Water Law Review

Volume 7 | Issue 2 Article 5

1-1-2004

The New Development of Water Law in China

Patricia Wouters

UNIVERSITY OF DENVER
WATER LAW REVIEW

VOLUME 7 ISSUE 2 SPRING 2004

THE NEW DEVELOPMENT OF WATER LAW IN CHINA

BY PATRICIA WOUTERS[†], DESHENG HU[‡], JIEBIN ZHANG[*], A. DAN TARLOCK[**], PHILIP ANDREWS-SPEED[***]

ABSTRACT

China, the most populous country in the world, faces critical water shortages. The country's rapidly increasing population now totals an estimated 1.3 billion people, thus aggravating the existing water crisis.

† Dr. Patricia Wouters, Director, International Water Law Research Institute (IWLRI), Faculty of Law and Accountancy, University of Dundee, Dundee, Scotland, e-mail: p.k.wouters@dundee.ac.uk. Dr. Wouters has advised on several projects relating to the revision of China's national water law and works on water projects around the world. For more information see IWLRI website: www.dundee.ac.uk/iwlri.

‡ Desheng Hu, PhD candidate (China National Water Law; monograph forthcoming 2005), IWLRI, University of Dundee, Dundee, Scotland; Associate Professor, Economist, Law School, Zhengzhou University, P. R. China. E-mail: d.hu@dundee.ac.uk or hudesheng@pku.org.cn.

* Jiebin Zhang, Professor, Director of Water Law and Policy Research, Xinjiang Institute of Ecology & Geography of Chinese Academy of Sciences; LLM candidate (international law relating to the Mekong), IWLRI, University of Dundee. Mr. Zhang was project leader on the China case-study of the Dundee IWLRI Knowledge and Research project which devised a Legal Assessment Model to assist States with determining their legal entitlement to shared transboundary waters. The author wishes to acknowledge the support (Grant No. 79870088) of the National Natural Science Foundation of China.

** A. Dan Tarlock, Professor, Chicago-Kent College of Law, e-mail: dtarlock@kentlaw.edu. Professor Tarlock is Honorary Fellow to IWLRI, University of Dundee and recently led the national water law session of the NATO Advanced Research Workshop in Bishkek, Kyrgyz Republic, which involved 5 Central Asian Aral Sea basin States.

*** Philip Andrews-Speed, Director, Center for Energy, Petroleum & Mineral Law & Policy, University of Dundee. Dr. Andrews-Speed heads the China programme at the CEPMLP and works regularly in China.

Currently, China receives only one-forth of the world's average per capita renewable water supplies, but still experiences extreme water-deficiencies. Thus, the country must address serious challenges. On August 29, 2002, at the Twenty-ninth Meeting of the Standing Committee of the Ninth National People's Congress ("NPC"), the NPC revised the 1988 China Water Law and adopted the 2002 China Water Law.[1] The new water legislation represents a milestone in the evolution of country's water law. The 2002 China Water Law significantly revises its predecessor, the 1988 China Water Law. As a forward looking piece of legislation, the new law seeks to address existing serious problems and to anticipate future water concerns. This article examines the policy behind the adoption of the 2002 China Water Law, discusses key issues related to its implementation, and identifies important problems that continue to exist. The following discussion centers on whether the new legislation provides an adequate framework to ensure the reasonable, equitable, and sustainable utilization of water resources, within a framework that ensures effective implementation. The article begins by summarizing China's most important water issues and provides an overview of the 1988 China Water Law. Next, the article explains the legal and institutional context of the 2002 China Water Law. In order to test the effectiveness of the new law, the authors use the Tarim River Basin as a case study for analysis. From this evaluation, the authors conclude that the 2002 water law suffers from some serious shortcomings and recommend changes to the legal and institutional arrangements.

1. 2002 Water Law of the PRC, Zhonghua Renmin Gongheguo Fagui Huibian [Fagui Huibian] [Laws & Regulations of the PRC] (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 2461); 1988 Water Law of the PRC, Zhonghua Renmin Gongheguo Fagui Huibian [Fagui Huibian] [Laws & Regulations of the PRC], *translated in* 5 STATUTES & REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA 1 (1989) (LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 1186).

CONTENTS

I. INTRODUCTION

Ancient Chinese civilization received recognition for its significant development of dykes and diversions throughout the country's major river systems.[2] China's long history of water management—which has included development, utilization, and conservation of water resources, and which focused especially on flood control—resulted in intense inter-regional conflicts that steadily increased over time.[3] The first diversion of the Min River, located in the modern Sichuan Province, occurred in 316 BC; this diversion "is used today much as it was designed."[4] However, early Chinese tradition did not rely on a legal framework per se for water resources management.[5] In the periods of slavery and feudalism, control of water and its distribution occurred largely without creation of individual entitlements.

According to the ideology that "no land does not belong to the king, no man is not the servant of the king," private land ownership slowly emerged in the 4th century BC.[6] However, even after the concept of private land ownership appeared, water users still relied largely on custom and privilege.[7] "Water regulations in China are a part of its peculiar legal, administrative and political framework, the principles of which have evolved their own developmental path through history, independent of the other major legal systems in the world."[8] The State retained absolute control of water involved in large

2. RANDALL A. DODGEN, CONTROLLING THE DRAGON, CONFUCIAN ENGINEERS AND THE YELLOW RIVER IN LATE IMPERIAL CHINA 1 (2001).

3. *See generally id.* at 1-9 (explaining China's water history and resulting conflicts).

4. ALASDAIR CLAYRE, THE HEART OF THE DRAGON 136 (1985).

5. *See* DANTE CAPONERA, *Water Laws in Ancient Hydraulic Civilisations, in* NATIONAL & INTERNATIONAL WATER LAW & ADMINISTRATION: SELECTED WRITINGS 23, 31 (The Hague, London, Kluwer Law International 2003) [hereinafter CAPONERA I].

6. *See* CAPONERA, *Water Law in the Chinese Legal System, in* NATIONAL & INTERNATIONAL WATER LAW & ADMINISTRATION: SELECTED WRITINGS 37, 43, 46 [hereinafter CAPONERA II].

7. *See id.* at 37-71.

8. *Id.* at 37.

> The basis on which Chinese legal thought stood was the belief that there existed a close interconnection between the human social order and the natural cosmic order. . . .
>
> As a consequence, the foundations on which social order was based were not laws but the *li*, variously translated as rites, rules of conduct, or custom, which prescribed to individuals in any circumstance of life a behaviour in harmony with the natural order or things. They thought that laws, being too

diversionary projects and developed it as a state enterprise. This developed water became a resource continuously and intensely managed by Imperial bureaucracies.[9] For example, Karl Wittfogel's famous study, *Oriental Despotism*, identified centralized imperial control of water as the source of China's persistent absolutism.[10]

The Republic of China (1911–1949) and the People's Republic of China (1949–present) continued Imperial China's tradition of bureaucratic management of water during their respective regimes, especially during the late 1950s, 1960s and 1970s.[11] During the twentieth century, extensive State water and irrigation expansion projects supplemented China's existing canals and irrigation systems. Within a three-month period between late 1957 and the end of January 1958, the State mobilized 100 million peasants to create a functioning irrigation system for 7.8 million hectares of land.[12]

Today, massive State development remains the dominant method of water resource management. The People's Republic of China continually expands its irrigated acreage in arid regions of northern China, plans new trans-basin diversions, and constructs large new projects, some of which equal the scale of the now almost completed Three Gorges Dam project.[13] However, 2002 China Water Law marks a shift in the future of water resources management, largely through new regulations and rules governing China's water law.

China's decision to develop a semi-market economy and to integrate itself into the World Trade Organization resulted in a break with China's long history of Confucian and Socialist traditions of subordinating law to the exercise of State power.[14] Since the 1980s,

---

abstract, could not take into consideration the infinite variety of all possible situations, and that their strict application would lead to the infringement of the feeling of justice which is inborn in men.

Id.

9. *See generally* LESTER ROSS & MITCHELL A. SILK, ENVIRONMENTAL LAW & POLICY IN THE PEOPLE'S REPUBLIC OF CHINA (1987) (explaining imperial law relating to natural resources served to protect the state's paramount interest rather than create entitlements).

10. KARL A. WITTFOGEL, ORIENTAL DESPOTISM: A COMPARATIVE STUDY OF TOTAL POWER 1–2 (1957) (outlining the framework for the comparative study).

11. *See* CAPONERA II, *supra* note 6, at 63–68 (reviewing the history of water law in the Chinese legal system, especially the "Republican & Modern Period" from 1911–1958). Caponera concludes: "private ownership was never mentioned in Chinese water law until very recently. . . . The concept of ownership, even in modern China, has never been absolute, but relative, in the sense that the exercise of property rights is limited in so far as is required by the collective interest." *Id.* at 69.

12. JONATHAN D. SPENCE, THE SEARCH FOR MODERN CHINA 547 (2d ed. 1999). For an early description and assessment of the water conservancy programs put in place between 1949 and 1959, *see* KEITH BUCHANAN, THE TRANSFORMATION OF THE CHINESE EARTH: ASPECTS OF THE EVALUATION OF THE CHINESE EARTH FROM EARLIEST TIMES TO MAO TSE-TUNG 193–98 (1970).

13. *China Blueprints Its Major Water Projects*, XINHUA DAILY TELEGRAPH, Feb. 27, 2002, www.china.org.cn (*translated by* Alex Xu).

14. Western legal scholars long assumed that law was incompatible with Confucian ethics. For a recent survey of the literature, *see* Teemu Ruskola, *Legal Orientalism*, 101 MICH. L. REV. 179, 180–81 (2002). In recent years, scholars such as William Alford

China has formally embraced the "rule of law" directly in line with western notions of the principle.[15] Notably, the change has resulted in creation of legal frameworks in a number of resource management areas where no frameworks previously existed.

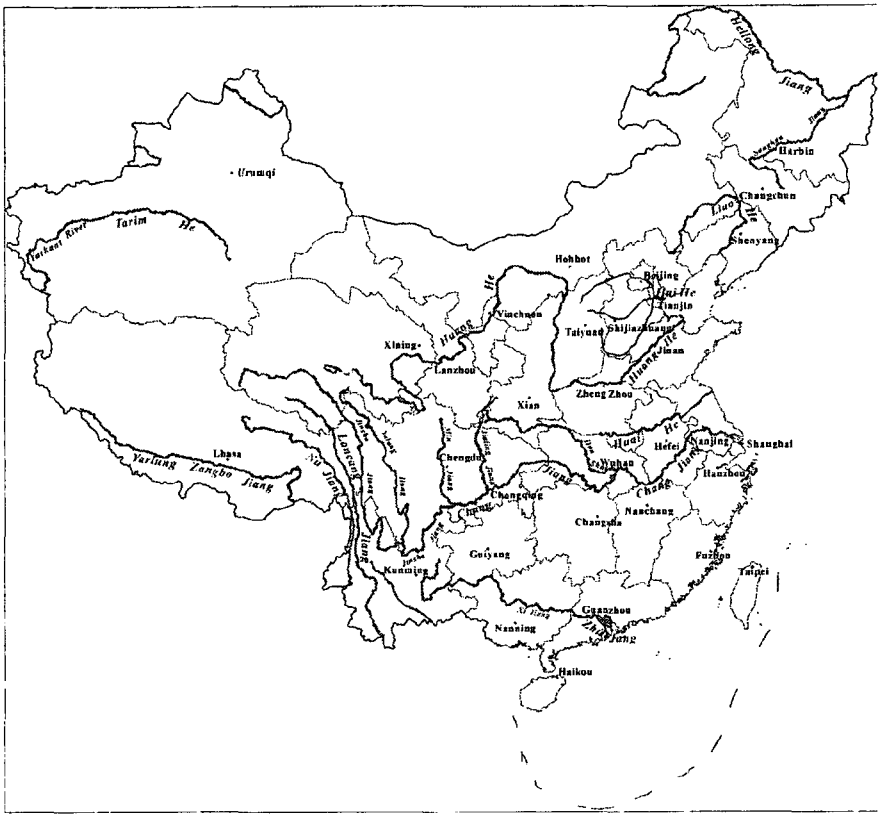
Water resource management changes resulted in the 1988 China Water Law and its revision in 2002. This article analyzes the evolution of recent China water law developments primarily from an internal Chinese perspective. Additionally, in order to facilitate an understanding of Chinese law, the article presents some comparisons between Chinese law and features of water use regulations in many common and civil law regimes.[16]

have painted a much more nuanced view of the role of law and legal reasoning in Imperial China. *See, e.g.*, WILLIAM P. ALFORD, *Law? What is Law? Why Western Scholars of China Have Not Had More to Say about Its Law, in* THE LIMITS OF THE RULE OF LAW IN CHINA 45 (Karen G. Turner et al. eds., 2000); CIVIL LAW IN QING AND REPUBLICAN CHINA 1–3 (Kathryn Bernhardt & Phillip C.C. Huang eds., 1994).

15. *See* Randall Peerenboom, *Let One Hundred Flowers Bloom, One Hundred Schools Contend: Debating Rule of Law in China*, 23 MICH. J. INT'L L. 471, 512 (2002) (implementation of the rule of law ideal is always a matter of degree).

16. China defines the rule of law more in the tradition of the German Rechtstaat than in the Anglo-American tradition of a law that restricts activities by the state. *Id.* at 481–82 n.23.

II. WATER RESOURCES AND ITS UTILIZATION



China is one of the most water deficient countries in the world.[17] Annually, China receives an estimated 2.27 billion acre-feet of water (2.8 trillion cubic meters).[18] In 2003, China received about 1.68 acre-feet (2,076 cubic meters) per person—only one-fourth of the world's average.[19]

The disproportionate availability of water, in both location and time, has only further aggravated China's water crisis.[20] The flood season account for about 60 to 80 percent of the annual water total.[21] However, wide fluctuations in precipitation from year to year, including frequently occurring drought and wet years, has resulted in serious water disasters.[22]

China's water is also unevenly distributed geographically; much more water exists in the south than in the north. Southern China, including the area south of the Changjiang, accounts for 53.5 percent of China's population and 36.5 percent of its total territory, but the South's water resources amount to 80.9 percent of the country's total.[23] Conversely, Northern China, including the Liaohe, Hailuanhe, Huanghe, Huaihe and inland river basins, contains 46.5 percent of the country's population and 63.5 percent of its territory, while its water resources merely amounts to 19.1 percent of China's total.[24] This geographic disparity is clearly illustrated in the arid Hailuanhe River Basin, which annually receives only .29 acre-feet (357 cubic meters) of water per person (approximately 17 percent of the country's average).[25] Uneven water distribution is one of the primary causes of China's lack of social and economic development.[26]

---

17. *See Parched Planet Needs Wake-up Call on Water*, CHINA DAILY, Mar. 24, 2004, http://www.mwr.gov.cn/Detail.wct?SelectID=4275&RecID=2; *see* Wang Shucheng, *Explanation to the Water Law of the People's Republic of China* (Amendment Draft) [hereinafter *Explanation*] (Chinese version), *attached in* Guohun [2001] 156, dated November 26, 2001, *available at* http://www.npcnews.com.cn/gb/paper12/1/class001200078/hwz211659.htm (last visited Apr. 29, 2003). *See also* China's Water Resources Bulletin 2000 (Chinese version), *available at* http://www.shuiziyuan.mwr.gov.cn/gongshi/show_gazettea.asp?id=79 (last visited Sept. 6, 2003), and China's Water Resources Bulletin 2001 (Chinese version), available at http://www.shuiziyuan.mwr.gov.cn/gongshi/show_gazettea.asp?id=114 (last visited Sept. 6, 2003).

18. *Id.*

19. *Parched Planet Needs Wake-up Call on Water*, *supra* note 17.

20. *See Minister Calls for Water Conservation*, XINHUA, Mar. 22, 2004, http://www.xinhuanet.com/english/2004-03/22/content_1378830.htm.

21. *See* WATER RESOURCES DEPARTMENT OF MINISTRY OF WATER RESOURCES, 5 ACHIEVEMENTS AND PROSPECT OF DEVELOPMENT AND UTILIZATION OF WATER RESOURCES IN CHINA 11–12 (1999).

22. For example, there were serious damaging floods in 2003, which had been preceded by serious droughts in the North.

23. *Water Deficit Haunts Nation*, CHINA DAILY, June 7, 2002, http://www.mwr.gov.cn/Detail.wct?SelectID=6034&RecID=1.

24. *Id.*

25. *See supra* note 21.

26. *See* Zhang Guangdou, *Water Resource Issues of China in 21 Century*, *in* 14 ADVANCE IN EARTH SCIENCES 16–17 (Jan. 1999).

In 1997, 60 percent of the surface water in the Hailuanhe River Basin was diverted, 91.4 percent of the water in the Huanghe River Basin was diverted, and 80.2 percent of surface water was diverted from the Huaihe River.[27] As an example, "the amount of surface water used in the Huailunhe River Basin counted 60.0 percent of the total amount of surface resources in the basin."[28] Groundwater removed to augment surface diversions accounted for 95.7 percent, 31.0 percent, and 33.9 percent of the total shallow groundwater, respectively, in each of these river basins.[29]

The three main uses for surface water are agricultural irrigation, industry, and domestic use.[30] In 2000, total water used (excluding ecological uses) totaled 445.7 million acre-feet (549.8 billion cubic meters). Agricultural irrigation consumed 280.8 million acre-feet (346.4 billion cubic meters), industry consumed 92.3 million acre-feet (113.8 billion cubic meters), and domestic use consumed 46.8 million acre-feet (57.7 billion cubic meters).[31] Agricultural irrigation consumes the most water in China; in 2000, it accounted for 63 percent of all water used.[32] In 2001, total water consumption (excluding ecological uses) equaled 451.3 million acre-feet (556.7 billion cubic meters): 62.6 percent for agricultural irrigation, 20.5 percent for industry, 10.8 percent for domestic use, and 6.1 percent for forestry, fisheries, and animal husbandry.

