 2009). In April 2007, the *Government Information Disclosure Regulation* (GIDR), which came into effect on May 1, 2008, defines the range of government information. The *GIDR* (2008) sets methods and procedure for information disclosure, designs dispute resolution mechanisms, and provides specific provisions on performance supervision (Xie, Jian 2009).

The MWR also issued *GFEOAA for Water Management* (2005), and the MWR's *Provisional Regulation on Openness of Administrative Affairs* (2006). These define the scope of information that should be disclosed to the public. They also define the various forms of information disclosure, including official bulletins and public hearings to web-based channels (Xie, Jian 2009). The *Regulation of Hydrology* (RH), (2007), focused on water quality monitoring and also set requirements on information disclosure. SEPA also issued official documents to enhance information disclosure (Xie, Jian 2009). The *Provisional Regulation on Public Participation in Environmental Impact Assessment* (PRPPEIA) (2005), defines the scope of information that project organisations should make available to the public. It also defines forms of disclosure and time limits for disclosure. MEP's *EIDD* (2008), makes it a compulsory responsibility for enterprises and governments to disclose their important environmental information to the public (Xie, Jian 2009).

Local governments have, as well, promulgated regulations and policies to promote water-related information disclosure. Reports on the state of large river basins have been delivered on an annual basis (Xie, Jian 2009). These reports provide information on water conditions and management in whole river basins. As a result, the public has better access to water-related information, and the administration of water issues is much more transparent than before (Xie, Jian 2009).

However, most of the information that existing regulations, *RH* (2007), *EIDD* (2008), and *PRPPEIA* (2005), require to be made open to the public is on government organisations in charge of water affairs and their responsibilities and behaviors (Wang 2003b, pg. 15). Information on water itself is not emphasized. This includes water quality and quantity, and water users and pollution sources. Such information is not only inaccessible to the public, but also inaccessible to other governmental organisations outside local government organisations (Wang 2003b). Specific organisations responsible for water management keep the information collected and do not share it with other organisations. Each organisation has its own database (Wang 2003b,). The information issued is often not consistent. In existing regulations, the definition of what information should be disclosed to the public is not clearly defined. As a result, some organisations take advantage of the vagueness of the regulations and refuse to disclose water-related information (Wang 2003b).

For example, the current regulations require that all information except that related to state secrets, business secrets, or personal privacy be open to the public (Wang 2003b). However, there is no clear definition of what information relates to state secrets or business secrets. Therefore, some enterprises refuse to disclose water-related information in the name of protecting state secrets or business secrets (Ongley and Wang 2004). Additionally, the lax legal requirements mentioned earlier and weak supervision leads to poor public participation activities (CCICED Task Force, 2004). Public hearings and expert assessments do not follow the procedures for selecting representatives of stakeholders and experts. Some organizers tend to select those in favor of the views or interests of the organizers (World Bank 2001).

It is evident that the citizens' right of access to information is not properly defined in formal laws. There are very few clauses on information disclosure in the *Water Law* (2002) and in the *WPPC* (1996). Additionally, in the existing regulations on information disclosure, the provisions on the procedure of information disclosure are not detailed. These regulations on information disclosure are not implemented effectively because of weak supervision by both the government and the public (World Bank 2011). Public information disclosure requirements should be incorporated in all major development strategies, policies, regulations, and operational

procedures. Relevant governmental organisations should regularly release to the public information on water quality and pollution sources. The information must be accessible for the public and concerned groups/ communities and be made available through multiple channels.

Concurrently, the legal basis for information disclosure needs restructuring. Currently, the legal provisions on public participation in water management are incomplete. In the *Water Law* (2002), the citizens' rights to access to information, to participate in decision-making, and to question and supervise governmental agencies, are not clearly stated (Ongley and Wang 2004). There are also few legal provisions for the public to challenge government decision making through litigation or judicial review.

Provisions and regulations on the procedure and mechanisms of public participation are also not detailed. This leads to distorted implementation. Also, though government agencies should respond to appeals of the public, it is not clear how they should respond. China should add clauses in the *Water Law* (2002), and *WPPC* (1996) to emphasize the citizens' right of access to environmental information. The clauses should also make information disclosure a compulsory obligation of governmental organisations, water companies, enterprises discharging pollutants, and other major stakeholders.

The government should also define in the laws/regulations the scope of information that is supposed to be disclosed to the public. In conjunction, the scope of information regarded as state secrets or business secrets subject to protection needs to be defined. The forms, procedures, and time requirements for information disclosure must also be specified. In addition, the government should draft clauses on the liability of those who have not disclosed information as required, and measures against noncompliance.

In short, three rights should be clearly defined:

- (1) The right of access to information,
- (2) The right of participation in decision-making,
- (3) The right to challenge water-related decisions by the government.

Specific and detailed provisions should be made on forms, steps, and procedures of public participation. This would avoid any distortion in practice, either deliberately or unconsciously. Provisions should also be made for administrative

re-examination, litigation, or administrative punishment against behaviors infringing the aforementioned rights granted by law.

As recommended above, a representative water management organisation or commission should be established at the river-basin level for each river basin. Membership in the organisation should be further extended to not only central and local government agencies but also representatives of various stakeholders. The stakeholders should include water suppliers, water users, and the general public. At the current stage, to facilitate participation of water users, China should encourage and support the establishment of such organisations as water users associations and involve them in water management.

4.0 Conclusion

In conclusion, China should continue to strengthen the administrative legal framework for water resource management and pollution control. The government needs to focus on improving compliance and enforcement. This needs to especially be done by strengthening public participation.

The laws also need to incorporate an integrated approach to water management. The institutional structure of China's government lacks effective vertical or horizontal accountability. For example, the environmental regulatory agencies are often subordinate to the very agencies they are intended to regulate. This structural administrative relationship between the provinces and the central government often results in a chronic inability on the part of the government to provide public goods like environmental protection.

The major tasks now are to:

- specify the central-local jurisdictions.
- eliminate the elements of the old revenue-sharing system left in the new tax-sharing system.
- a law on the central-local relationship should be created.
- ensure adequate flexibility in allowing the provinces to develop themselves on the basis of different local conditions.
- New laws are needed which provide specific detailed divisions of powers.

To legalize and systematize the relations between the center and the provinces, and provide regional coordination:

- Specific laws focusing on industrial distribution and usage and protection of water resources should be enacted.
- This should be followed by a general law on regional development.
- The government should also grant legal status to river basin management commissions.

Institutionally, China should:

- set up a Water Resource Management Commission.
 - It should have the proper authority and capacity for coordinating different sectors and provinces/municipalities in order to implement integrated water management.
- establish a more effective mechanism for coordinating different governmental organisations at central and local levels.
- RBMCs need to be reformed to balance the interests of various stakeholders.

In terms of policy instruments, China should:

- combine various instruments including:
 - command-and-control measures,
 - information disclosure,
 - public participation.

Finally, strengthening democratic institutions at grassroots levels is a necessity, and can impose pressure on polluters and administrations to avoid temporally and spatially-biased behaviors. It will also protect the public by bringing accountability into water pollution law enforcement. With electoral pressure, local leaders should also have incentive to listen to residents and provide adequate public goods to their jurisdictions. This can be achieved through:

- information disclosure
- public participation.
- village and township elections

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