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THE LAW ON OWNERSHIP AND RIGHT TO WATER IN NEPAL

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The findings, interpretations and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the institutions.

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Acronyms and Abbreviations

ADB:	**Asian Development Bank**
APP:	**Agriculture Perspective Plan**
CIDA:	**Canadian International Development Assistance**
DDC:	**District Development Committee**
DFID:	**Department of International Development**
DHM:	**Department of Hydrology and Meteorology**
DOED:	**Department of Electricity Development**
DOI:	**Department of Irrigation**
DTW:	**Deep Tube Wells**
DWSS:	**Department of Water Supply and Sewerage**
EIA:	**Environmental Impact Assesment**
ETFC:	**Electricity Tariff Fixation Commission**
FEDWASUN:	**Federation of Water and Sanitation Users Group**
FMIS:	**Farmers Managed Irrigation Systems**
FMIST:	**Farmers Managed Irrigation System Promotion Trust**
FNCCI:	**Federation of Nepalese Chamber of Commerce and Industries**
GIS:	**Geographical Information Systems**
GW:	**Gigawatt Hours**
GON:	**Government of Nepal**
IEE:	**Initial Environmental Examination**
IMD:	**Irrigation Management Division**
INGO:	**International Non-governmental Organization**
IMD:	**Integrated Water Resources Management**
JAKPAS:	**Janata ko Khanepani Ra Sarsafai Karyakram**
JGF:	**Japanese Grant Facility**
JVS:	**Jalsrot Vikas Sanstha**
KUKL:	**Katmandu Upatayaka Khanepani Limited**
KVWSMB:	**Katmandu Valley Water Supply Management Board**
kW:	**Kilowatt**
MFA:	**Ministry of Foreign Affairs**
MFSC:	**Ministry of Forest and Soil Conservation**
MoAC:	**Ministry of Agricultural and Cooperative**
MoEn:	**Ministry of Energy**
MoI:	**Ministry of Irrigation**
MoWR:	**Ministry of Water Resources**
MPPW:	**Ministry of Physical Planning and Works**
MW:	**Megawatt**
NCC:	**Nepal Chamber of Commerce**
NEA:	**Nepal Electricity Authority**
NEWAH:	**Nepal Water for Health**
NFE:	**Non-Formal Education**
NGO:	**Non-governmental Organization**
NPC:	**National Planning Commission**
NWP:	**National Water Plan**
NWSC:	**Nepal Water Supply Corporation**
O&M:	**Operation and Maintenance**
RID:	**Regional Irrigation Directorate**
SOs:	**Social Organizations**
SRWP:	**Self Reliant Drinking Water Support Programme**
UNDP:	**United Nation Development Programme**

UNICEF:	**United Nation Children's Fund**
VDCs:	**Village Development Committees**
WEC:	**Water and Energy Commission**
WHO:	**World Health Organization**
WMO:	**World Meteorological Organization**
WRDC:	**Water Resources Development Council**
WRS:	**Water Resource Strategies**
WSUC:	**Water Supply User's Committee**
WUA:	**Water User's Association**
WUC:	**Water User's Committee**
WUGs:	**Water User's Groups**

CHAPTER - I

1. INTRODUCTION

Water rights discussions cover different kinds of rights such as human right to water, water rights, and right-based approach to water. In the international realism, for instance, the United Nations Committee for Economic, Social and Cultural Rights adopted the General Comment (No. 15) on the right to water in 2002. The idea of water as a right (as against water as a need) has been a contentions issue in the triennial world water Forums. Civil society initiatives and social movements have wed the language of 'right to water' to resist attempts at privatization of water services and in struggles against a mode of industrial development that pays little attention to the water needs for drinking and agriculture such as the anti-coke struggles in India. [1] At the level of national legislation also a formal rights to water can be implicit of explicitly found in enabling laws is often more commensurate liberal version of marketable with a neo-liberal version of marketable water permits that with a fundamental rights to water stemming from any notion of human dignity.

A. Right to Water

Among the many economic, social, and cultural rights that have increasingly come into focus in recent times, an important one is the right to water. The idea of an explicit right to water has come into focus particularly in the last quarter of the twentieth century.

The concept of water right is often conflated with the right to water. However, water rights are first regarded as a sub-set of the right to water, while the concept of right to water includes a variety of dimensions such as access to water, affordability, ownership, delivery, and participation in decision-making processes, water rights refer specifically to the particular sub-set of these dimensions that are pertinent from the point of view of the right holder.

For instance, when one considers the ownership dimension of right to water, there are a number of "Sticks" that constitute ownership. But of these the most relevant sticks for the right holder are operational rights (or rights of wage) and decision-making rights (especially about the working of institutions involved in the management of water), and water rights usually refer to these two sets of rights. [2]on the other hand, ownership of the resources itself (Whether or limited by doctrines such as that of public trusteeship), as well as the broad determination of the nature of water rights and their distribution, are sticks that are more relevant for the state, even though these do play an important role in influencing the nature of water rights held by particular individuals or group.