III. MAIN ISSUES IN WATER UTILIZATION

China faces three key problems related to its water resources management: flooding, water scarcity, and water pollution.[33] Each has negatively impacted the Chinese economy, social development, and environmental improvement.[34] Floods of China's major rivers—in particular, flooding in Changjiang in 1998 and the extraordinary floods of Huanghe River in 1933 and 1958—have attracted world attention.[35]

However, water scarcity problems associated with drought situations, which historically occurred mainly in the north and

27. THE MINISTRY OF WATER RESOURCES OF THE PRC, WATER RESOURCES BULLETIN OF THE PRC (1997), *available at* http://www.shuiziyuan.mwr.gov.cn/gongshi/show_gazettea.asp?id=3 (last visited June 9, 2003) (Chinese version only).

28. *Id.*

29. *Id.*

30. THE MINISTRY OF WATER RESOURCES OF THE PRC, WATER RESOURCES BULLETIN OF THE PRC (2000), *available at* http://www.shuiziyuan.mwr.gov.cn/gongshi/show_gazettea.asp?id=79 (last visited June 9, 2003) (Chinese version only).

31. *Id.*

32. *Id.*

33. *See The Comprehensive Report on Strategy of Water Resources of Sustainable Development in China*, 8 CHINA WATER RESOURCES 7 (2000).

34. *Parched Planet Needs Wake-up Call on Water*, *supra* note 17.

35. *See* HU MINSI & LUO CHENZHEN, THE HISTORICAL EXTREME FLOODS IN CHINA 171–87 (The Ministry of Water Resource & Power ed., 1989).

northwest parts of China, have now extended into southern China.[36] North and northwestern China make-up the semi-arid and arid regions that lack water and precipitation needed just to preserve the environment of the river basin.[37] Currently, however, the southern part of China, which typically has a wetter climate than the north, often experiences periodic drought conditions.[38]

Such water deficits strain population centers and lead to further problems. Currently, more than 400 of the 668 major cities in China suffer water shortages; the country's estimated annual water supply deficit is greater than 6 billion cubic meters.[39] One hundred of these cities—including major population centers such as Beijing (population 11.36 million in 2002), Tianjin (9.19 million), Xi'an (7.03 million), Taiyuan (3.22 million), Datong (3.05 million), Qingdao (7.16 million), Yantai (6.45 million) and Dalian (5.58 million)—are currently experiencing severe water shortages.[40] Such severe water shortages lead to groundwater over-abstraction and results in greatly reduced local water tables, ground surface subsidence, and seawater infiltration in costal areas.[41]

Environmental degradation is a secondary effect of the serious water supply shortages. The flow of the Huanghe River experienced its first adverse affects in the 1970s—each year since then the flow has steadily declined. In 1997, 700 kilometers of the river—90 percent of its length—suffered reduced flow; the longest recorded period of interrupted flow was 226 days.[42] Many organizations and specialists continue to research environmental problems resulting from these long-term interruptions.[43]

The Tarim River, the most important river in northwest China, also has a history of interruption spanning approximately 30 years.[44] The Tarim River's total, uninterrupted length is more than 198 miles (320 kilometers). Its interruption results in Lop Nur Lake drying, serious

---

36. *See* MINISTRY OF WATER RESOURCES OF THE PRC, WATER RESOURCES STATISTICS BULLETIN OF THE PRC (2002), *available at* http://www.mwr.gov.cn/gonggao/030613.doc (Chinese version only) (last visited Dec. 12, 2003).

37. *Id.*

38. *Id.*

39. *Minister Calls for Water Conservation, supra* note 20.

40. *Id. See also* Jiang Wenlai, *Research on Water Resources Safety of China in the 21st Century*, 8 CHINA WATER RESOURCES 41 (2000) (explaining how the improvement of water utilization efficiency establishes highly effective water resource administration).

41. Elosie Kendy et al., *Summary of Policies Drain the North China Plain: Agricultural Policy & Groundwater Depletion in Luancheng County, 1949–2000*, 71 INT'L WATER MGMT. INST., at v. (2003).

42. Ye Qingchao, *Flow Interruptions & Their Environmental Impacts on the Yellow River Delta, in* 5 ACTA GEOGRAPHICA SINICA 385–391 (1998), *quoted in* Cong Xian Li et al., Abstract, *Some Problems of Vulnerability Assessment in the Coastal Zone of China*, MARINE GEOLOGY LABORATORY OF TONGJI UNIVERSITY, SHANGHAI CHINA (2002).

43. *See, e.g., id.*

44. *See* Zhu Xiangmin, *Adapting New Measures to Strengthen Comprehensive Rehabilitation in Tarim River Basin in the New Situation*, 9 CHINA WATER RESOURCES 50–52 (2001).

ecosystem degradation, and desertification, which threatens the existence of the indigenous environment.[45] Indeed, the issues of the Tarim River appear even more serious than those of the Huanghe.

In 2000, although the country's total water use accounted for only 19.8 percent of the available water resources, most of northern China and some parts of southern China experienced the most severe drought since 1949. More than 20 provinces, autonomous regions, and municipalities directly under the Central Government (CGMs)[46] suffered severe drought effects. The drought affected approximately 101 million acres (41 million hectares) of agricultural land (one acre equals 0.405 hectares); almost 20 million acres (8 million hectares) could not be harvested. 27.7 million people in rural areas and 17 million livestock, such as horses, oxen, cows, donkeys, and mules, suffered from shortages of drinking water. Six hundred twenty cities in eighteen provinces, autonomous regions, and CGMs experienced water shortages that limited more than three hundred cities to set water supply quotas that affected more than twenty-six million people in the urban population.

Water pollution causes very serious problems in China. Most rivers, fresh water lakes, and groundwater supplies in cities experience the effects of pollution.[47] Approximately 50 percent of river lengths and 90 percent of city water supplies are polluted to some extent.[48] The Huaihe, the Haihe, and the Liaohe are the three most seriously polluted rivers; the three most seriously polluted lakes are the Taihu, the Dianchi, and the Chaohu.[49]

Water management, and related policies and legislation, have created much of the problem. The importance of water management in achieving rational water utilization and sustainable development policy in developing countries, especially quickly developing countries such as China, necessitates in-depth analyses of both the present legal and institutional system and plans to satisfy future water demand.

45. *See* FAN ZILI, ET AL., STUDY ON THE ECOLOGICAL ENVIRONMENT EVOLUTION AND SUSTAINABLE DEVELOPMENT IN TARIM RIVER BASIN, PROCEEDINGS OF SEMINAR ON THE WATER RESOURCES, ENVIRONMENT AND MANAGEMENT OF TARIM RIVER WATERSHED 171–177 (1998) [hereinafter PROCEEDINGS].

46. China is administratively divided into 23 provinces, 5 ethnic autonomous regions, 4 CGMs and 2 special administrative regions. An ethnic autonomous region or a CGM has the same political, economical and jurisdictional rights as a province.

47. *See Parched Planet Needs Wake-up Call on Water, supra* note 17.

48. *See Ruskola, supra* note 14.

49. Hajime Shirayama, *Joint Water Quality Study to Determine the Cause of Pollution on the Upstream Portion of China's Liaohe River,* July 1998–June 2002, NORTHWEST PACIFIC REGION ENVIRONMENTAL COOPERATION CENTER, at 102.

IV. THE LEGAL AND REGULATORY FRAMEWORK IN GENERAL

A. LEGISLATIVE BODIES AND HIERARCHY OF LAWS

The term "law" has two distinct meanings in China: a) in a general or broad sense, the term "law" refers to a legal norm enacted or administered by the State, b) in a special or more narrow sense, "law" refers to the written normative document adopted by the National People's Congress (NPC) or its Standing Committee.[50] However, sometimes its definite meaning should be understood in accordance with the circumstance where it is employed. The Chinese legislative bodies and hierarchy of laws are stipulated by the Constitution of the PRC, which was promulgated in 1982 and amended four times, with thirty-one amendments.[51] Other laws that provide more detail in some aspects, such as the Legislation Law of the PRC[52], Law of PRC on the Organization of Local People's Congresses and Local Governments at Various Levels.[53] However, the PRC legislative structure differs from the United States and other parliamentary systems; and the Standing Committee (discussed below) has lawmaking power when the larger legislative body is not in session.

Constitution. The Constitution is the highest law in the Chinese hierarchy of law. It is recognized as the mother law of all other laws,

---

50. SHANGHAI LAW DICTIONARY 600 (2d 1984).

51. ZHONGUA RENMIN GONGHEGUO XIANFA [XIANFA] [hereinafter CONSTITUTION] (1982) (P.R.C.) art. 58, *translated in* 1 LAWS & REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 279 (1991), *available at* http://english.peopledaily.com.cn/constitution/constitution.html. Its official Chinese version is also available at The National People's Congress of PRC web page http://www.npc.gov.cn/zgrdw/xfxza/index (last visited Mar. 16, 2004), and the unofficial English version available at http://english.peopledaily.com.cn/constitution/constitution.html (last visited 16/03/2004). The Standing Committee consists of a Chairman, vice-chairmen, a secretary-general, and representatives of minority nationalities. *Id.* art. 65.

52. 2000 Legislation Law of the P.R.C., ZHONGHUA RENMIN GONGHEGUO FAGUI HUIBIAN [FAGUI HUIBIAN] [Legislation Law] art. 2, *translated in* LAWS & REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 5. Legislation Law of the PRC (2000) was adopted by the 3rd Session of the Ninth National People's Congress on March 15, 2000, and came into force on July 1, 2000. Its official Chinese version is in Gazette of the Standing Committee of NPC (No. 2)(2000). In accordance with art. 2, "[t]he enactment, amendment and repeal of any national law, administrative regulation, local regulations, autonomous regulations and special regulations shall be governed by this Law. The enactment, amendment and repeal of administrative rules promulgated by agencies under the State Council and local rules promulgated by local governments shall be carried out in accordance with the relevant provisions of this Law." *Id.*

53. 1979 People's Republic of China Organization Law for Local People's Congresses and Local Governments at All Levels, Zhonghua Renmin Gongheguo Fagui Huibian [Fagui Huibian] [Laws & Regulations of the P.R.C.], www.unpan.org. Law of the PRC on the Organization of Local People's Congresses and Local Governments at Various Levels was adopted by the 2nd Session of the Fifth NPC on July 1, 1979, and has been revised three times, respectively on December 10, 1982, December 2, 1986 and February 28, 1995. Its official Chinese Version is in the Gazette of the Standing Committee of NPC (No. 1)(1995).

and forms the foundation of all other laws and has a higher force than all other laws.[54] The NPC holds exclusive authority to amend Constitution.[55]

Basic laws. The NPC enacts and amends basic laws governing criminal offences, civil affairs, the state organs and other matters.[56] However, when the NPC is not in session, its permanent body—the Standing Committee—exercises the function and power to partially supplement and amend laws enacted by the NPC provided the basic principles of these laws are not contravened.[57]

Laws other than basic laws. The Standing Committee of the NPC exercises the function and power to enact and amend laws, with the exception of those that should be enacted by the NPC.[58]

Regulations. Three kinds of regulations exist: administrative regulations, local regulations, and autonomous regulations and separate regulations. Administrative regulations are enacted by the State Council in accordance with Constitution and the law.[59] The State Council, *i.e.*, the Central People's Government of the PRC, is the executive body of the NPC as well as the highest organ of state administration.[60]

Local regulations are adopted by the people's congresses at the provincial level or their standing committee in light of the specific situations and actual needs of the jurisdiction.[61] Besides this, in light of the specific situations and actual needs of the jurisdiction, the People's Congress and its Standing Committee in a major city[62] may enact local regulations.[63]

Autonomous regulations and separate regulations are enacted by the people's congresses of ethnic autonomous areas on the exercise of autonomy and in light of the political, economic and cultural characteristics of the ethnicity of or ethnicities in the areas concerned.[64] Autonomous regulations or separate regulations enacted by an autonomous area become effective after review and approval by the Standing Committee of National People's Congress, those enacted by an autonomous prefecture or autonomous county shall come into force after it is reviewed and approved by the Standing Committee of the People's Congress of the province, autonomous area, or

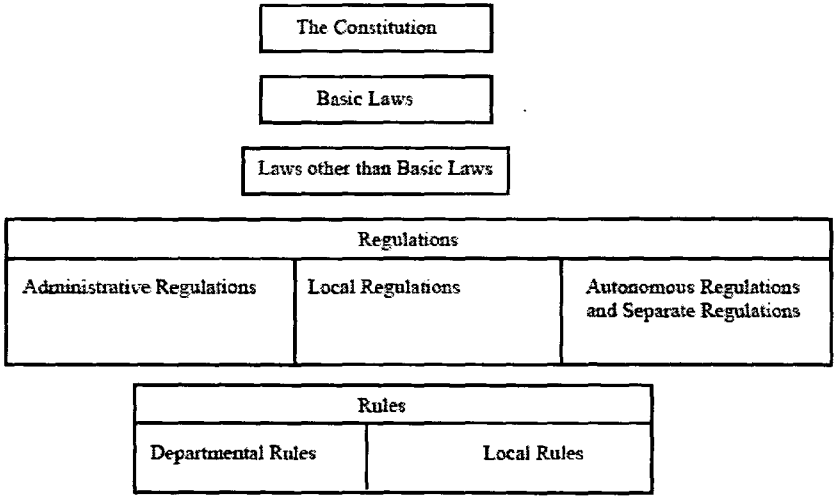
54. *See* CONSTITUTION pmbl., para. 13 and art. 5.
55. *See id.* art. 62, para. 1.
56. *See id.*
57. *See id.* art. 67; *see also* Legislation Law art. 7.
58. *See* CONSTITUTION art. 67; *see also* Legislation Law art. 7.
59. *See* CONSTITUTION art. 89; *see also* Legislation Law art. 56.
60. *See* CONSTITUTION art. 85.
61. *See id.* arts. 100, 115; *see also* Legislation Law art. 63.
62. A major city refers to a city where the People's Government of the province or autonomous area is seated, the city where a special economic zone is located, and any other major city approved by the State Council. Legislation Law art. 63.
63. *See* Legislation Law art. 63.
64. *See* CONSTITUTION art. 116; *see also* Legislation Law art. 66.

municipality directly under the central government.[65]

Rules. There are two kinds of rules: departmental rules and local rules. The People's Bank of China, the Auditing Agency, or any working department under the State Council (*e.g.*, the Ministry of Water Resources ("MWR")) issue departmental rules. These organs exercise regulatory functions within the scope of its authority in accordance with national law, administrative regulations, as well as decisions and orders of the State Council.[66] A matter on which an administrative rule is enacted shall be a matter within the scope of its implementing national law, administrative regulations, and decisions or orders issued by the State Council.[67] Departmental rules should be applied nationally, except when otherwise provided by the Constitution, laws, administrative regulations or the particular rules itself.

Local rules are formulated by the people's governments at provincial level, or those of major cities, in accordance with the Constitution, national law, administrative regulations and local regulations at the provincial level.[68]

Chart I: Hierarchy of Laws in China



B. SYSTEM OF WATER LEGAL NORMS

Since 1979, two general types of laws exist governing water: laws specifically relating to water, and laws that include provisions indirectly

65. *See* Legislation Law art. 66.
66. *See* CONSTITUTION art. 90(2); *see also* Legislation Law art. 71.
67. *See* Legislation Law art. 71.
68. *See id.* 73.

relevant to water issues. A noteworthy example of this latter type is Article 9 of the Constitution, which provides the basic system of natural resources management—including ownership, utilization, and protection of water resources.[69]

The following list reflects the organization of laws that specifically relate to water:

- 2002 Water Law of the PRC;[70]
- Law for Water Pollution Prevention and Control of the PRC;[71]
- Law for Flood Prevention and Control of the PRC;[72]
- Law on Water and Soil Conservation of the PRC.[73]

Laws indirectly relevant to water include:

- Law for Environment Protection of the PRC;[74]
- Law for Fishery of the PRC;[75]
- Law for Forestry of the PRC;[76]
- Law for Pasture of the PRC;[77]
- Law for Electricity Power of the PRC;[78]

---

69. Article 9 of the Constitution of PRC reads as follows:

> All mineral resources, waters, forests, mountains, grassland, un-reclaimed land, beaches and other natural resources are owned by the state, that is, by the whole people, with the exception of the forests, mountains, grasslands, un-reclaimed land and beaches that are owned by collective in accordance with the law. The state ensures the rational use of natural use of natural resources and protects rare animals and plants. Appropriation or damaging of natural resources by any organization of individual by whatever means is prohibited.

CONSTITUTION art. 9, *translated in* 1 LAWS AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 279, 282 (1991).

70. 2002 Water Law of the PRC, Laws & Regulations of the PRC (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 2461).

71. 1984 Law of the PRC on the Prevention of Water Pollution and Treatment of Polluted Water, Laws & Regulations of the PRC, *translated in* 2 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 840511 (1987) (amended by Decision of the Standing Committee of the National People's Congress May 15, 1996, *translated in* LAWS AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 357).

72. 1997 Flood Control Law of the PRC, Laws & Regulations of the PRC, *translated in* 2 LAWS AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA 647 (1997).

73. 1991 Law of the PRC on Water and Soil Conservation, Laws & Regulations of the PRC, (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 622).

74. 1989 Law of the PRC on Environmental Protection, *translated in* 6 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 891261 (1990).

75. 1986 Fishery Law of the PRC, *translated in* 3 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 860120 (1988).

76. 1984 Forestry Law of the PRC, *translated in* 2 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 840920.1 (1987).

77. 1985 Grassland Law of the PRC, *translated in* 3 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 850618 (1988).

78. 1995 Electric Power Law of the PRC, Laws & Regulations of the PRC, (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 117).

- Law on Administrative Licenses of the PRC.[79]

As of November 2001, the State Council had adopted or formulated twenty administrative regulations that also relate to water management.[80] Presently, the most important administrative regulations include:

- Industry Policy on Water Conservancy,[81]
- Implementation Procedures for Water-drawing Permit System (based on the Article 32 of the 1988 China Water Law, but still valid);[82]
- Regulations for River Channel Management;[83]
- Regulations for Flood Prevention;[84]
- Regulations for Soil Conservation;[85]
- Regulations for Compensation for Land Occupation and Resident Resettlement in Construction of Large-and-medium-sized Water resources and Hydropower Projects.[86]

By December 2001, the Ministry of Water Resources—the major agency responsible for management of the nation's water resources, and for unified management of and supervision water resources throughout the country—had issued ninety administrative rules to implement laws and regulations such as the Procedures for Supervision and Management of Water Drawing Permit.[87] The provincial congresses have formulated or issued local regulations to implement the 1988 China Water Law and other laws and administrative regulations, such as the Detailed Implementation Rules for the Water Drawing Permit System of Xinjiang and the Water Resources Management Regulations of Shanxi Province.[88] Some local governments have also issued local rules to implement laws, regulations, and departmental rules pertinent to water.[89] In total, by the end of November 2001, provincial congresses had implemented

79. *See* Circular of the State Council on Implementing the Administrative License Law of the PRC, (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 117).

80. Jing Zhengshu, Speech at the Press Conference on the Promulgation and Implementation of New Water Law (Sept. 5, 2002), *available at* http://www.mwr.gov.cn/20020906/slxw/slxw9161.htm (last visited Oct. 9, 2003).

81. Industry Policy on Water Conservancy, issued by the State Planning Commission on September 4, 1997, and approved by the State Council Industry Policy on Water Conservancy.

82. *See* 1988 Water Law of the PRC, Laws & Regulations of the PRC art. 32, *translated by* 5 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 880121.2 (1989).

83. Regulations for River Channel Management, Laws & Regulations of the PRC.

84. Regulations for Flood Prevention, Laws & Regulations of the PRC.

85. Regulations for Soil Conservation, Laws & Regulations of the PRC.

86. Regulations for Compensation for Land Occupation and Resident Resettlement in Construction of Large-and-medium-sized Water resources and Hydropower Projects, Laws & Regulations of the PRC.

87. Speech of Jing Zhengshu, *supra* note 80.

88. *Id.*

89. *Id.*

more than 800 specialized and detailed local regulations and rules.[90]

Early indications suggest governmental entities are equally active in implementing 2002 China Water Law. Since its enactment, some provincial congresses have formulated or issued local regulations implementing the revised law. For example, on October 31, 2002, Zhejiang Province adopted Regulations on Water Resources Management that became effective January 1, 2003. Additionally, on December 6, 2002, Guangdong Province adopted Regulations on Water Resources Management that became effective on March 1, 2003.

V. THE 1988 CHINA WATER LAW: IMPORTANT ASPECTS

The 1988 China Water Law established the foundation and framework for the administrative management of water resources.[91] The law specifies the authority, functions, and powers for the Ministry of Water Resources, other related ministries, and water bureaus at different levels (province, prefecture, and county). The Standing Committees of provincial People's Congresses subsequently issued implementing procedures for the 1988 China Water Law.[92]

The water law aimed to address conflicts and shortfalls of the inadequate and fragmented system that had arisen in China during the 1970s and early 1980s,[93] introducing seven important provisions: ownership and protection of rights, creating an institutional framework, planning and implementation, water use management, water quality protection and pollution prevention, a permit system for withdrawals, and a water pricing system.

A. OWNERSHIP AND PROTECTION OF RIGHTS

Under the 1988 China Water Law, two categories of water resources ownership exist: state ownership and collective ownership. The law provides for general state ownership of all water resources, with the exception of the collective ownership of water in ponds and reservoirs owned by "agricultural collective economic organizations"[94] ("ACEOs"). Under this system, the State protects legitimate rights and interests of individuals and organizations to develop and utilize water resources consistent with the law.[95]

---

90. *Id.*

91. *See* 1988 Water Law of the PRC, Laws & Regulations of the PRC art. 9, *translated by* 5 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 880121.2 (1989).

92. *See, e.g.*, The Procedures for Implementing the Water Law of Xinjiang (adopted by the 26th Session of Seventh Xinjiang People's Congress on May 8, 1992 and entered into force on June 11, 1992).

93. *See* Ke Lidan, Water Law and Management of China, China Water Conservancy and Hydropower Publishing House 3-36 (1998).

94. 1988 Water Law of the PRC art. 3. Agricultural economic collectives are socialist economic systems under collective ownership by the working people.

95. *Id.*

B. INSTITUTIONAL FRAMEWORK

The 1988 China Water Law combined water-related provincial, prefecture, and county administrative agencies into one centralized management system of water resources administration called the Competent Department of Water Administration ("CDWA"), which is responsible for establishing and implementing the institutional framework of the water resources administration.[96] The CDWA, created under the State Council, is responsible for creating a national system for administration of water resources.[97] CDWAs created at or above the county level administer local water resources. (See Chart II: Institutional Framework under the 1988 China Water Law)

C. PLANNING AND IMPLEMENTATION

The 1988 China Water Law established a system of unified planning within individual river basins to develop and utilize water resources and prevent water-related calamities.[98] The system includes elements of both integration, in the form of comprehensive plans, and specialization, in the form of professional plans.[99] The CDWA under the State Council, after collaborating with related departments and local governments, develops integrated planning within state-designated major river basins and presents these plans to the State Council for approval.[100] Integrated planning for other river basins comes from CDWAs of the local government of those regions, in collaboration with the relevant departments and districts. A local CDWA presents its plan to the government at the same administrative level (*i.e.*, autonomous region, province) for approval and then submits it to the superior CDWA for the latter to make a record.[101]

D. WATER USE MANAGEMENT

The central-government level CDWA also formulates long-term water supply and demand plans for the entire country, and districts that cover multiple provinces, autonomous regions, and CGMs.[102] The CDWA then presents these long-term water supply and demand plans to the State Council planning department, which holds approval authority for such plans.[103] Likewise, local CDWAs at or above the county level (province, prefecture and county) formulate their own long-term water supply and demand plans in collaboration with other departments at that administrative level.[104] The State Council planning

96. *Id.* art. 9.
97. *Id.*
98. 1988 Water Law of the PRC art. 11.
99. *Id.*
100. *Id.*
101. *Id.*
102. 1988 Water Law of the PRC art. 30.
103. *Id.*
104. *Id.*

department at the next higher administrative level approves these local long-term water supply and demand plans; the plans must reflect the plans formulated by the higher CDWA and actual local conditions.[105]

Finally, superior CDWAs (*e.g.*, a prefecture's CDWA is superior to a county's CDWA) formulate the water allocation scheme for inter-administrative districts.[106] This process involves seeking the advice of local people's governments and receiving their approval before executing the scheme.[107]

E. ENVIRONMENTAL PROTECTION AND POLLUTION PREVENTION

The 1988 law assigns to the State responsibility for adopting measures to effectively protect water resources, maintain water sources, prevent and control soil erosion, and improve the natural environment.[108] Each unit of government is responsible for: (1) enforcing water pollution prevention and control measures consistent with the provisions of the Law for Prevention and Control of Water Pollution; and (2) protecting and improving water quality.[109] The Law for Water Pollution and Control, issued before both the 1988 China Water Law and the Environment Protection Law in China, was the pioneering basic law relating to water and water protection; it still dominates the subject of water pollution and control in China.

F. PERMIT AND WATER PRICING SYSTEMS

Under the 1988 China Water Law, the State was required to adopt a permit system to regulate direct withdrawals from aquifers, rivers, and lakes.[110] Household use, raising livestock and poultry, and other uses for small quantities were exempted from this permit system.[111] In September 1993, the State Council promulgated Implementation Procedures for the Water Drawing Permit System, which outlined the scope and implementation measures for the permit system.

Under the 1988 law, anyone using water supplied by a water project must pay water fees to the owner or manager of the project.[112] Entities that directly withdraw groundwater from aquifers located in urban areas must pay water resource fees to the local government.[113] Governments of provinces, autonomous regions, or CGMs determine fees for withdrawals in non-urban areas.[114] Governments of provinces, autonomous regions, or CGMs could determine water resources fees for all other direct withdrawals. The State Council determines

105. *Id.*
106. 1988 Water Law of the PRC art. 31.
107. *Id.*
108. *Id.* art. 5.
109. *Id.* art. 6.
110. 1988 Water Law of the PRC art. 32.
111. *Id.*
112. *Id.* art. 34.
113. *Id.*
114. *Id.*

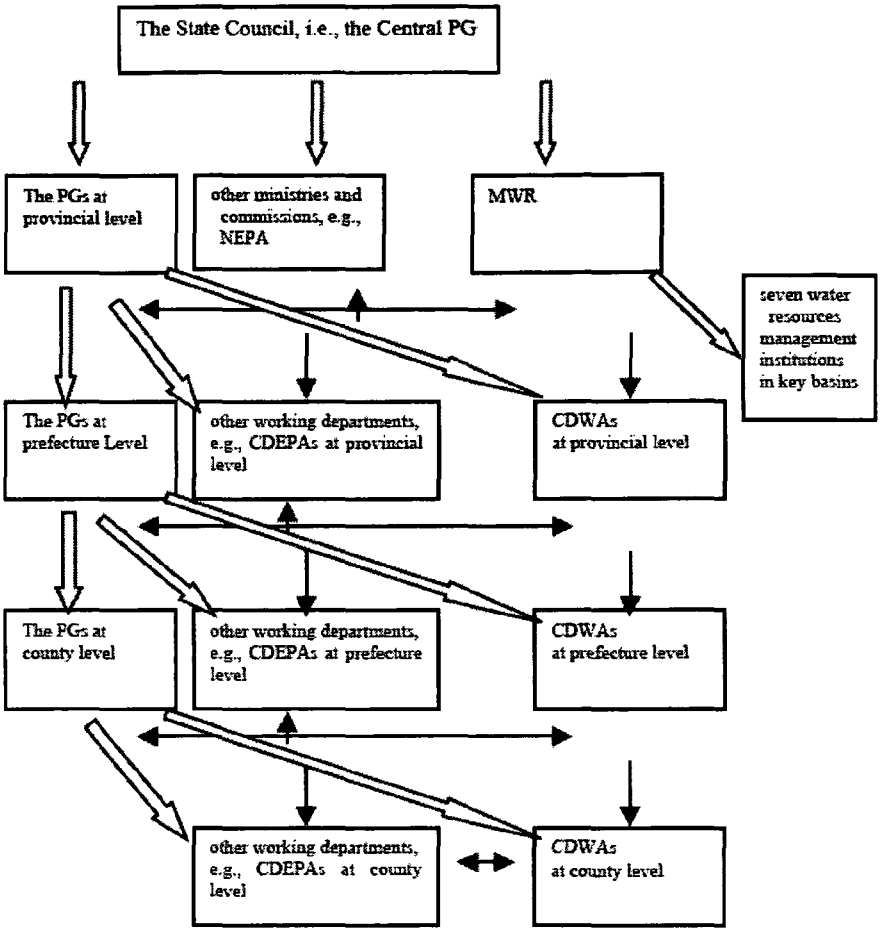
collecting procedures for water fees and water resources fees.[115] In 1985, the State Council issued the Procedures for Calculation, Collection and Management of Water Charge of Water Projects. The procedures provide the main legal basis for meeting the required criteria and managing the supply of water projects.

G. DISPUTE SETTLEMENT

The 1988 China Water Law provides for the resolution of two kinds of water disputes: those between regions and those between individuals or local entities. For water disputes between regions, the Law prescribes resolution by consultation in the spirit of mutual understanding, conciliation, friendship, and cooperation.[116] If this method of consultation fails to settle the inter-regional dispute, the parties may appeal to the government at the next higher level to assist in finding a solution to the dispute.[117] For water disputes between entities or individuals, the 1988 China Water Law allows settlement by way of consultation and mediation ("reconciliation").[118] If one of the parties concerned is unwilling to settle the dispute through this process, or consultation and mediation fails to provide an acceptable resolution, either party can appeal to the government above the county level or its authorized department for guidance, or they can appeal directly to a court.[119]

115. *Id.*
116. 1988 Water Law of the PRC art. 35.
117. *Id.*
118. *Id.* art. 36.
119. *Id.*

Chart II: Institutional Framework under the 1988 China Water Law



Notes: 1. ⇨ expresses administrative leadership relations.

2. → expresses professional leadership relations.

3. ↕ ↔ expresses co-operative relations.

4.PG: people's government.

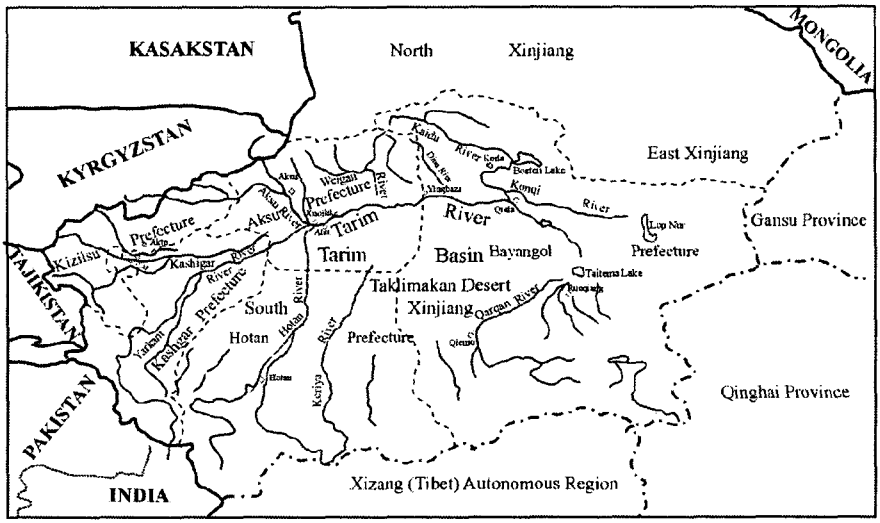
5.MWR: Ministry of Water Resources.

6.CDWA: competent department of water resources administration.

7.NEPA: National Environmental Protection Agency.

8. CDEPA: competent department of environment protection administration.

VI. VITAL PROBLEMS UNDER THE 1988 CHINA WATER LAW: TARIM RIVER BASIN AS A CASE STUDY.



A. BASIC CONDITIONS

The Tarim River Basin ("Basin") is in the south of the Xinjiang Uigur Autonomous Region (hereafter "Xinjiang") in northwest China. The Basin is a relatively independent, closed, inland hydrological basin.[120] It spans all five Prefectures in South Xinjiang (Banyingol, Aksu, Kizilsu, Kashgar and Hotan), a total area of nearly four hundred thousand (393,824) square miles (1.02 million square kilometers),[121] and contains a population of around 8 million people.[122] The Basin occupies 61 percent of Xinjiang's total area and holds 47 percent of its population.[123] The Tarim River flows some 1514 miles (2437 kilometers) from its source within China—the Laskim, a small upper

120. *See* Lei Zhidong et. al, *Formation and Utilization of Water Resources of Tarim River*, 44 SCIENCE IN CHINA 615 (Dec. 2001) *available at* http://www.scichina.com/contents/2001/yk/ye/ (last visited Apr. 24, 2004).

121. Dr. George E. Radosevich & Mr. Douglas C. Olson, Existing and Emerging Basin Arrangements in Asia: Tarim Basin Water Resources Commission Case Study 2 (June 24, 1999), *available at* http://lnweb18.worldbank.org/ESSD/ardext.nsf/18ByDocName/TarimBasinWaterResourcesCommissiontheMRC/$FILE/TarimBasinWatResCom&MRC.pdf (last visited Apr. 21, 2004); COUNTRY REPORT OF THE PEOPLE'S REPUBLIC OF CHINA 31 (Chinese Ministry of Water Resources ed., 2003), *available at* http://www.worldwatercouncil.org/resources.shtml (last updated Mar. 25, 2004).

122. Uyghur American Association, *Xinjiang Develops Water-efficient Agriculture* (Oct. 25, 2000) *at* http://www.uyghuramerican.org/economy/xinhuaoct252000.html (last visited Apr. 24, 2004).

123. *See* Xinjiang Statistic Yearbook 1999.

tributary of the Yarkant River—to its termination at Taitema Lake.[124] It is the longest inland river in China, and lies in the largest inland river basin in the world.[125]

The Basin annually drains an average of 31.8 million acre-feet ("MAF") (39.2 billion m^3) of surface water[126] from five major tributaries: the Kaidu-Konqi, the Aksu, the Yarkant, the Kaxgar and the Hotan Rivers.[127] The plains of the Basin receive little precipitation (annual mean of just under 2 inches (1.96) or 50mm); no surface runoff is generated in this area of the main stem, and thus, the Tarim's flow depends entirely on those of its tributaries.[128]

The Kaidu-Konqi River, although within the Tarim Basin, is hydrologically separate from the Tarim and has no natural connection with the Tarim River.[129] The Kuta Trunk Canal, built in 1976, transfers water from the Kaidu-Konqi River to the lower reaches of the Tarim River main stem.[130] Since 2000, the channel has been famous for transferring water from Bostan Lake to the lower reaches of the Tarim River main stem to restore the degraded ecosystem.

The greatest change affecting the Tarim River Basin in the last 50 years has been the growth in human activity, particularly agriculture.[131] Although the Basin's smaller tributaries have always flowed intermittently, the much larger Yarkant River, with a catchment area of approximately 42,471 square miles (110,000 square kilometers) and an annual runoff volume averaging about 5.9 MAF (7.25 billion m3),[132] began drying up in its lower reaches in the early 1970s as a result of increased agricultural diversions.[133] Since then, the flows of the Tarim main stem have depended heavily on flows from the Aksu and Hotan Rivers, where irrigation water diversions have also increased and downstream flows have continually decreased.[134] As a result of large irrigation diversions and reduced tributary flows, since 1972, the Tarim main stem has shortened by approximately 200 miles

124. He Wenqin, Water Resources in Tarim River Basin 21, in *Water Resources, Environment and Management of the Tarim River Watershed: Proceeding of Seminar on the Water Resources, Environment and Management of the Tarim River Watershed.*

125. COUNTRY REPORT OF THE PEOPLE'S REPUBLIC OF CHINA, *supra* note 121, at 32; Shen Yuling, Land and Water Resources Management in Xinjiang Uyuar Autonomous Region, China 2 (2003) (unpublished dissertation, NOLD PhD-course), *available at* http://www.uit.no/MostCCPP/nold/frontpage_yuling.pdf (last visited Apr. 24, 2004).

126. Zhou Hongfei et al., *Irrigated Agriculture and Sustainable Water Management Strategies in the Tarim Basin, in* NEW APPROACHES TO WATER MANAGEMENT IN CENTRAL ASIA: PROCEEDINGS OF THE WORKSHOP HELD IN ALEPPO, SYRIA (Nov. 6–11, 2000) 127, 129 *available at* http://www.unu-.edu/env/workshops/Aleppo/ (last visited Apr. 5, 2004).