B. Features of Water Rights

There are number of features of water rights:

- Firstly, the term ‘water rights’ is generally used in the context of water for non-basic needs i.e., not for water for drinking or household needs, but for irrigation and other livelihood needs.
- Secondly, water rights have three dimensions socio-legal, technical and organizational.[3] The socio- legal dimension ensures that the particular right is recognized as legitimate (by law or tradition or social relations of authority), both by users and non-users. Recognition must also be accompanied by a capacity to defend rights against competing claimants, without which the right ceases to be meaningful. The technical dimension ensures that the means (infrastructure, technology, and technical skills) to take water from a source and convey it to fields is present, that is, the water right can actually be used. The organizational

[1] Priya Sangeswaran, (2007) Review of Right to Water: Human Rights, State legislation, and Civil Society initiatives in India, pp.1
[2] Beccar et al,(2002) Bodens and Iwarteveen, 2002
[3] Ibid.

dimension refers to the mobilization of the means (labor and resources) for operation of the infrastructure, allocation of water, formulation and enforcement of collectively required rules and rights, and decision-making around these issues.

- Thirdly, the institution of a system of transferable water rights (with a pricing system capable of capturing and reflecting the real value of water) is believed by many[4] to be essential to an efficient functioning of water markets and water user groups. In fact, the neo-liberal version of water rights basically just refers to such tradable permits, and not necessarily to access to the decision-making process.

- Fourthly, what rights include, as well as whether all users have different or equal rights, would vary across different irrigation systems, depending upon particular physical, agro-ecological, socio-cultural, and political conditions[5]. The important point is that there must be space to allow for this kind of flexibility, while at the same time ensuring that some minimum standards, particularly in terms of equity, are met. However, space for such flexibility is often missing in practice. For instance, in recent times, the World Bank has promoted formalization of water (property) rights with the objective of providing security and certainty of legal title, so that right-holders may defend and assert their water rights vis-à-vis third parties, trade them, and use them as collateral for raising finance. But the process of formalization has been criticized as not being attuned to particularities of place and time[6]. For instance, in the context of Andean water reforms, Boelens and Zwarteveen argue that the diverse property regions that have existed in the region show that the tenure of water was typically insecure for large sections of the population even in periods characterized by privatized regimes.[7] Hence it is more useful to consider the question of how to create the infrastructure, laws, and institutions that allow security of water tenure, rather than how and whether to privatize and trade water.

C. Scope of the Right to Water

In general, there is a fair amount of agreement that water for basic needs should be available to all. For instance, Gledhill argues that the right to water must be limited in quantity to basic needs for drinking, cooking, and fundamental domestic uses. However, there is no consensus on the exact amount of water that would satisfy basic needs,[8] as well as whether one should have a universal standard or whether (and how) differences in requirement due to culture, climate, and technology should be taken into account. Basic water requirements suggested by various donor agencies such as the World Health Organization, US Agency for International Development, and the World Bank range from 20 to 50 liters per capita per day. However, greater amounts of water are also likely to significantly increase health and quality of life. There is also the fear that suggesting a particular level of water provision can provide excuses for Governments to 'lock' water provision at that level.[9]

Further, there are some who argue that the scope of a right to water should be widened to include water to meet livelihood requirements, especially in the case of those engaged in primary sector activities such as agriculture where water is an important input in the production process.[10] This is a more controversial point, both whether the scope of

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[4] Saleth, R. Maria, 1996, Water institutions in India: Economics, Law, and Policy, Common-Wealth Publishers, New Delhi.
[5] Supra note 2
[6] Spiertz, H.L. Joep, 2000, "Water rights and legal pluralism," in Bryan Randolph Bruns and Ruth S.Meinzen-Dick, eds., Negotiating Water Rights, Intermediate Technology Publications, London, pp.162-199.
[7] Ibid
[8] In fact, apart from drinking, what constitutes basic domestic needs is not very clear.
[9] UNESCO-WWAP, 2006
[10] The scope of the right to water may also include water for nature, or water to fulfill the basic ecosystem needs of water.

the right should be extended in this manner, as well as whether water for livelihood requirements should be treated differently (in terms of pricing, for instance) than water for basic needs. One of the major hurdles in extending the scope of the right to meet livelihood requirements is an economic one viz., the high financial, legal, institutional, and cultural costs for states in implementing a human right to water, leading to the suggestion that States could start with a basic needs right and then move onto a more holistic right .[11]

Another related issue that the broader interpretation of right to water raises is the kind of development that water is used for. If the right to water is used to meet livelihood requirements by means of developmental processes that are problematic on grounds of equity or sustainability (for instance, cultivation of water-intensive crops in semi-arid regions), then the right becomes meaningless.