127. COUNTRY REPORT OF THE PEOPLE'S REPUBLIC OF CHINA, *supra* note 121, at 32.

128. *See id.*

129. Radosevich & Olson, *supra* note 121, at 1.

130. *See* Zhidong, *supra* note 120.

131. *See* Radosevich & Olson, *supra* note 121, at 1–2.

132. *See* Hongfei et al., *supra* note 126, at 132.

133. *See* CUI WANGCHENG, OASES PROCESSES AND DESERTIFICATION OF THE YARKANT RIVER AND THE KAGAR RIVER VALLEY (1994), *summary available at* http://www.fao.org/docrep/W7539E/w7539e0b.htm (last visited Apr. 24, 2004).

134. *See* Radosevich & Olson, *supra* note 121, at 1–2.

(320 kilometers). The flow reduction has destroyed downstream vegetation—including poplar forestland (*Populus diversifolia*) the downstream flows once supported.[135] The reduced flow of the Tarim River has had serious impacts; Lop Nur and Taitema Lake—both historically fed by the Tarim—completely dried up during the late 1960s and early 1970s.[136] The resulting government and public concern over the degradation of the Basin's downstream ecosystem prompted numerous research projects, workshops, and seminars to address these issues. Moreover, the restoration of the degraded ecosystem of the Tarim's lower reaches has become one of the greatest concerns of the central government since mid-1990s.[137]

B. MAIN WATER ISSUES

1. Water Use Disputes

The government must still address serious issues regarding the region's water resources, including exploitation, social and economic development, and environmental protection. The lack of a well-established water allocation mechanism creates disputes among water users, counties, prefectures, and agricultural sectors throughout the Tarim Basin.

The most serious current dispute is between uncontrolled productive use of the Tarim's tributaries and the environmental protection of riparian forest along the Tarim mainstream.[138] Until recently, limited industrial development prevented conflict between agriculture, industry, and domestic uses in the Tarim River Basin. However, increased oil and gas exploitation will escalate these disputes.[139] The government has traditionally favored agricultural production over environmental protection, and thus, only water available after agricultural withdrawals is available for environmental purposes. Due to this preference, reclaiming and preserving the downstream ecosystems of the Tarim River while achieving sustainable development within the Basin will prove difficult.

---

135. *Id.* at 1.

136. *China Hails Rebirth of Lake on Desert Rim*, PEOPLE'S DAILY, Nov. 18, 2001, *available at* http://english.peopledaily.com.cn/200111/18/eng20011118_84788.shtml; *Xinjiang to Revive Lop Nur by Water Diversion*, PEOPLE'S DAILY, Jan. 20, 2001, *available at* http://english.peopledaily.com.cn/200101/20/eng20010120_60997.html. *See also* THE UNU GLOBAL ENVIRONMENTAL FORUM V, FRESHWATER RESOURCES IN ARID LANDS (Juha I. Uitto & Jutta Schneider eds., 1997) *available at* http://www.unu.edu/unupress/unupbooks/uu02fe/uu02fe.htm.

137. In 1998, The Central Government of the PRC inaugurated the Tarim Basin II Project along with the World Bank. The project was the biggest one to improve the irrigation and promote the environmental protection in a river basin in China. *See generally* The World Bank Group, Project Introduction, Tarim Basin II, *at* http://www.worldbank.org.cn/English/content/693g1207183.shtml.

138. *See id.*

139. *See*, Lang Yihua & Gu Dingfa, Development of Oil Field and Rational Utilization of Water Resources in Tarim Basin, the Proceedings, at 79–83.

2. Lack of Unified Planning

No master plan exists for the Tarim River Basin, although the individual tributary basins—with the exception of the Kaidu-Konqi River Basin—have drafted river basin plans.[140] These plans lay the foundation for establishing minimum flows that must leave each tributary basin and feed the Tarim main stem. The plans also address hydraulic works construction and instituting general water management in the respective river basins.

Due to their piecemeal nature, these plans do not produce a harmonized, integrated water resources management plan for the Tarim River Basin as a whole.[141] Moreover, at present, the local governments of the several prefectures in the Basin are only considering the development of water resources in light of their own social and economic development plans, not a coordinated master plan for the Tarim River Basin.[142]

3. Lack of effective unified water management

Given the substantial demands placed on the Tarim River Basin, and the numerous political subdivisions in which the Basin lies, effective Basin management requires a unified approach among these subdivisions. Although governmental experts have identified this need, the government has not yet succeeded in creating such a unified approach.

Since the 1950s, local government within each of the five prefectures located within the Tarim Basin Prefectures have established separate water resources bureaus ("Bureaus").[143] The prefecture governments authorize the Bureaus to independently manage the water resources within each individual prefecture. Although the Bureaus have district management authority, they can do little to affect management and uses on other tributaries and the Tarim River main stem itself.[144]

The 1988 China Water Law began to change this independent approach. The basic water administration system prescribed in the 1988 China Water Law applies to the Tarim River Basin.[145] Under this administrative system, the Xinjiang Water Resources Bureau exists as the CDWA under the Xinjiang People's Government.[146] Each prefecture's government administers its own bureau.[147] Local water management mainly focuses on the promotion of agriculture and

140. *See* Radosevich & Olson, *supra* note 121, at 8.
141. *See id.*
142. *See id.* at 3.
143. *See id.*
144. *See id.*
145. *See* 1988 Water Law of the PRC, Laws & Regulations of the PRC art. 9, *translated in* 5 STATUTES AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA, DOC. NO. 880121.2 (1989).
146. *See* Radosevich & Olson, *supra* note 121, at 3.
147. *Id.*

economic development through building and managing irrigation infrastructure and increasing total irrigated acreage based on local watershed plans. Each prefecture's Planning Commission (now the Development Planning Commission), in conjunction with the relevant administrative bureaus, formulates five-year plans.[148] However, the prefecture's directors take no real action to protect the environmental needs of the river. Upstream prefectures, such as the Aksu and Hotan Prefectures, leave downstream protection of the resource to the Bayingol Prefecture, through which the downstream stretches of the Tarim flow.[149] However, the majority of water flows in the main stem of the Tarim River depends upon flows discharged from the Aksu River, under the jurisdiction of the Aksu Prefecture, and the Hotan River, under the jurisdiction of the Hotan Prefecture.

Experts organized by the Xinjiang People's Government extensively studied the Tarim River Basin in 1984. The experts suggested managing water resources in the Tarim River Basin as a single unit. Since then, the experts and policy-makers of the Xinjiang Water Resources Bureau under the Xinjiang People's Government have researched and discussed such unified planning. The research suggested a management system under which each prefecture must be subservient to overall management of the Tarim River, with the Tarim River Basin Management Bureau ("TRB") to be established to oversee the overall process.[150]

Despite these findings, the resulting infrastructure failed to address the problem. In May 1990, the State Council ratified a proposal to establish the TRB. The TRB was established within the Xinjiang Water Resources Bureau in 1992.[151] In addition, the Tarim River Basin Management Committee ("Committee") was created in January 1992.[152]

Rather than providing Basin-wide oversight management, however, the TRB was subordinated to the Xinjiang Water Resources Bureau and was authorized to manage only the main stem of the Tarim River. The TRB has no power in the overall management of the Tarim River Basin.

More critically, the Committee has been only a nominal organization. Although it established an office in the Tarim River Basin Water Resources Commission ("TBC"), the Committee had no clear membership designated. Therefore, the Committee has exercised little decision-making and coordinative functions over unified water management of the entire Tarim Basin.[153]

148. *See id.* at 6–7.
149. *See* World Bank Group, *supra* note 137.
150. *See* Radosevich & Olson, *supra* note 121, at 7.
151. *Id.* at 5.
152. *Id.*
153. *See id.*

4. Wasteful irrigation water use

Irrigation dominates total water use in the Tarim River Basin.[154] However, irrigation water uses are unregulated and typically wasteful. Due to low rainfall during the growing season, irrigation is the only way to ensure agricultural development.[155] Unfortunately, a misconception exists that increased total water diversions results in a corresponding increase in crop yields. Because of this misconception, local leaders in charge of agriculture have diverted much more water than is necessary.[156] Extreme seasonal and yearly fluctuations in runoff, poor forecast techniques, and the limited capacities of small reservoirs for regulating runoff, have exacerbated this situation. This has resulted in irrigation flooding, especially in the upper and middle regions of the Basin, where users have a favorable geographic position, pay little for their water use, and hold undefined water rights.[157]

Inefficient storage and conveyance facilities further magnify the problem. Irrigation water is typically transferred by canals that have an estimated average efficiency of only about 35 percent. Few canals are lined.[158] Thus, a significant amount of water is lost during transportation due to seepage and evaporation. Additionally, substantial water loss from seepage and evaporation occurs at the many large, shallow reservoirs built along the tributary streams and rivers.[159] The effects of this waste are multiple, including increased soil salinization in the midstream region, substantial dewatering of the stream bed (desertification in particular) in the downstream area, ecosystem degradation, and even low agricultural yield.[160]

C. LEGAL SYSTEM

The implementation of the 1988 China Water Law within Xinjiang was designed to reflect the local conditions of the Tarim River Basin.[161] In order to effectively enforce statutory management in the Tarim River Basin, the People's Government of Xinjiang drafted additional discretionary regulations,[162] and ultimately adopted the Regulations for the Protection and Management of Bostan Lake.[163] However, these regulations failed to adequately address the water issues of the Tarim Basin. Therefore, on Dec. 11, 1997, the People's

154. *See* Radosevich & Olson, *supra* note 121, at 2.
155. *See id.*
156. *See id.*
157. *See id.*
158. *See id.*
159. *See* Radosevich & Olson, *supra* note 121, at 2.
160. *See id.* at 3.
161. *See id.* at 3–4.
162. *See, e.g.*, 1994 Occasional Regulations for Water Administration and Water Resources Management of Tarim River Basin, Xuar Statutory Compilation [Laws & Regulations of XUAR].
163. 1997 Regulations for Protection and Management of Bostan Lake, Xuar Statutory Compilation [Laws & Regulations of XUAR].

Government of Xinjiang adopted the Regulations on the Management of the Water Resources of the Tarim Basin ("Tarim Basin Regulations").[164] Consisting of 33 articles, the Tarim Basin Regulations are the first set of regulations in China governing an entire river basin. The most important aspects of the Tarim Basin Regulations are as follows:

- Definition of the Tarim River Basin, which includes the Tarim River main stem (1321 km from Xiaojiake to Taitema Lake) and six tributaries (Hotan, Yarkant, Kaxgar, Aksu, Weigan and Kaidu-Konqi).[165]
- Provisions that address the exploitation, utilization, protection, and management of the Tarim River Basin.[166]
- Rules of ownership which place the Basin's water resources under state ownership and require adoption of a unified system to coordinate the administration of the various levels.[167]
- Establishment of the Tarim River Basin Water Resources Commission ("TBC") to supervise and manage the Basin's water resources,[168] and outline its structure, functions, and powers.[169]

The Tarim Basin Regulations also require each Prefecture's planning to be integrated into the planning of the whole river basin.[170]

Significantly, the Tarim Basin Regulations direct the standing committee of the TBC to create legally binding written agreements for water use among the related administrative bodies of the prefectures, and address average annual water allocation, water use limits in different conditions, each entity's rights and liabilities, and potential violations of such agreements.[171] If the parties fail to reach such agreements, the Xinjiang People's Government will impose a decision within three months.[172] In that case, the related organs and the prefectures must unconditionally implement the decision.[173]

The Tarim Basin Regulations also require the CDWAs at different levels, and other related departments, to conform to the national laws and local regulations for water quality management and water pollution prevention and control.[174] In addition to national laws, the

164. 1997 Regulations on the Management of the Water Resources of Tarim Basin, Xuar Statutory Compilation [Laws & Regulations of XUAR] (unofficial English version available in Radosevich & Olson, *supra* note 121, at 23–30).

165. *Id.* art. 2.

166. *Id.* art. 3.

167. *Id.* art. 4.

168. 1997 Regulations on the Management of the Water Resources of Tarim Basin, Laws & Regulations of XUAR art. 6.

169. *Id.*

170. *Id.* art. 5(5).

171. *Id.* art. 16.

172. *Id.*

173. *Id.*

174. 1997 Regulations on the Management of the Water Resources of Tarim Basin,

Tarim Basin Regulations provide for enforcement regarding supervision and management of water pollution prevention and control.[175]

The Tarim Basin Regulations further provide the main possible domestic and international funding sources for water resources development, utilization, and preservation in the Tarim River Basin.[176] They also provide for the creation of the Tarim Basin Water Resources Protection Fund for the protection and management of Tarim River Basin water resources.[177]

D. NEW LOCAL WATER ADMINISTRATIONS

The Tarim Basin Regulations outline the institutional framework. Based on the provisions of the Tarim Basin Regulations, the Xinjiang People's Government established the Tarim River Basin Water Resources Commission ("TBC") in 1998.[178] Structured in compliance with Tarim Basin Regulations, the TBC includes a Standing Committee with an Executive Sub-Committee and a Management Bureau ("TMB").[179] As opposed to the TRB, the TBC has sufficient power to coordinate integrated water supervision and management of the entire Tarim River Basin. The primary functions of the TBC include:

- implement related laws, procedures and regulations;
- supervise and manage water resources of the Tarim River Basin as a unified whole;
- formulate and examine overall planning for the Basin;
- determine average annual total water allocated, and establish both an annual water use limit and a total water use plan for each prefecture;
- implement the water permit system and collect water payments;
- manage flood control, drought prevention, water conservation, soil preservation, water quality protection, and water supply;
- build and manage hydraulic structures and other water projects;
- plan, build, harness, protect, and manage river channels;
- formulate and approve the water use allocation schedule and management practice of key water diversion works located on each tributary and the Tarim River main stem;
- introduce and disseminate advanced technology and

Laws & Regulations of XUAR art. 21.

175. *See id.*

176. *See id.* art. 24.

177. *Id.* art. 25.

178. *See* 1997 Regulations on the Management of the Water Resources of Tarim Basin, Laws & Regulations of XUAR art. 6.

179. *Id.*

management techniques for water resources development, utilization, and conservation;
- settle disputes; and
- examine and approve all water development projects within the basin.[180]

The Standing Committee is the decision-making body of the TBC. The Standing Committee has the decision-making authority to decide significant matters of water resource development and utilization, and to protect and manage the Tarim River Basin.[181] Its commissioners consist of the leaders of related departments—including planning, finance, water resources, environmental protection and land management—the administrative directors of all prefectures, and the director of the TMB.[182]

The TMB, an organ of the TBC with both administrative and technical functions, is directly responsible to the Standing Committee,[183] but is also under the administrative leadership of the Water Resources Bureau of Xinjiang.[184] The TMB must implement its decisions consistent with the Tarim Basin Regulations and Commission's resolutions.[185] The TMB is responsible for specific activities in the Tarim Basin, including development, utilization, protection, and management of water resources, and is responsible for exercising the administrative functions and powers of water resource management for the Tarim River, water projects, water use, and water and soil preservation.[186] The TMB submits work reports, plans, programs, projects, and budgets annually to the TBC Standing Committee.[187] Finally, the TMB has the authority to establish one office in each of the five prefectures, as well as one office for the main stem of the Tarim River.[188]

The establishment of the TBC and its structured bodies is clearly an initiative in China based mainly on the experience of international practices, which greatly differs from the commissions (or authorities) for river basin management set up by the CDWA under the State Council for the key rivers and lakes defined by the State. However, the TBC has exerted its power and role in unified water management, in particular in formulating strategic water management, coordinating water uses among the prefectures, rationally allocating water resources, and implementing the downstream ecosystem restoration projected by the recent Tarim River comprehensive management

180. *See id.*
181. *Id.* art. 7.
182. *Id.* art. 8.
183. 1997 Regulations on the Management of the Water Resources of Tarim Basin, Laws & Regulations of XUAR art. 13.
184. *Id.*
185. *Id.* art. 14.
186. *Id.*
187. *Id.*
188. *See id.*

project. In this sense, the TBC could provide a good example for the other key river basin commissions (or authorities) in China to deep their institutional reform and exert their coordinative functions.

VII. THE PROCESS OF AMENDMENT TO 1988 CHINA WATER LAW

A. THE BACKGROUND OF THE AMENDMENT

As mentioned above, the principal aim of the 1988 China Water Law was to address the conflicts and shortfalls of the inadequate, fragmented, and piecemeal system that had arisen during the 1970s and early 1980s. However, the social and economic situation in the PRC continued to change greatly after 1988; new problems arose that needed to be addressed. According to the Comprehensive Report on Strategy of Water Resources for China's Sustainable Development in 2001,[189] a water deficit between 24.3 and 32.5 MAF (30-40 billion m^3) existed at the time of the study. The report also estimated the total national economic water demand will increase to 113.5 MAF (140 billion m^3) by 2030.[190] Total waste or polluted water discharge was estimated at 47.3 MAF (58.4 billion m^3) in 1997, which was forecasted to increase rapidly.[191] The report predicted that urban pollution discharge alone would surpass 69–86 MAF (85–106 billion m^3) by 2030.[192]

These problems, present and future, coupled with the demonstrated need to strengthen water resources management, led to amendment of the 1988 China Water Law. Without serious changes, the reasonable and sustainable utilization of water resources in China would be impossible. In short, water had become a strategic issue in the economic and social development of China.

In June 2000, the Ministry of Water Resources submitted a draft amendment to the 1988 China Water Law to the State Council. The State Council's Legal System Bureau invited comments from relevant departments under the State Council (*e.g.*, State Planning Commission, Ministry of Finance, Ministry of Land and Resources, Ministry of Construction, National Environmental Protection Agency). On occasion, local people's governments at the provincial level, such as the Shanghai Municipality and Hebei Province, also summoned relevant experts and held symposia to assess the draft amendment. Finally, the Legal System Bureau of the State Council drafted the Water Law of the People's Republic of China (the "Draft Amendment"), which the State Council passed at a subsequent Standing Meeting. On November 26, 2001, the State Council submitted the Proposal on the Draft Amendment to the Standing

189. *Comprehensive Report, supra* note 33.
190. *Id.*
191. *Id.*
192. *Id.*

Committee of NPC for its review and comment.

B. THE PRINCIPLES APPLIED TO AND FOCAL POINTS OF THE AMENDMENT

According to the Explanation of the Draft Amendment, the following principles were applied during its development:

- learn from implementation of 1988 China Water Law in the last 13 years;
- learn from the legislative experiences of foreign countries regarding water resource management;
- meet the needs of establishing the socialist market system as well as achieving sustainable utilization of water resources;
- emphasize water resources conservation;
- emphasize the reasonable allocation and protection of water resources;
- promote the comprehensive development and utilization of water resources;
- improve the mechanisms to supervise the execution of laws;
- supply legal protection for the purpose of realizing the sustainable utilization of water resources; and
- improve the environment.

The primary goals of the amendment include:

(1) Strengthen unified administration of water resources, while emphasizing the role the market plays in the macro allocation of water resources;

(2) Emphasize water resources conservation and protection by ensuring water use efficiency;

(3) Strengthen planning and management of development, utilization, conservation and protection of water resources by clearly stipulating the legal status of planning in the development of water resources, and strengthening water resources management at the basin level;

(4) Achieve sustainable development of water resources and coordinate domestic, industrial, and ecological water demands through the reasonable allocation of water resources;

(5) Plainly articulate legal liability involved when exercising administrative powers under the rule of law.

The Draft Amendment—consisting of eight chapters with some seventy-eight articles—addressed seven principle areas: (1) ownership rights regarding water resources, (2) water resources planning, (3) the allocation and utilization of water resources, (4) paid use of water resources and transferring water resources, (5) conservation, (6) protection, and (7) a management system for water resources.

C. THE LEGAL PROCEDURE OF THE AMENDMENT

Before the 2002 China Water Law was adopted, the Standing

Committee of the Ninth NPC discussed four revised drafts. The 25th Session of the Standing Committee of the Ninth NPC discussed the Draft Amendment for the first time between December 24 and 29, 2001. During this session, Mr. Wang Shucheng explained the Draft Amendment. He discussed eight important issues relating to the Draft Amendment, including its principles and focal points, and the seven focal areas. The members of the Standing Committee concluded that revision to the 1988 China Water Law was necessary to accommodate new circumstances and to address new problems—water shortages, flood- and drought-related disasters, and pollution—that had hindered national social and economic development of China.

The second discussion of the draft occurred during the 27th Session, held from April 24 to 28, 2002. In that discussion, Qiao Xiaoyang, the deputy director of the Law Commission, explained the new amendments based on the opinions from some committee members of the Standing Committee, commissions of NPC, and local people's governments. Concerning the right to water in rural areas, the Law Commission of the NPC held that: (1) according to the Constitution, waters are owned by the State, *i.e.*, by the whole people of the State; (2) the owners of the water works, e.g. reservoirs, etc., only have the right to use the water in its water works in accordance with the law; and (3) the right of a rural collective economic organization ("RCEO") and its members to use waters in the ponds owned by the organization should be protected by law. Therefore, in the revised draft submitted to the Standing Committee in the second discussion ("Second Amendment Draft"), the Law Commission suggested deleting the provision, "The waters in ponds or reservoirs possessed by rural collective economic organization are collectively used," and clarified that the permit system and paid use system are not applicable to these waters.[193]

The members of some local people's governments interpreted Article 19 as giving the basin management institution ("BMI") too much power, and considered that the Article would be too difficult to implement in practice. The members felt the BMI and local CDWAs must be empowered to inspect the construction of water projects based on a classification of the rivers or lakes where such projects are located. Based on this input, the Law Commission suggested amending Article 19. Thus, for major rivers or lakes as designated by the State, or rivers or lakes that cross multiple provinces, autonomous regions or CGMs, the BMI was given the right to inspect and offer advice on the construction of water projects, and local CDWAs at or above the county level must inspect and give opinions on this.[194]

193. The Standing Committee of NPC read the amendment draft to Water Law to ensure the protection of the villager's right to use water, Legal Daily, Apr. 27, 2003; also available at http://www.npcnews.com.cn/gb/paper/299/1/class029900002/hwz207525.htm (last visited Aug. 29, 2003).

194. Regulating the construction of water project in accordance with the law, National People's Congress News, Apr. 26, 2003; *also available at*

The over-abstraction of groundwater was also a focus of the discussions. Consistent with the opinion of the Agriculture and Village Commission regarding the Second Amendment Draft, the Law Commission recommended an amendment related to groundwater extraction, which provision authorized local governments at or above the county level to adopt measures to strictly control groundwater withdrawal in areas where overdrawn. The amendment also authorized governments of provinces, autonomous regions, or CGMs to determine and approve all groundwater withdrawal in areas where severe over-extraction existed, or in zones where groundwater withdrawal is forbidden or restricted.[195]

The third discussion of the revised draft occurred during the 28th Session on June 24–29, 2002. The Deputy Director of the Law Commission, Qiao Xiaoyang, explained further amendments, and suggested that the Standing Committee adopt a new amendment to the 1988 China Water Law ("Third Amendment Draft"). The Third Amendment Draft encouraged and protected the initiatives of the RCEOs and peasants in the construction and investment of various water projects. They also clarified the relevant water rights and promoted the reasonable development and utilization of water resources. The Third Amendment Draft also provides:

> When agricultural collective economic organization or its members invest or construct water projects or facilities in the lands owned by the agricultural collective economic organization, or the lands contracted by them, the management and use of them shall be done in accordance with the principle that the one who invests and manages benefits.[196]

In response to the concern that the shortage of water resources had become a serious factor limiting the national economic and social development of the PRC, the Third Amendment Draft required the State to create the national strategic plan on water resources.[197] However, some members of the Standing Committee and the Environment and Resources Protection Commission considered that the relevant articles did not address adequately the interests of the peasants and would add an unreasonable fiscal burden on them.[198]

---

http://www.npcnews.com.cn/gb/paper/299/1/class029900002/hwz207465.htm (last visited Apr. 29, 2003).

195. Xinhua News Agency: The State shall strengthen the law to protect groundwater resources, available at
http://www.npcnews.com.cn/gb/paper/299/1/class029900002/hwz207500.htm (last visited Apr. 29, 2003).

196. Qiao Xiaoyang, Report of the Law Commission of the National People's Congress on the Result of Its Deliberation over Water Law of the People's Republic of China (Draft Amendment), at page 379–80, No. 5 of Gazette of the Standing Committee of the National People's Congress of the People's Republic of China 2002 (Sept. 15, 2002).

197. *Id.*

198. The revision draft of water law stipulates the water rights of agricultural

Some members concluded that the transfer of saved or conserved water resources should be considered carefully.

The Third Amendment Draft, nonetheless, failed because of conflicts of interest between the central and local governments, between basin management and administrative management, and because the different sectors had not reached an appropriate balance. Additionally, problems such as RCEO water rights and the transfer of ground water withdrawal rights that had not been resolved also led to the amendment's failure.[199]

From August 23–29, 2002, the 29th Session discussed a fourth draft amendment that included, among other things, RCEO water rights. The Law Commission recommended that the Standing Committee adopt this revision, which it did on August 29, 2002. One hundred thirty members voted in favor of the amendment, none voted against it, and three abstained.[200] The amended water law entered into force on October 1, 2002.[201]

VIII. 2002 CHINA WATER LAW: MAJOR DEVELOPMENT

The 2002 China Water Law consists of eight chapters containing 82 articles.[202] Three chapters, not included in the 1988 China Water Law, address the planning of water resources, the allocation and conservation of water resources, settlement of water disputes, and supervision and inspection in the enforcement of the law. In addition to the new chapters, the 2002 China Water Law expanded several areas of the 1988 China Water Law, including property rights of water, the planning system of water resources, the allocation of water resources, and the integrated management of water resources.

A. AN INTRODUCTION

Special features of PRC legislation

Although the 2002 China Water Law has many progressive features—including the linkage between water allocation and national and sub-national basin plans (an adoption of one of the central principles of Integrated Water Resources Management)—to a western observer, the legislation is silent on many substantive features that one would expect to find in a modern water code. The legislation, however, must be understood within the evolving context of the function of law and legislation in China.

---

collective economic organizations, available at http://www.chinawater.com.cn/newscenter/slyw/20020824/200208240040.htm (last visited Aug. 29, 2002).

199. Qiao Xiaoyang, *supra* note 196.

200. 2002 Water Law of the PRC, Laws & Regulations of the PRC (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 2461).

201. *Id.*

202. *See id.*

International lawyers would describe most Chinese legislation as framework instruments because the legislation both contains broad delegations of law granting authority to central and provincial ministries, and contemplates further law-making through administrative regulations.[203] China draws a distinction between economic and private or civil law. Germany is an example of another country recognizing this distinction. Economic law, a dynamic concept, refers to state planning directives, including environmental protection, and has come to refer to vertical relations between higher and lower levels of the State.[204]

The distinction between economic and civil law became important in China after the 1979 drive toward a socialist-market economy.[205] Initially some legal theorists argued that almost all law was economic, but as the concept of a permanent civil law, built on a civil code, continues to evolve, and more property relationships are regulated under civil law,[206] the theory erodes.

Economic law is a form of public law because some argue economic law creates only performance duties between higher levels of governments instead of reciprocal civil rights and duties. Laws drafted to achieve State objectives tend to be vague mixes of general directives and goals addressed to subordinate officials. Economic law does not create legal relationships between the state and private individuals. It is thus difficult to determine if it is meant to actually be enforced and, if so, by whom. Western rules are ultimately addressed to the judges who enforce them against public officials. In contrast, Chinese natural resources legislation is directed toward subordinate administrative officials.[207] The implicit assumption in the legislation is that "the bureaucracy that 'owns' the law" will implement the law.[208] No expectation exists that the law will be implemented outside of the state bureaucracy. However, this is not always true. Once any individual or unit receives a right to do something under economic law, especially under the procedures of a relevant law (*e.g.*, Law on Administrative Licenses of the PRC 2003 [see infra X(D)], Law on Environment Assessment of the PRC 2002), rights are those protected in accordance with civil law, economic law, and administrative law.

---

203. Chinese laws are addressed primarily to lay administrators who are expected to adapt it to local conditions. Thus, in contrast to the western tradition, "[c]hinese law makers have not in general attempted to use legislative language, supported by rules of construction, to strengthen the internal structure and order of positive law." Perry Keller, *Sources of Order in Chinese Law*, 42 AM. J. COMP. L. 711, 752 (1994).

204. ALBERT HUNG-YEE CHEN, AN INTRODUCTION TO THE LEGAL SYSTEM OF THE PEOPLE'S REPUBLIC OF CHINA 191 (Butterworths Asia trans., 3d ed. 1993).

205. *Id.*

206. *Id.* at 191–202.

207. Donald C. Clarke, *What's Law Got To Do With It?, Legal Institutions and Economic Reform in China*, 10 UCLA PAC. BASIN L.J. 1, 31 (1991).

208. *Id.*

Property rights relating to water

Intense debate exists around the world regarding the nature of water rights. Since the 1977 Mar La Plata Conference, international conferences have periodically issued principles of water use that have attempted to state the true nature of water rights. The question has often reflected a dichotomy: is water an economic good or a public good? Stated differently, is water a commodity or a community resource? Important consequences flow from the characterization.

If water is an economic good, the market should direct its allocation, and the State should confine itself to setting the ground rules that support emerging markets for the acquisition of private water rights. In recent years, this economic characterization has dominated. The 1992 Dublin Principles declared, "[w]ater has an economic value in all its competing uses and should be recognized as an economic good."[209] The Dublin Principles have had a substantial impact. For example, to bolster its negotiating position in the Aral Sea Basin, the Republic of Kyrgyzstan adopted a law in 2001 modeled on the Dublin Principles.[210] The law allows Kyrgyzstan and Tajikistan, both upstream former Soviet Asian Republics, to charge for lost hydropower revenues and infrastructure maintenance.[211]

The characterization of water as a public or community good opposes both urban service privatization and water markets, and posits the principle that human rights include access to the amount of water necessary to sustain human life.[212] For example, the Second World Water Forum conference at The Hague in 2000 declared that nations could no longer negotiate access to basic water and sanitation as a commodity.[213] This characterization also reflects the concern that the economic model will be a basis to deregulate—completely or in part—access to water and will have detrimental effects upon both the environment and socially and economically marginal groups.

This dichotomy is false because water has multiple characteristics both economic and public. In reality, water is both an economic good and a community resource. Water's unique life supporting qualities require a strong and continued state interest in its use and distribution by public and private entities. At the same time, a need exists to insure widespread access to water. Exclusive state development often leads to economically inefficient, environmentally disastrous, and socially

209. Global Water Partnership, Dublin Statements and Principles, *available at* http://www.gwpforum.org/servlet/PSP?iNodelD=1345 (last visited Apr. 24, 2004).

210. Gregory E. Heltzer, Note, *Stalemate in the Aral Sea Basin: Will Kyrgyzstan's New Water Law Bring the Downstream Nations Back to the Multilateral Bargaining Table?*, 15 GEO. INT'L ENVTL. L. REV. 291, 309 (2003).

211. *Id.* at 315.

212. *E.g.*, Stephen C. McCaffrey, *Human Right to Water: Domestic and International Implications*, 5 GEO. INT'L ENVTL. L. REV. 1 (1992).

213. *See generally Central Asia: Water and Conflict*, ICG Asia Report No. 34 (International Crisis Group, Osh/Brussels) May 30, 2002, *available at* http://www.reliefweb.int/library/documents/2002/icg-uzb-30may.pdf.

inequitable uses.[214] This interest is often reflected in assertions of State ownership. However, State ownership in the western sense is different from the meaning in socialist legal systems such as the PRC. States with socialist legal systems claim ownership for three primary purposes: full proprietary ownership, the assertion of the sovereign power to regulate the recognition and enjoyment of entitlements, and the assertion of the public trust.

State ownership as a fiction for state regulation

In the Western liberal tradition, state ownership is usually asserted to confirm that water rights[215] have always been incomplete property rights.[216] This perspective normally asserts that: (1) water rights are limited to the use of water as opposed to individual ownership of streams and aquifers (water rights are usufructuary rights rather than ownership or possessory rights); (2) access to water requires State permission in the form of a permit, license, or court decree;[217] (3) access can be denied if the State determines that a higher or more efficient alternative use of the water exists; and (4) reallocations are subject to State review. State ownership is not a true proprietary claim but rather a regulatory or supervisory claim.[218] Governments may actively participate in water development and distribution but they do so—for the most part—by claiming the same entitlements open to non-government users.

State ownership in China

State ownership in China is a cross between exclusive proprietary ownership and the western liberal approach. Although China has always claimed State ownership, it has not effectively controlled water use by subordinate units of government in non-vital affairs. At the same time, the State depends on the participation of subordinate units and, thus, must respect their claims.

In 1958, the PRC adopted the principle of Socialist legality and created a new constitutional and legal foundation for the Chinese state. Under the classic socialistic framework, the State holds and controls all land and natural resources; State ownership of all natural resources is a cardinal principle of socialist legality.[219] The actual

214. *See id.*

215. The term water rights deployed in this article is in a broad sense and refers to any rights relating to water. In different jurisdictions the terms have different meanings on the one hand, and the term is a developing concept in each jurisdiction, *e.g.*, the concept of water rights in a civil law system is different than that of common law system.

216. *See, e.g.*, In re Water Use Permit Applications, 9 P.3d 409 (Haw. 2000).

217. *See* STEPHANO BURC, PREPARING NATIONAL REGULATIONS FOR WATER RESOURCES MANAGEMENT: PRINCIPLES AND PRACTICE, FAO Legislative Study No. 52 (Food and Agric. Org. of the U.N. ed., 1994). The study concludes that the non-regulated uses "represent an ever shrinking minority of water allocation decisions overall." *Id.* at 5.

218. *E.g.*, State v. Superior Court, 93 Cal. Rptr. 2d 276, 287–88 (2000).

219. RENE DAVID AND JOHN E.C. BRIERLY, MAJOR LEGAL SYSTEMS IN THE WORLD TODAY

practice of State ownership in China, however, is different from what the Marxist theory or former Soviet practice would predict.

Article 9 of the Constitution of the PRC declares that the State (or the whole people) owns all water resources in the country.[220] State ownership has not led to effective State control. In practice, State ownership has often meant that water resources are a quasi-open commons subject to over-use by subordinate units of government. Access to water resources was often determined by the actions of different ministries, not by State plans to allocate such resources. This is a reflection of the PRC's civil law that has allowed the development of a system of relatively firm entitlements held by subordinate units of governments.

The General Principles of Civil Law of the PRC provide for limited semi-public entitlements and recognize that property rights in common resources such as water must be exercised with due regard for the entitlements of similarly situated users. Under Article 81, both State-owned and collective ownership units may use water in accordance with the law, but water use is subject to the obligations of management, protection, and rational use.[221] In addition, the State protects rights to use and to benefit from the use of the water. Article 83 also recognizes that land and water use rights are correlative and, subsequently, are limited by the principle that one must act with due regard toward his neighbor.[222] Thus, some have regarded the right to use water, as with all newly emerging property rights, as usufructuary so long as the State retains formal ownership.[223]

B. PROPERTY RIGHTS OF WATER AND PAID USE OF WATER RESOURCE

Increasing scarcity of water resources and trans-provincial water pollution call for strengthening the State's macro-management of water resources, inter-provincial flow allocation, trans-basin water diversions, and the prevention of water pollution. The key to resolving these problems requires two areas of focus: (1) clarification that water resources are owned by the State, and (2) emphasis that the State Council exercises the ownership of water resources on behalf of the State. As mentioned above, under the 1988 China Water Law, two kinds ownership of water or water resources existed: State ownership and ACEO ownership. However, in accordance with the 2002 China Water Law, only one type of ownership exists: State ownership. Thus,

---

290–95 (3d ed. 1985).

220. CONSTITUTION art. 9, *translated in* 1 LAWS AND REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 279, 282 (1991).

221. 1986 General Principles of the Civil Law of the PRC, Zhonghua Renmin Gongheguo Fagui Huibian [Fagui Huibian] [Laws & Regulations of the PRC] art. 81 (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 1165).

222. *Id.* art. 83.