D. Ownership of Water

Whether ownership of water is vested with the public or directly with the state, the other important question is who decides the allocation of rights over water, as well as delineates the exact nature and scope of these rights. Boelens and Zwarteveen argue that "the most important question in relation to water is not whether to price, privatize, sell or purchase, but rather who owns water access and control rights? What are the contents of these rights? Which acquisition mechanisms are deemed valid, and who has legitimate authority to defend, enforce, and sanction these water rights?"[12]

2. RIGHT TO WATER: GLOBAL PERSPECTIVE

At the international level, the idea of a right to water has been most discussed in the human rights context. Right to water is not fully defined by existing international law or practice; however, it is implicitly and explicitly supported by many human rights instruments.[13] Implicit support for the right to water is provided by other human rights such as those to food, health, adequate housing, well being, and life, since water is necessary to secure these rights. The so-called third generation human rights-the right to development, the right to environment, and the right to peace - also provide a basis for the right to water.[14] For instance, the 1986 Declaration on the Right to Development has the provision that states should ensure equality of opportunity for all in their access to basic resources, education, health services, food, housing, employment, and the fair distribution of income.[15]

Further, as evident in the discussion, which right the right to water is derived from has an impact on how the various dimensions of a right to water work out? For instance, the amount of water supported by the right to life is the bare minimum necessary to support life, and does not ensure water sufficient for personal consumption or even for all forms of hygiene, whereas the right to health would ensure not only access to clean and safe water to drink, but also water to assist in the disposal and cleanup of waste, and the protection of existing bodies of water from contamination[16]. The two rights which have been interpreted most often to encompass a right to water, and which figure prominently in all basic international human rights instruments, are right to life and right to health. Two human rights instruments also explicitly mention the right to water: the 1979

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[11] Bluemel, Erik B., 2004, "The implications of formulating a human right to water," Ecology Law Quarterly, 31(4): 957-1006.

[12] Supra note at p. 738

[13] Gleick, Peter, 1999, "The human right to water," Water Policy, 1(5): 487-503.

[14] Sadeq, Houria Tazi, 2005, "For an effective right to water," The Green Cross Optimist, winter 2005.

[15] UN, 1986, "Declaration on the Right to Development," United Nations General Assembly, resolution A/RES/41/128, also available online at http://www.un.org/documents/ga/ res/41/a41r128.htm.

[16] Supra note 11

Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), where it is mentioned as a part of a right to adequate living, and the 1989 Convention on the Rights of the Child (CRC), where provision of clean drinking water is mentioned as a means to combat disease and malnutrition. The right to water is also enshrined in one regional treaty - the African Charter on the Rights and Welfare of the Child.

However, the most explicit formal adoption of the right to water as an independent human right is in the General Comment[17] 15 adopted in November 2002 by the United Nations Committee on Economic, Social and Cultural Rights. The document provides guidelines for state parties on the interpretation of right to water under two articles of the ICESCR - Article 11 (the right to an adequate standard of living) and Article 12 (the right to health). While the General Comment is not legally binding on the 146 states that have ratified the International Covenant, it aims to assist and promote the implementation of the Covenant and does carry the weight and influence of 'soft law'.[18] The 2002 General Comment has also been supplemented more recently by the 2005 draft guidelines for the realization of the right put forth in the Report of the Special Reporters of the United Nations Commission on Human Rights. These guidelines highlight the main and most urgent components of the right to water, without attempting to provide an exhaustive legal definition of the right. They emphasize the right to water for personal and domestic uses, in order to realize the right to adequate nutrition and the right to earn a living through work.[19] Since these two documents together constitute the most complete articulation to date of the idea of a right to water in the human rights discourse, it is useful to briefly consider how they engage with the different dimensions discussed. But before turning to this, it would be better to briefly mention the support that the idea of right to water has outside the domain of human rights viz., in other international law and declarations.