223. *See* Edward J. Epstein, *The Theoretical System of Property Rights in China's General Principles of Civil Law: Theoretical Controversy in the Drafting Process and Beyond*, 52 LAW & CONTEMP. PROBS. 177, 202–03 (Spring/Summer 1989).

to effectively resolve water development and pollution problems, the State Council should exercise ownership of water resources on behalf of the State.[224]

Market mechanisms must evolve to reflect the economic or commodity value of water and, thus, prevent waste. The State Council should create a reasonable water pricing system and promote secure and fair allocations of water among competing claimants. Building on the 1988 China Water Law, the 2002 China Water Law establishes a permit system for drawing water and paid use of water resources.[225] The new law also places the department of water administration, which is under the State Council, in charge of management and implementation of the above systems.[226] These two systems impact the right to use water for most citizens. RCEOs and their members, however, are not impacted because they use water in ponds and reservoirs owned by the RCEOs.[227]

Under the permit system and paid use system of water resources, the unit or individual who draws water directly from rivers, lakes, or ground aquifers shall apply to the relevant CDWA or BMI for a permit and pay a water resources fee.[228] The applicant will then receive the right. When the water supplied by the water project is used, State provisions require the user to pay a water charge to the supplying unit.[229] The following principles determine water price: compensation for cost, reasonable profits, quality, and equitable burden of price by all users.[230]

Most water codes exempt small, domestic uses. The 2002 China Water Law exempts water for household, livestock, poultry-raising, and other small quantity water uses.[231]

The 2002 China Water Law includes special provisions addressing water rights of an RCEO, or its members, using the waters from the RCEO's ponds or reservoirs. First, the RCEO is exempted from the permit system and paid use system, as mentioned above.[232] Second, when an RCEO or its members invest in or construct water projects or facilities on the RCEO's lands, or the lands contracted by them, the management and reasonable use of the water projects and the storage of water shall be done in accordance with the following principle: "whoever invests and manages will benefit."[233] Third, the RCEO, when constructing reservoirs, shall get approval from the CDWA of the

224. *See* 2002 Water Law of the PRC, Laws & Regulations of the PRC art. 3 (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 2461).
225. *Id.* art. 7.
226. *Id.*
227. *Id.*
228. *Id.* art. 48.
229. 2002 Water Law of the PRC art. 55.
230. *Id.*
231. *Id.*
232. *Id.* art. 7.
233. *Id.* art. 25.

people's government at or above the county level.[234]

C. WATER RESOURCES PLANNING

The 2002 China Water Law adds a new chapter to the 1988 China Water Law entitled "Planning for Water Resources".[235] This chapter requires development of a plan for a national strategy on water resources.[236] It also provides that—in the development, utilization, conservation, and protection of water resources, as well as in controlling water disasters—planning should be undertaken within basic units consisting of a river basin.[237]

The plan includes basin plans and regional plans.[238] The basin plans include both a comprehensive basin plan and a specialty basin plan.[239] The regional plan includes a comprehensive regional plan and a specialty regional plan.[240] The regional plan should be inconformity with the basin plans, and the specialty plans should be in conformity with the comprehensive plan.[241]

To implement the plan, 2002 China Water Law provides that when the plan is drawn, a comprehensive scientific investigation, survey, and assessment must be undertaken.[242] CDWAs of government at or above the county level, in association with the relevant departments at the same level, are required to organize the comprehensive scientific investigation, survey, and assessment.[243]

The Law requires the CDWR, under the State Council, to formulate and submit to the State Council comprehensive basin plans for basins of major rivers or lakes designated by the State.[244] In formulating plans, the Law directs CDWR to work in conjunction with other relevant departments under the State Council and with relevant governments of provinces, autonomous regions, and CGMs.[245] The Law also directs BMIs, in conjunction with CDWAs and other departments of the relevant provincial governments, to formulate comprehensive basin plans and comprehensive regional plans for rivers or lakes that cross provinces, autonomous regions, or CGMs.[246] Following inspection and opinion by every relevant people's government at the provincial level, these plans shall be submitted to

234. *Id.*
235. *Compare id.* ch. 2, *and* 1988 Water Law of the PRC, Laws & Regulations of the PRC, *translated in* 5 STATUTES & REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA 1 (1989) (LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 1186).
236. 2002 Water Law of the PRC art. 14.
237. *Id.*
238. *Id.*
239. *Id.*
240. *Id.*
241. *Id.* art. 15.
242. 2002 Water Law of the PRC art. 16.
243. *Id.*
244. *Id.* art. 17.
245. *Id.*
246. *Id.*

the CDWA under the State Council for inspection and consent.[247] After the CDWA under the State Council has invited comments from the relevant departments, these plans shall be submitted to the State Council or its authorized department for approval.[248]

CDWAs of local people's governments at or above the county level, in conjunction with relevant departments and relevant local people's government, are directed by the Law to formulate comprehensive plans for the basins of additional rivers, lakes, or for regions.[249] The CDWAs are required to submit these plans on the record to the people's government at the corresponding level, or its authorized department, for approval, and to the CDWA at the next higher level.[250]

The relevant department of government at or above the county level shall formulate specialty plans.[251] After formulation, the department sends these specialty plans to other relevant departments at the corresponding level for comments, and then submits the plans to the government at the corresponding level for approval.[252] However, the formulation and approval of flood control plans or water and soil conservation plans shall be executed in accordance with the relevant provisions of the Law of Prevention of Floods and the Law of Conservation of Water and Soil respectively.[253]

Once the State Council or a government at the provincial level approves a plan, it must be executed strictly. When the approved plan needs modification, the amendment must follow the formulation procedure from the organization that originally approved the plan.[254] For example, the construction of a water project must be in conformity with the relevant basin comprehensive plan. Before submitting a feasibility study for approval, the relevant BMIs or CDWAs should inspect and give its opinion whether the construction is in conformity with the basin comprehensive plan.[255]

D. THE ALLOCATION OF WATER RESOURCES

In order to strengthen the macro-management of the development and utilization of water resources, reasonably allocate water resources, standardize allocation of water resources, reduce conflicts surrounding water use, and harmonize social and economic development with the situation of water resources, the 2002 China Water Law sets up a water resources allocation system and controls water use through a quota system.

According to the system, the competent department of

247. *Id.*
248. 2002 Water Law of the PRC art. 17.
249. *Id.*
250. *Id.*
251. *Id.*
252. *Id.*
253. *Id.*
254. 2002 Water Law of the PRC art. 18.
255. *Id.* art. 19.

development and planning administration and the CDWA under the State Council, the National Development and Reform Commission, and the MWR respectively, manage national macro-allocation of water resources.[256] Additionally, the long-term and medium-term plan for water supply and demand should be assessed by them.[257] The adjustment and storage of in-stream flows or allocation of water quantity shall be in accordance with basin plans and the long-term and medium-term plans of water supply and demand.[258] The allocation plan of water quantity shall be made within each basin as a unit.[259]

When an allocation scheme of water quantity and/or the pre-scheme of diverting water in drought emergency involves different provinces and autonomous regions of CGMs,[260] the Law directs the BMI to formulate these schemes, in consultation with provincial or autonomous region governments, or with CGMs.[261] The Law further directs the BMI to submit the scheme for approval to the State Council or its authorized department prior to execution.[262] Other trans-administrative-regional water quantity allocation schemes, and the pre-scheme of water diversion in a drought emergency, shall be formulated by the CDWA of common people's government at the next higher level in consultation with the relevant local people's governments.[263] These schemes shall be submitted to the people's government at the corresponding level for approval, and then can be executed.[264]

After a scheme's approval, local governments involved must execute it.[265] The construction and development of water resources that cross administrative regions must be in conformity with the approved basin allocation scheme. The relevant people's governments at the county level shall submit the project to the CDWA of their common governments at the next higher level or the BMI for approval.[266]

CDWAs at the county level or BMI, in accordance with the approved allocation scheme of water quantity and annual predicted income water quantity, shall formulate an annual allocation scheme of water quantity and an annual adjusting plan, and implement a unified adjustment of water quantity. The local people's government must obey these schemes.[267]

According to the quota management system and procedures

256. *Id.* art. 44.
257. *Id.*
258. *Id.*
259. *Id.* art. 45.
260. 2002 Water Law of the PRC art. 45.
261. *Id.*
262. *Id.*
263. *Id.*
264. *Id.*
265. *Id.*
266. 2002 Water Law of the PRC art. 45.
267. *Id.* art. 46.

provided by law, provincial departments of industry administration shall formulate water-using quotas for different industries.[268] The development and planning department of local people's government at or above the county level, in conjunction with the CDWA at the corresponding level, shall formulate the annual water-using plan and control the total annual water use within the administrative region on the basis of the water-use quota, economic and technological conditions, and the water quantity allocated to the administrative region.[269]

E. CONSERVATION OF WATER

2002 China Water Law strengthens the 1988 law's system of conservation, making water resource conservation a general principle in all relevant areas. The 2002 Law contains seventeen articles relevant to water conservation:

- The State shall practice strict water conservation;[270]
- The people's government at all levels should adopt measures to strengthen conservation management;[271]
- Any unit or individual is under the duty to save water;[272]
- The State shall implement a system to determine and define the amount of water available for use within each administration division—in effect, setting quotas for water consumption;[273]
- The State shall implement systems for collecting fees for water use, with increased fees for above-quota water consumption;[274]
- The State shall promote increased efficiency in water use among agricultural, industrial and municipal uses.[275]

The construction of a new project, or the extension or reconstruction of existing project, must include proposals for saving water. Water conservation facilities for a construction project must be designed, built, and commissioned together with the principle part of the project.[276]

F. WATER RESOURCES PROTECTION

The 2002 legislation had to address water resources protection to deal with an increase in water pollution, significant depletion of ground water, detriments to the ecological environment, weak

268. *Id.* art. 47.
269. *Id.* art. 47.
270. *Id.* art. 8.
271. *Id.*
272. 2002 Water Law of the PRC art. 8.
273. *Id.* art. 47.
274. *Id.* art. 49.
275. *Id.* arts. 50–52.
276. *Id.* art. 53.

coordination between water quality and quantity, and pollution prevention. Thus, to ensure comprehensive development and utilization of water resources, the 2002 China Water Law created a "water function zone system",[277] and a "drinking water protection zone system."[278]

1. The Water Function Zone System

Establishing the Zones

In accordance with Article 2.1 of Management Rules on Water Function Zones issued by the MWR on May 23, 2003, a water function zone is a special water zone which is delimited by its major function and corresponding standards for water quality.[279] Under 2002 China Water Law, the delimitation of water function zones in different basins may be different, and the differences could be summarized as follows.

For State-designated major rivers or lakes, the CDWA under the State Council is directed to establish water function zones.[280] The CDWA drafts plans for the zones in conjunction with the department of environment protection administration, other relevant departments under the State Council, provincial or autonomous regional governments, or CGMs.[281] The zones also account for basin comprehensive plans, water resources protection plans, and economic and social development.[282] The CDWA then submits proposed water function zones to the State Council for approval.[283]

For rivers or lakes other than major rivers or lakes that cross provinces, autonomous regions or CGMs, water function zones shall be drafted by relevant BMIs in conjunction with CDWAs and other departments of provincial governments.[284] After each provincial government inspects and comments on the drafts, the CDWA under the State Council, in conjunction with the department of environment protection administration under the State Council, shall review the draft zones.[285] Finally, the State Council or its authorized department reviews and approves the draft zones.[286]

As to rivers other than those mentioned in the above two paragraphs, CDWAs of local people's governments at or above the county level, in conjunction with the department of environmental

277. *Id.* art. 30.
278. *Id.* art. 31.
279. *See* Management Rules on Water Function Zones, art. 2.1. Management Rules on Water Function Rules, Chinese version available at MWR webpage http://www.mwr.gov.cn/index/20030603/7083.asp (last visited February 27, 2004).
280. 2002 Water Law of the PRC art. 32 (*translated by* Chinalaw-assisted Legal Research Center, Peking University, LEXIS, Chinalawinfo Selected PRC Laws, PRCLEG 2461).
281. 2002 Water Law of the PRC art. 31.
282. *Id.*
283. *Id.* art. 32.
284. *Id.*
285. *Id.*
286. *Id.*

protection administration and other departments at the corresponding level, draft water function zones.[287] The CDWAs then submit a draft to the government at the corresponding level or its authorized department for approval, as well as to the CDWA and the competent department of environment protection administration at the next higher level for record.[288]

Establishing Water Quality Standards

CDWAs at or above the county level or the BMIs define the capacity of accepting waste within the zone.[289] CDWA considers such factors as the water quality needs for various water uses and the natural purification capacity of water bodies in a particular water zone.[290] Based on these factors, the CDWA submits limits to the department of environmental protection regarding total water discharge into the zone.[291]

CDWAs of governments at or above the county level or the BMI shall supervise water quality in each water function zone.[292] When total waste discharge exceeds a limit, or the water quality in the zone does not meet functional water quality needs, the CDWA shall report to the corresponding people's government for the latter to adopt control measures and send information to the department of environment protection administration.[293]

2. The Drinking Water Protection Zone System

According to the drinking water protection zone system, governments of provinces, autonomous regions, and CGMs shall delineate drinking water protection zones. Once established, these zones adopt measures to prevent water resource pollution and depletion in order to ensure safe drinking water for urban and rural residents.[294] Sewage outlets are not permitted in drinking water protection zones.[295]

The 2002 Law also addresses ground water use as the north of the PRC suffers from substantial overdrafts. Under the law, limitations exist for three ground water categories. First, where less significant drawdown has occurred, government at or above the county level must adopt strict measures to limit the drawdown.[296] Second, where more severe drawdown has occurred, ground water withdrawals must be prohibited after province, autonomous region, and municipal governments directly under the Central Government approve the

287. *Id.*
288. *Id.*
289. 2002 Water Law of the PRC art. 32.
290. *Id.*
291. *Id.*
292. *Id.*
293. *Id.*
294. *Id.* art. 33.
295. 2002 Water Law of the PRC art. 34.
296. *Id.* art. 36.

prohibition zone.[297] Finally, ground water withdrawals along coastal areas must be limited, and such limitations are to be based on scientific studies regarding ground subsidence and saltwater intrusion.[298]

IX. INSTITUTIONAL FRAMEWORK UNDER 2002 CHINA WATER LAW

In light of water shortages, and in an attempt to achieve sustainable water resources use, the 2002 China Water Law requires stronger unified administration, and more centralized overall basin management. Further, unified water resources management should be separated from the development, utilization, conservation and protection of water resources.[299] The Law requires the State to exercise a system of basin administration in coordination with regional administration.[300] Under this system, the following institutions are involved in water resources administration: the State Council, the CDWA, the department of environment protection administration, the department of development and planning administration, BMIs, and other relevant departments under these entities.[301]

A. THE MINISTRY OF WATER RESOURCES

The State Council designated the Ministry of Water Resources[302] ("MWR") as its CDWA in 1988. The MWR's authority has been further expanded since the State Council institutional reform in 1998.[303] The MWR has the following mandates:

- Formulate water-related policies, development strategies, and medium and long-term development plans, including water conservation and demand management policies;
- Draft and implement the enabling legislation and design of water-related regulatory frameworks. This includes implementation of the water-drawing permit system and the water resource fee system, and mediation and arbitration of inter-sector and trans-provincial water disputes. Trans-provincial, as used in this article, means involvement in different province(s), autonomous

297. *Id.*
298. *Id.*
299. *Id.* arts. 1, 2, 8, 12.
300. *Id.* art. 12.
301. 2002 Water Law of the P.R.C. arts. 12–13.
302. *See* Ministry of Water Resources of the P.R.C. website, *at* http://www.mwr.gov.cn (last modified Apr. 13, 2004).
303. *See, e.g.*, 1998 Constitutional Law of the P.R.C., Zhonghua Renmin Gongheguo Fagui Huibian [Fagui Huibian] [Laws & Regulations of the P.R.C.], *translated in* LAWS & REGULATIONS OF THE PEOPLE'S REPUBLIC OF CHINA GOVERNING FOREIGN-RELATED MATTERS 17–21 (1998) (adopting decision to eliminate the Ministry of Geology and Mineral Resources and create the Ministry of Water Resources to administer groundwater according to the Decision on the Plan for Reforming the Organizational Structure of the State Council).

region(s), or CGM(s).

- Implement the integrated management of water resources, including atmospheric water, surface water, and groundwater. This includes formulation, execution, and supervision of both national and inter-provincial development plans for water supply and demand, and schemes for water allocation; assessment of water resources and flood risk and flood mitigation measures in relation to the overall planning of the national economy, urban planning, and major construction projects; publication to national research and development in hydrology; guidance to national research and development in hydrology.
- Formulate water resource protection plans in accordance with related national laws, regulations, and standards concerning resource and environmental protection; demarcate water function zones and control wastewater discharge into potable and other water areas; monitor water levels and quality in rivers, lakes, and reservoirs; review and approve pollution loading capacities of water bodies, including proposals to limit total wastewater discharge.
- Formulate economic regulatory measures for the water sector; exercise macroeconomic regulation on the utilization of funds within the water industry; provide guidance for economic activities related to water supply, hydropower, and diversified development within the water sector; provide recommendations on economic regulation of water pricing, taxation, credit and financial affairs.
- Draft and review proposals and feasibility study reports on large and medium-sized capital water construction projects in the water sector.
- Draft and supervise both the execution of technical standards for the water sector, and specifications and codes for water works; implement key hydrological research projects; and popularize and disseminate water related technologies.
- Protect hydraulic facilities, water areas, dykes and coast lines; and regulate, reclaim, and develop major rivers, major lakes and beaches; manage foreign affairs regarding international rivers between China and its neighboring countries; organize construction and management of key controlling and trans-provincial water projects; organize and direct the monitoring and management of reservoir and dam hydropower stations.
- Provide guidance for activities related to rural water resources; organize and coordinate capital construction of farmland drainage and irrigation, rural electrification, and water supply projects for townships and villages.

- Organize water and soil conservation nationwide—including the creation and development of engineering measures for water and soil conservation— and monitor, prevent, and control soil and water losses.
- Oversee science, technology and foreign affairs activities for water resources, including guidance in developing a competent work force for the water sector.
- Oversee operations of the State Flood Control and Drought Relief Headquarters. This includes the organization, coordination, supervision, and direction of nationwide flood control, and includes the execution of operations of flood control and drought prevention for major river basins and key water projects.
- Other duties and responsibilities as assigned by the State Council.[304]

Ten departments in the Ministry undertake the above functions.

According to the 2002 Law, the MWR is to be in charge of the unified administration and supervision of water resources throughout the entire country.[305] Specifically, its main duties are:

- Establish BMIs in major rivers or lakes as designated by the State.[306]
- Organize and implement a water-drawing permit system and paid use of the water resources system throughout the country.[307]
- Organize scientific investigation, survey, and assessment of water resources, in coordination with other departments under the State Council.[308]
- Formulate comprehensive plans for major river or lake basins as designated by the State, in coordination with other departments under the State Council and provincial, autonomous region, and municipal governments directly under the Central Government, and submit such plans to the State Council for approval.[309]
- Inspect and examine basin comprehensive plans and regional comprehensive plans for trans-provincial rivers or lakes other than major rivers or lakes as submitted to it; invite comments from other relevant departments under the State Council, and submit plans to the State Council or its authorized department for approval.[310]

304. *See* Ministry of Water Resources of the P.R.C., *Main Responsibilities, at* http://www.mwr.gov.cn/english/about_mwr/about_mwr_mr.htm (last visited Apr. 14, 2004).

305. *See* 2002 Water Law of the P.R.C. art. 12.

306. *Id.*

307. *Id.* art. 7.

308. *Id.* art. 16.

309. *Id.* art. 17.

310. *Id.*

- Initially designate water function zones for major rivers or lakes as designated by the State, in coordination with the department of environment protection administration and other relevant departments under the State Council, governments of relevant provinces, autonomous regions or CGMs.[311] Such zones must comply with the basin comprehensive plan, protection plan of water resources, and the economic and social development demand.[312] The MWR is then required to submit the proposed zones to the State Council for approval.[313]
- Inspect and examine water function zones for trans-provincial rivers or lakes other than major rivers or basins as submitted to it, in conjunction with the department of environment protection administration under the State Council, and submit the same to the State Council or its authorized department for approval.[314]
- Delimit management and protection zones for water projects administrated by it, in consultation with the people's government of relevant provinces, autonomous regions, or CGMs.[315]

Together with the department of development and planning administration under the State Council, direct national macro allocation of water resources.[316]

In conjunction with other relevant departments, formulate national and trans-provincial long-term and medium-term plans for water demand and supply. MWR must then submit these plans to the department of development and planning administration under the State Council for approval, and then execute the plans after approval.[317]

Issue water-drawing permits to entities or individuals who draw water directly from rivers, lakes or ground aquifers, consistent with relevant provisions.[318]

Strengthen supervision and inspection over acts in violation of the Water Law, and investigate and settle these acts in accordance with the law.[319]

When acts in violation of the law or dereliction of duty by lower CDWAs are found in its supervision and inspection work, order such acts be corrected within a deadline.[320]

---

311. 2002 Water Law of the P.R.C. art. 32.
312. *Id.*
313. *Id.*
314. *Id.*
315. *Id.* art. 43.
316. *Id.* art. 44.
317. 2002 Water Law of the P.R.C. art. 44.
318. *Id.* art. 48.
319. *Id.* art. 59.
320. *Id.* art. 63.

B. BMI

Two kinds of BMI exist under 2002 China Water Law: those set up by the CDWA under the State Council in major State-designate rivers or lakes, and those in trans-provincial rivers or lakes (other than major rivers or lakes).[321]

As to the BMI in the major rivers or lakes, their general duty is to exercise management and supervision authority on water resources within the corresponding jurisdiction as stipulated by law(s) or regulation(s) or as authorized by the CDWA under the State Council.[322] In the six key river basins—the Changjiang, Huanghe, Haihe, Huaihe, Zhujiang, and the Song-Laohe—a conservation commission has been set up. In the Tai Lake Basin, the Tai Lake Water Resources Management Bureau has been established. Generally, each BMI is given the following mandates:[323]

1. Implement, supervise, and inspect the Water Law and other related laws and regulations, draft water-related policies and regulations within the basin, execute water administrative law, supervise water resources administration and reconsideration of water administration, handle disputes involving violations of water law; and mediate and settle inter-provincial water disputes;
2. Organize formulation of basin comprehensive plans and relevant specialty plans, and supervise and implement such plans;
3. Direct unified administration and supervision of water resources (including surface water and ground water) throughout the entire basin, *i.e.* organize the survey and assessment of water resources within the basin, and formulate inter-provincial allocation schemes of water quantity, issue water withdrawal permits, etc.;
4. Direct water resources protection, organize the delineation

---

321. *Id.* art. 17.

322. *Id.* art. 12.

323. Their mandates in detail (in Chinese) are available at http://ple.chinawater.com.cn/jgbz/20020830/200208300045.htm, for the Changjiang River Water Resources Commission, http://ple.chinawater.com.cn/jgbz/20020830/200208300046.htm, for the Huanghe River Water Resources Commission, http://ple.chinawater.com.cn/jgbz/20020830/200208300047.htm, for the Haihe River Water Resources Commission, http://ple.chinawater.com.cn/jgbz/20020830/200208300048.htm, for the Huaihe River Water Resources Commission, http://ple.chinawater.com.cn/jgbz/20020830/200208300051.htm, for the Zhujiang Water Resources Commission, http://ple.chinawater.com.cn/jgbz/20020830/200208300049.htm, for the Song-Laohe River Water Resources Commission, and http://ple.chinawater.com.cn/jgbz/20020830/200208300050.htm, for Taihu Basin Authority (last visited Mar. 6, 2004).

of water function zones, define the zones' capacities for accepting waste, submit the limit on total waste discharge into the zones, and direct supervision of water quantity and quality;

5. Organize or participate in flood and drought control within the basin;
6. Control or develop rivers, lakes, and estuary beaches within the basin; and
7. Manage relevant water projects.

As for BMI in other trans-provincial rivers or lakes, their main duties are:

1. Formulate basin comprehensive plans and regional comprehensive plans in conjunction with CDWAs and other provincial departments; submit those plans to the CDWA under the State Council for inspection and consent, and ultimately to the State Council or its authorized department for approval;[324]
2. Inspect whether the construction of a water project conforms with the basin comprehensive plan before giving its opinion of the project and submitting its feasibility study for approval;[325]
3. Initially delineate water function zones of rivers or lakes in conjunction with CDWAs, departments of environmental protection administration, and other relevant provincial government departments; and submit such plans to the relevant provincial government departments for inspection;[326]
4. Determine the zones' capacity for accepting waste in accordance with its water quality needs by determining the function of water use to the natural purification ability of the water body in a particular water zone, and then submit the limitation on total waste discharge into the zone to the department of environmental protection administration;[327]
5. Monitor water quality in water function zones, and when total discharge of a regulated pollutant exceeds the control limitation, or water quality of the water function zone does not meet water quality needs (by the function of water use), provide timely reports to the relevant department to adopt control measures, and send this information to the department of environment protection administration;[328]
6. Delineate management and protection zones for water projects administered by the BMI, in consultation with the

324. *See* 2002 Water Law of the P.R.C. art. 17.1.
325. *Id.* art. 19.
326. *Id.* art. 32.1.
327. *Id.* art. 32.3.
328. *Id.* art. 32.4.

government of the relevant provinces, autonomous regions, and CGMs;[329]

7. Formulate an allocation plan for water and a preliminary plan for water diversion during drought emergencies that involve provinces, autonomous regions, and CGMs, in consultation with relevant provincial, autonomous region, and municipality departments directly under the Central Government; and submit these plans to the State Council or its authorized department for approval;[330]
8. Approve the construction of water resource development or utilization projects within the BMI's jurisdiction;[331]
9. Formulate annual water allocation plans and implement unified water quantity regulation in accordance with approved water quantity allocation plans and annual predictions of incoming water quantities;[332]
10. Issue water withdrawal permits to the unit or individual who withdraws water directly from rivers, lakes or ground aquifers in accordance with relevant provisions;[333] and
11. Strengthen supervision and inspection over water law violations, and investigate and settle these acts in accordance with the law.[334]

C. LOCAL PEOPLE'S GOVERNMENT

Pursuant to the 2002 China Water Law, local governments at or above the county level play a very important role in the administration of water development, utilization, conservation, and protection of water resources, as well as the control of water disasters.[335] Their main duties are to:

1. Intensify water conservation facilities construction, including those facilities in the national economic and social development plan at the corresponding level;[336]
2. Adopt measures to promote water-saving technology;[337]
3. Jointly formulate a basin comprehensive plan for major rivers or lakes with the governments at the provincial level within those basins;[338]
4. For provincial governments, to inspect basin and regional comprehensive plans for trans-provincial rivers or lakes within their jurisdiction (other than major rivers or lakes),

329. *Id.* art. 43.
330. 2002 Water Law of the P.R.C. art. 45.2.
331. *Id.* art. 45.4.
332. *Id.* art. 46.
333. *Id.* art. 7.
334. *Id.* art. 59.
335. *Id.* art. 1.
336. 2002 Water Law of the P.R.C. art. 5.
337. *Id.* art. 8.
338. *Id.* art. 17.

and provide their opinions to the department of water administration;[339]

5. Participate in formulation of basin and regional comprehensive plans concerning their jurisdiction;[340]
6. For governments at various levels, approve basin and regional comprehensive plans for river or lake basins within their jurisdiction;[341]
7. Approve specialty plans within their jurisdictions;[342]
8. For government at various levels, reasonably organize development and comprehensive utilization of water resources within its jurisdiction;[343]
9. For government at various levels, strengthen management over affairs concerning irrigation, drain water-logged areas, and soil conservation;[344]
10. For provincial governments, to participate in drafting functional division plans for major rivers and lakes within their jurisdictions;[345]
11. For provincial governments, to review functional division plans of trans-provincial rivers and lakes that cross their jurisdictions (other than major rivers and lakes referred to in paragraph 10) and offer the drafters suggestions;[346]
12. For governments at various levels, to participate in drafting functional division plans for other rivers and lakes found in their territory but not referred to in paragraph 10 or 11, and approve functional division plans within their jurisdictions;[347]
13. For provincial governments, to adopt a system to conserve potable water sources and take preventive measures against pollution and depletion to ensure safe drinking water for urban and rural residents;[348]
14. For provincial government, delineate management and protection zones for water projects other than those administrated by the CDWA under the State Council or BMIs;[349]
15. Approve or participate in formulating plans for water allocation and plans for water regulation in drought

339. *Id.*
340. *Id.*
341. *Id.*
342. 2002 Water Law of the P.R.C. art. 17.
343. *Id.* art. 23.
344. *Id.* art. 25.
345. *Id.* art. 32.
346. *Id.*
347. *Id.*
348. 2002 Water Law of the P.R.C. art. 33.
349. *Id.* art. 43.

emergencies;[350]

16. Adjudicate water disputes between different administrative divisions;[351]
17. For local governments, to mediate water disputes between units or individuals;[352] and
18. For local governments, to require violations to be corrected within a certain deadline if, when supervising and inspecting, the government discovers its CDWA or lower CDWAs have violated the law or neglected their duties.[353]

D. THE CDWA OF LOCAL PEOPLE'S GOVERNMENT

The CDWAs of local government at or above the county level also play an important role in water administration under 2002 China Water Law.[354] Each CDWA is charged with unified administration and supervision of water within its corresponding administration region consistent with its authorized power.[355] Their main duties include:

1. Organize the comprehensive scientific investigation, survey and assessment of water resources, in conjunction with other departments at the corresponding level;[356]
2. For provincial CDWAs, participate in the formulation of basin comprehensive plans for non-major trans-provincial rivers or lakes;[357]
3. Formulate basin and regional comprehensive plans for river basins or lakes (other than major or trans-provincial rivers or lakes) in conjunction with relevant departments and local government, then submit these plans to the government at the corresponding level or its authorized department for approval, and to the CDWA at the next higher level for recording;[358]
4. Determine whether the construction of a water project on a river or lake (other than major or trans-provincial rivers or lakes) conforms with the basin comprehensive plan, and provide comments and signed project approval prior to submitting the project feasibility report for approval;[359]
5. Approve reservoir construction by agricultural collective organizations;[360]
6. For provincial CDWAs, participate in the initial drafting of

350. *Id.* art. 45.
351. *Id.* art. 56.
352. *Id.* art. 57.
353. *Id.* art. 63.
354. 2002 Water Law of the P.R.C. art. 12.
355. *Id.*
356. *Id.* art. 16.
357. *Id.* art. 17.
358. *Id.*
359. *Id.* art. 19.
360. 2002 Water Law of the P.R.C. art. 25.

water functions zones for trans-provincial rivers or lakes (other than major rivers or basins which involve them);[361]

7. Initially delineate water function zones for rivers or lakes (other than major or trans-provincial rivers or basins within its jurisdiction), in conjunction with the department of environmental protection administration and other relevant departments at that level, submit them to the corresponding level of government and its authorized department for approval, and to the CDWA and the department of environmental protection administration at the next higher level for recording;[362]
8. Define acceptable pollution levels of the zone based on its water quality needs by determining the function of water use within the zone and the natural purification ability of the water body, and submit these zone waste discharge limits to the department of environmental protection administration;[363]
9. Supervise water quality in various water functional divisions, and recommend, to the environmental protection administration, limitations on discharging polluted water from the divisions;[364]
10. Collaborate with relevant departments at corresponding levels of government to formulate mid- and long-term plans for water supply and demand, and submit these plans to the government department of development planning administration for approval;[365]
11. Consult with relevant local governments in formulating a trans-regional water allocation plan and preliminary plan for severe droughts, and submit these plans to the government at the appropriate level for approval and execution;[366]
12. Approve construction of water resource development or utilization projects within their jurisdictions;[367]
13. Formulate annual water allocation and regulation plans, and execute unified water regulation based on the approved allocation plan and the annual forecasting of incoming water quantities;[368]
14. Formulate annual water use plans and define total annual water use within the administrative region in conjunction with the corresponding development and planning

361. *Id.* art. 32.
362. *Id.*
363. *Id.*
364. *Id.*
365. *Id.* art. 44.
366. 2002 Water Law of the P.R.C. art. 45.
367. *Id.* art. 25.
368. *Id.* art. 46.

departments of local people's governments on the basis of water-use quotas, economic and technological conditions, and water quantities allocated to the administrative region;[369]

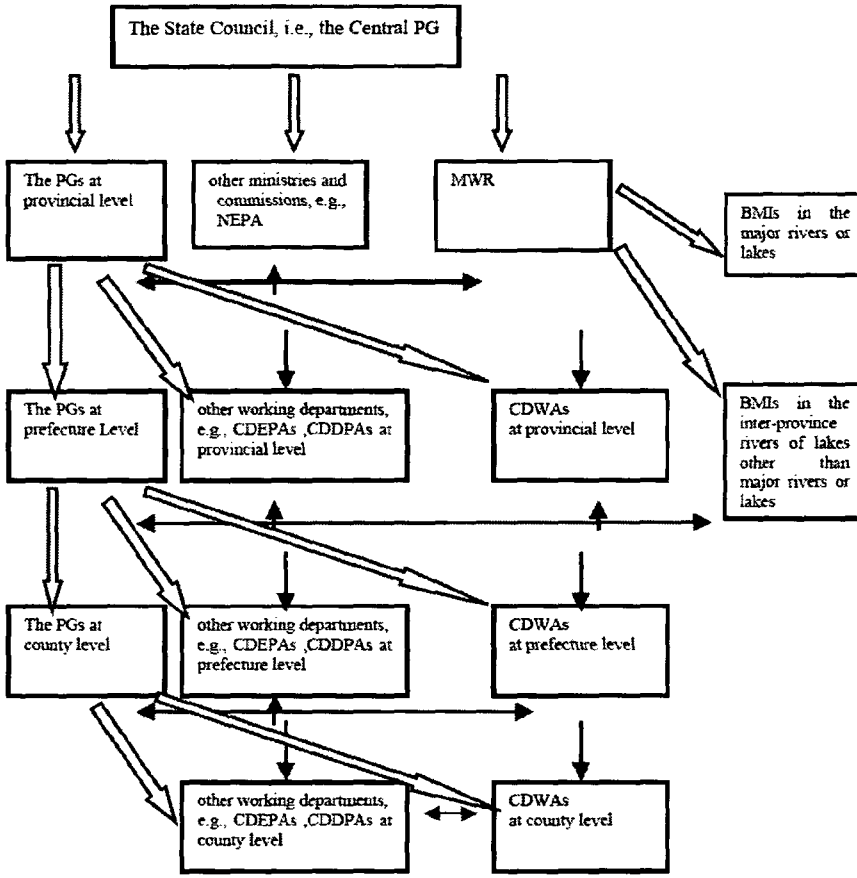
15. Issue water withdrawal permits to units or individuals who directly withdraw water from rivers, lakes, or ground aquifers in accordance with relevant provisions;[370]
16. Strengthen supervision and inspection of water law violations and impartially investigate and settle these violations in accordance with law;[371] and
17. Order lower-level CDWAs to correct violations of law or dereliction of duty within a specified time.[372]

E. OTHER DEPARTMENTS OF THE PEOPLE'S GOVERNMENT

Under 2002 China Water Law, other departments under the State Council must develop, utilize, conserve, and protect water resources in conformity with the respective responsibility assigned to them.[373] Other departments of local governments at or above the county level must develop, utilize, conserve, and protect water resources in conformity with the respective responsibility assigned to them within their administration region.[374] The law devotes special attention to the department of environmental protection administration and to the department of development and planning administration. For example, the departments of environmental protection administration at various levels exercise unified supervision and management of prevention and control of water pollution.[375] These departments also participate in initial delineation of water function zones for major river and lake basins.[376] Both the department of development and planning administration and the CDWA under the State Council are responsible for national allocation of water resources.[377] The competent departments of development and planning administration of government at various levels must inspect and approve national and trans-provincial long-term and medium-term plans of water demand and supply within their respective jurisdictions.[378]

369. *Id.* art. 47.
370. *Id.* art. 48.
371. *Id.* art. 59.
372. 2002 Water Law of the P.R.C. art. 63.
373. *Id.* art. 13.
374. *Id.*
375. *See* Law for Water Pollution Prevention and Control of the PRC art. 4.1.
376. 2002 Water Law of the P.R.C. art. 32.
377. *Id.* art. 44.
378. *Id.*

Chart III: Institutional Framework under 2002 China Water Law



Notes: 1. ⇒ expresses administrative leadership relations.
2. → expresses professional leadership relations.
3. ↕ ↔ expresses co-operative relations.
4.PG: people's government.
5.MWR: Ministry of Water Resources.
6.NEPA: National Environmental Protection Agency.
7.CDEPA: competent department of environment protection administration.
8.CDDPA: competent department of development and planning administration.

X. CONCLUSION

China faces numerous challenges in implementing an effective system of water resources management. Water shortage, both in quantity and quality, has become one of the principal factors restricting national economic and social development in China. The unchecked and often ad hoc approach to the management of China's water resources has resulted in unreasonable, inequitable, and unsustainable development, with inadequate attention to protection of its water resources. It is both necessary and urgent to strengthen the legal and administrative regime that governs China's fresh water resources. This must be considered in a context that is more broad than the approach adopted under the 2002 Water Law. "Water law, whether national or international, is relevant at all stages of water resource development and management."[379]

From an initial evaluation of national practice, it appears that the 2002 China Water Law has introduced important and effective new concepts not included in the 1988 China Water Law. There is a clear objective to provide a legal framework that promotes the sustainable utilization of China's national water resources. As such, the adoption of the 2002 Water Law must be considered a milestone in the development of Chinese water law and management.

However, the 2002 China Water Law contains some serious shortcomings: it offers only a general legal framework for management and fails to address key problems related to flooding and droughts. In addition, the law faces difficulties in actual implementations on the ground. For example, numerous rules and regulations enacted under the 1988 Water Law have yet to be repealed and amended to be in line with the new 2002 Law. The next parts highlight the critical areas that require more attention in the ongoing review of the effectiveness of the existing legal regime that regulates China's waters.

A. EMPHASIZING THE SUSTAINABLE UTILIZATION OF WATER RESOURCE

As stated in Principle I of the 1992 Dublin Principles, "[f]reshwater is a finite and vulnerable resource, essential to sustain life, development and the environment."[380] The importance of attempting to ensure sustainable water resource utilization cannot be overestimated, especially in such a populated country as China. The authors of 2002 China Water Law recognized the importance of sustainable utilization of water resources by mandating that one of its purposes is "realizing the sustainable utilization of water resources."[381] This purpose is also reflected in other provisions or systems of the

379. Patricia Wouters et al., *The Legal Response to the World's Crisis: What Legacy from the Hague?*, 4 U. DENV. WATER L. REV. 418, 422 (2001).

380. THE DUBLIN STATEMENT ON WATER AND SUSTAINABLE DEVELOPMENT, *at* http://www.gdrc.org/wem/water/dublin-statement.html, (last visited Dec. 12, 2003).

381. 2002 Water Law of the P.R.C. art. 1.

2002 China Water Law relating to the development, utilization, conservation, and protection of water resources and to the control of water disasters as discussed below.

Importantly the 2002 Water Law recognizes water use to protect the environment as a beneficial use.[382] It requires that in the overall scheme of water resource development and utilization, the demands of domestic, urban and rural inhabitants be satisfied first; and further that the demands for agricultural, industrial, and environmental water uses, as well as navigational requirements, are next considered and satisfied.[383] Notably, in drought or semi-drought areas, ecological environmental water demands are required to be given full consideration and attention.[384] National economic and social development plans, urban master plans, and the location of large, important construction projects are required to conform with local water resource conditions and flood control demands.[385] In water deficient areas, urban growth and development of high water consumption industries, agriculture, or services are required to be restricted.[386] In hydropower station development, the ecological environment must be protected, and flood control, water supply, irrigation, navigation, bamboo and log rafting, fishery, etc., are required to be taken into account.[387]

Secondly, water function zones, drinking water protection zones, ground water zones in which extraction is forbidden or restricted, and groundwater abstraction control in coastal areas are of great value in ensuring the sustainable utilization of water resources.

B. STRENGTHENING UNIFIED AND INTEGRATED WATER RESOURCES MANAGEMENT

The 2002 China Water Law strengthens the unified and integrated approach to water resources management. This can be seen in several important provisions. First, improvements are reflected in the institutional framework, created under the 2002 law, *e.g.*, basin administration of water resources in coordination with administrative regional administration. The CDWA operates under the State Council, the MWR directs unified water resources administration and supervision throughout the country, the legal status of BMIs is established, and the CDWAs of local governments play a more important role in the unified administration and supervision of water resources in conformity with the authorized power within its corresponding administration region. Second, the new law emphasizes unified and integrated basin water resources management, *e.g.*, requiring that planning be undertaken using river basins as basic

382. *Id.* art. 4.
383. *Id.* art. 21.
384. *Id.*
385. *Id.* art. 23.
386. *Id.*
387. 2002 Water Law of the P.R.C. art. 26.

units of management, both in the development, utilization, conservation, and protection of water resources, and in controlling water disasters. The regional plan within a basin is required to conform with the local basin plan, and the basin specialty plan should conform with the basin comprehensive plan. The plan must be executed strictly once approved and water project construction must conform with relevant basin comprehensive plan. Third, as mentioned above, according to its duty, the BMI plays a more important role in many aspects of water resources administration

Local government at various levels have realized the importance of water resources in local economic and social development, and many are seeking more autonomy in water management within their jurisdictions.[388] Accordingly, during the Second Amendment Draft of 2002 China Water Law, Article 19 of the Amendment Draft was amended to diminish some of the powers initially granted to the BMI. Thus, it may be difficult to predict whether or not the system of basin administration in association with administrative regional administration will operate effectively and efficiently, and whether or not the BMIs will exercise its authority consistently and effectively in line with the agreed objectives. On the other hand, BMIs in major rivers or lakes are established by the CDWA under the State Council, but the 2002 China Water Law does not provide how BMIs in trans-provincial rivers or lakes other than the major rivers or lakes should be set up, and by what institutions they shall be supervised. Clearly, there is a need for the roles and relative mandates of the relevant actors, including the BMIs, local governments, and the CDWAs to be clarified and coordinated. A failure to do so may lead to overall confusion and ineffective implementation of the objectives of the new law.

C. CONSTRUCTING AN EFFECTIVE AND EFFICIENT RIGHTS SYSTEM CONCERNING WATER

"[The] stability of water rights is an important principle in water law," and "[a] system of stable water rights is an incentive to invest in the development and conservation of water resources."[389] Experience demonstrates that effective planning is essential in managing limited resources such as water. The absence of such a system will undermine the key policy objective of achieving the reasonable and sustainable utilization of water resources. Further, "rights concerning water"[390] should not be considered to be a static system; such an approach does

388. Shi Guosheng, *Regulating the Construction of Water Project in Accordance with the Law*, National People's Congress News, Apr. 26, 2002.

389. *The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangements for Integrated Water Resources Management*, TAC GROUND PAPERS NO 3, (Global Water Partnership Technical Advisory Committee (TAC)), June 1999, at 29.

390. The term "rights concerning water" is employed here as a comprehensive and wide meaning of property rights concerning water or water resources. It not only includes water-use rights, the right under permit or license, property right over water, but also includes the property right relating to water service, water project, etc..

not recognize the changing nature of water use. However, a market-oriented approach does introduce commercial risk and it is clear that changing water rights could be difficult to identify, transfer and negotiate in the Chinese market system.

The 2002 China Water Law provides for a more unified and scientifically-based planning system. Of fundamental importance to the success of this approach, however, is the substantive content of such plans, including details of the procedures to be employed to ensure the feasibility and viability of such plans, and the mechanisms to monitor implementation and ongoing compliance with these plans.

The water withdrawal permit system is the essential tool through which water plans are implemented. The permit system also plays a vital role in protecting the resource and in ensuring the stability of water rights. Critical to the success of the water permit system is its conformity with the planning efforts; a failure to achieve consistent operational links between these efforts will result in a water-permit systems will exists in form only, without any meaningful value.

The water permit system was implemented in line with the 1994 adoption of the Implementation Procedures for Water Drawing Permit System.[391] Unfortunately, there have been serious shortcomings with the permit system (*e.g.*, the scope of the system, the conditions and procedure of getting a permit, etc.), which have not adequately addressed the continued problem of water shortage..

The notion of water pricing should be one of the most important factors in determining whether, or not, the water resources in China will be used rationally. However, a preliminary evaluation of the current performance of China's water pricing system suggests that the existing price structure lead to inequitable and sometimes unreasonable results. It proves difficult – and in some cases, impossible – to compare water prices for water use in different sectors, or in different regions and even in different units of the same sector or region. As mentioned above, individuals or units pay water charges to the supplying unit when they use water supplied by the waterworks, but the units directly extracting water from ground aquifers in cities pay only the water resources fee. Therefore, although sometimes the price of supplied water is much lower than its cost, entities—especially medium or large entities—prefer to obtain permits for withdrawing water directly from ground aquifers. Reasons for doing this, include the following: it is cheaper than purchasing water from water supplying units, more freedom exists from such an approach, and it is more likely to obtain water of better quality. The average water charges for industry have been estimated to account for no more than 0.1-1.0 percent of average product cost. The water used for agriculture is priced much lower than for industry.[392] As a result, water used in

391. See Implementation Procedures for Water Drawing Permit System. art. 27.

392. *See*, Deng Wei & He Yan, *Water Resources, One of the Most Important Resources Problems to be paid More Attention in the World in 21st Century*, 2 SCIENTIA GEOGRAPHY SINICA 99 (1999).

industrial, commercial, and agricultural activities is often wasted. Irrational irrigation methods, such as flooding of upper or middle reaches of a river or irrigation system, results from the imbalance between price and true cost. The effects do not stop with waste: the high water table caused by such water recharge is the main reason for farmland salinization in western China.[393]

The idea that the water pricing system should be reformed in China has interested many scientists and politicians over the past six years,[394] but effective changes in this sector have lagged far behind activities in the other economic sectors in China. The present water pricing system does not fit the market economy mechanism and is of limited value in regulating water use. Under a reformed water pricing system, all relevant factors and circumstances should be taken into consideration when calculating water charges. Among these factors and circumstances are: regional characteristics; human rights; the nature of different industries; political and social influences; conservation, protection, development, and economy of the use; and the availability of alternatives of comparable value.

Although agriculture accounts for about seventy percent of total water use in China, some agriculture producers (due to economic necessity in most cases) pay no water charge at all.[395] About 768.5 million people live in rural areas.[396] Almost all live on individual pieces of land approximately 1,000 m^2. RCEOs allocate the land to each individual.[397] In the last two decades, the heavy burden of charges and fees has made it difficult for people to survive in most regions of the state, and every year about 0.6 million peasants commit suicide.[398] A preferred water tariff scheme in China would consider water charges for peasants under the rubric of human rights, as an important political and social issue. Therefore, under 2002 China Water Law, the water pricing scheme, under the water permit system, should not apply to water-use by RCEOs or their members using waters in ponds or reservoirs owned by the RCEO itself.[399] The user-pays approach adopted under the 2002 China Water Law requires payments by users to the supplying unit in accordance with State provisions.[400] The price for this water is determined by factoring cost, reasonable interest,

393. *See* Jiang Keiping, *Stepping Up Large-scale Irrigation District Water-saving Rehabilitation is the Important Content of Infrastructure Development in the West Developing Strategy*, 9 CHINA WATER RESOURCES 32–34 (2001).

394. *See, e.g.*, Water Pricing Study Groups, *Reports on Water Pricing Study in One Hundred Water Management Units*, 9 China Water Resources, 21–30 (2002).

395. *See id.*

396. *See* NATIONAL ECONOMY AND SOCIAL DEVELOPMENT STATISTICS BULLETIN OF PRC (2003), Chinese version available at National Bureau of Statistics of China web page http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20040226_402131958.htm (last visited Mar. 1, 2004).

397. *Id.*

398. Ling Jianfang, *Poverty Not the Vital Reason for Peasants to Commit Suicide*, China Youth Daily, Nov. 21, 2003.

399. 2002 Water Law of the P.R.C. art. 7.

400. *Id.* art. 55.

water quality, price, and equitable burden.[401] The National Development and Planning Committee and Ministry of Water Resources promulgated the Management Rules on Price of Water Supplied by Water Project, in accordance with 2002 China Water Law and Prices Law of PRC, on July 3, 2003. The Rules became effective on January 1, 2004.[402] The impact of these reforms has yet to be felt by those who need it most. The water pricing system must take into account the differing levels of regional economic development across China, together with such other considerations as the need for social stability, national and regional economic development and the real need for conservation and protection of the resource, in terms of water and the more broad environmental concerns. Water prices must be reformed and implemented in a way that reflects the differences between rural and urban areas, domestic and industrial uses, and subsistence agricultural uses and commercial agriculture. The pricing regime must also re-evaluate the quota requirements across the spectrum of uses and users. There is a real need for a more comprehensive review and harmonization of the water tariff and charging system in China.

Transfer of Water Rights

The transfer of water rights has been discussed more in the last three years.[403] Unfortunately, many people in China fundamentally misunderstand, or only partially comprehend, the meaning of the term "water rights." In the Amendment Draft, one provision governed the transfer of rights concerning water, *i.e.*, Article 45.2, which provided that:

> [a]ny unit or individual which has obtained the right to draw water, and has saved water . . . within the duration and quantity of the relevant permit, are entitled to transfer the saved water resources after the approval of the authorities which issued the relevant permit . . . .[404]

Because it generated much controversy and debate, the provision was finally deleted. However, the water rights system should be further perfected, as the efficient transfer of water rights can only occur under an improved system.

D. PROMOTING PUBLIC PARTICIPATION AND CONSTRUCTING INFORMATION-COLLECTING SYSTEM

The important role of civil society in the effective management of

---

401. *Id.*.

402. MANAGEMENT RULES ON PRICE OF WATER SUPPLIED BY WATER PROJECT, Chinese version available at Ministry of Water Resources web page http://www.mwr.gov.cn:8160/ztbd/sjglbf/20030722/15547.asp (last visited Dec. 12, 2003).

403. *See* Desheng Hu, *Research on the Delimitation of Property Rights of Water Resources*, 1 Journal of Henan Finance & Taxation College 37 (2004).

404. Amendment Draft art. 45.2.

water resources has been confirmed around the world. China needs to promote the more effective involvement of its public in the design and delivery of its water management plans. Engaging the "public" (broadly defined) has direct benefits, and many lessons can be learned from examples of public participation across the world. Central to effective public participation is access to relevant and useable information. In China, improving public participation, including access to information, would require a number of reforms and new laws and administrative systems. The basis for such a regime is recognition of the fundamental right to environmental information.[405]

In developed countries, a great number of laws and policies are employed to encourage, promote, or guarantee public participation. On the one hand, the water laws in China provide a simple system for public participation, the majority of which relevant provisions exist only in principle, and are weak (if non-existent) in practice. There appears to be a prevailing misunderstanding among the water administrative bureaus at all levels that the public at large is uninterested and unknowledgeable about water resources management and its issues. It is the responsibility of government to involve the government: "Governments at national, regional and local levels have the responsibility for making participation possible. This involves the creation of mechanisms for stakeholder consultation at all spatial scales; such as national, basin or aquifer, catchment and community levels."[406] Moreover, "[g]overnments also have to help create participatory capacity, particularly amongst women and other marginalized social groups."[407]

We propose that the public be able to identify local water problems, and help provide suggestions regarding water resource and environment planning. Public participation in planning and decision-making would be extremely beneficial in achieving effective water management and encouraging sustainable development. Although the 2002 China Water Law does not provide substantive and procedural rules that promote public participation, the Law on Administrative Licenses of PRC (enacted at the 4th Session of the Standing Committee of the Tenth NPC on August 27, 2003, and effective on July 1, 2004) introduces principles of transparency, fairness, and justice and provides a foundation for more effective public participation. Chapter Four of this law provides a detailed process for conferring licenses, which emphasizes, in particular, public participation.[408] The approval procedure for water-withdrawal permits

405. STUART BELL & DONALD MCGILLIVRAY, BALL & BELL ON ENVIRONMENTAL LAW: THE LAW AND POLICY RELATING TO THE PROTECTION OF THE ENVIRONMENT 215–218 (5th ed. 2000).

406. *Integrated Water Resources Management*, TAC GROUND PAPERS NO. 4 (Global Water Partnership Technical Advisory Committee (TAC)), Mar. 2000, at 16.

407. *Id.* at 16–17.

408. *See* Law on Administrative Licenses of PRC at art. 5.1, Chinese version *at* http://www.people.com.cn/GB/14576/28320/29258/29261/2041117.html (last visited Oct. 10, 2003).

is required to comply with the provisions of the Law on Administrative License.[409] Thus, the implementation and effective enforcement of the Law on Administrative Licenses by the PRC should, to a great extent, promote increased public participation in the area of water resources management across China.

Access to quality information, in the context of the promotion of effective public participation, will require adequate and timely information regarding the legal categories and related quality of classified water; the identities of existing and new water users; and the purposes for which the water is or will be used. Also it must be recognized by China that "effective water management systems require adequate official surveys, inventories, and cadastres of water sources and water supplies, as well as up to date registers and records of water uses and discharges into waters, water rights, and beneficiaries of such rights, with their respective water allocations."[410] Regrettably, no unified institution to provide this information exists in China, as different sectors and different bodies at the provincial level or below manage monitoring systems and the data recorded. This situation limits effective information exchange and impedes effective water management. Therefore, the CDWA or relevant BMI should establish and supervise a unified monitoring body. Fortunately, two provisions exist in 2002 China Water Law to regulate the information on hydrology and water resources. Article 16.2 provides that

> [p]eople's governments at or above the county level shall strengthen the establishment of [an] information system on hydrology and water resources. The departments of water administration and administrative organizations for river basins of the people's governments at or above the county level shall strengthen the dynamic monitoring of water resources.[411]

Article 16.3 states, "[t]he basic hydrologic materials shall be made known to the public in accordance with the relevant stipulations of the State."[412] It seems that information collection on water resources has awoken the government to pay attention to the people.

The 2002 China Water Law provided the PRC with a broad range of new legal tools, which can assist in addressing the nation's serious over-use problems and to manage this vital resource in a more sustainable manner. The provisions for Integrated Water Resources Management conform to the emerging world norm for water resources planning, although the provisions for public participation and transparency need improvement.

---

409. *Id.* art. 3.

410. *The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangements for Integrated Water Resources Management*, TAC GROUND PAPERS NO. 3, (Global Water Partnership Technical Advisory Committee (TAC)), June 1999, at 25.

411. 2002 Water Law of the P.R.C. art. 16.

412. *Id.*