Outside the domain of human rights, support for the right to water is offered by international humanitarian law applicable in armed conflicts (e.g., in the 1977 Protocols to the Geneva Conventions) and by international environmental law instruments. For instance, the UN General Assembly's 1997 Convention on the Law of the Non-navigational Uses of International Watercourses holds that in the case of a conflict between uses of an international watercourse, special regard should be given to the requirements of vital human needs).[20] Further, a series of international environment or water conferences (beginning in the 1970s) also took up the issue of access to basic resources and right to water. For instance, the United Nations Water Conference held in Mar del Plata, Argentina in 1977 agreed that all peoples have the right to have access to drinking water to meet their basic needs. The concept of meeting basic water needs was also emphasized during the 1992 Earth Summit in Rio de Janeiro, Brazil and expanded to include ecological water needs. The 2002 Johannesburg Declaration on Sustainable Development called for speedily increasing access to basic requirements such as clean water. However, while the importance of water to satisfy basic human needs and the idea of water as a right has been present in many water conferences, consensus on an explicit right to water by Governments has been difficult to come by. This is most evident in the ministerial statements at the World Water Forums, which recognize only the idea of water as a basic need and not the idea of water as a right, even when the latter has been debated in the Forum (as in the case of the

[17] General Comments issued by ECOSOC are non-binding interpretations of ICESCR rights and obligations, but may be relied upon by various international bodies when deciding whether a state has met its obligations under ICESCR (Bluemel, 2004).

[18] UN, 2004, "International decade for action: Water for life 2005-2015," Backgrounder, United Nations Department of Public Information.

[19] UNESC, 2005, "Realization of the right to drinking water and sanitation" Report of the Special Rapporteur, El Hadji Guissé, United Nations Economic and Social Council, Geneva, also Available at www.unchr.ch.

[20] UN, 1997, Article 10(2)

declaration at The Hague in the Second World Water Forum in 2000). This, in turn, is a possible reflection of the lack of hegemony of rights-based discourses in water. In fact, the dynamics in the most recent Forum (the Fourth World Water Forum at Mexico held in March 2006 are particularly interesting in this regard. The Forum had a number of sessions on the question of right to water, and the rights narrative was linked to questions of local empowerment and local knowledge.[21] The Ministerial statement (which is a non-binding document signed by Government representatives attending the Forum) also reaffirmed that Governments had a primary role in improved access to safe drinking water, basic sanitation, and sustainable and secure tenure through improved governance at all levels as well as an appropriate enabling environment and regulatory frameworks; further, they should adopt a pro- poor approach and have active involvement of all stakeholders. While this could potentially be construed as the beginning of a reference to a right,[22] the lack of an explicit reference to water as a human right has also been critiqued by many activists.[23] Although many delegates said that they agreed with the principle, some argued that it was not feasible to include it in the final declaration, because it could generate legal problems at the national and international level. The 'compromise' reached was the inclusion of an annex in the Ministerial Statement that expresses a dissenting view held by the Governments of Bolivia, Cuba, and Venezuela as well as by activists taking part in a parallel civil society forum, stating unequivocally that access to water is a fundamental human right. This stand was endorsed by the United Nations Educational, Scientific and Cultural Organization, which said that nations that are signatories to UN treaties have a 'moral obligation' to consider water as a human right.[24]

3. HISTORICAL DEVELOPMENT OF WATER LAWS IN NEPAL

Development of water law in Nepal has three distinct geographical sectors; the northern most portion of the country is mountainous area, the middle consists of hills and valleys the southern portions plain land, know as Terai. They cover 17%, 68% and 15% of the country, respectively.
Nepal is endowed with abundance of water resources and the total surface run off of the rivers is estimated to be around 20 m. ha. The abundance of water resources of Nepal has yet to be utilized and exploited to its considerable extends. The development of legal system in general and water related laws in Nepal are very little available.

[21] ODI, 2006, "The Fourth World Water Forum, Mexico," WPP Trip Report, Overseas Development Institute, London.
[22] Ibid

[23] Cevallos, Diego, 2006, "Final declaration holds diluted view of water as a "right"," Inter Press Service News Agency, May 22, also available at http://www.ipsnews.net/ print.asp?idnews=32603.

[24] Ibid

Historical Perspective of Water related laws[25]

S. No.	Ruling Dynasty	Duration/ Period	3 Prevailing Dharmashastral/Law	4 Substantive law
1	Kirat Dynasty	Before 464 AD.	Mundhum "(Chapter on Khasem Kharon Theem" rules for Administration of Justice)	No specific provision regarding water management found to date
2	Lichahavi Dynasty	464 - 782 AD.	Manusmriti. Maradasmriti. Yangyawalka Smriti and other religious scriptures	As per customary practices and Dharmashastra
3	Malla Dyasty	782 - 1768 AD.	As above	Annual repair of canal by its users made mandatory and non-compliance was punishable. Every one had right to use water respective of their caste on turn by turn basis.
4 a. b.	Shah Dynasty Legal system before codification of law Legal system since the promulgation of codified law in 1854	 Begins from the reign of Drabya Shah in Gorkha in 1559 to 1854 AD. 1854 to 1963 AD	 As above is above + National code of 1854	• First come first service in drinking water and irrigation. • Petty cases relating to drinking water and irrigation was not heard by state agency or royal courts (Rules 6 and 8 of Ram Shah) • The person who cut tree around drinking water taps was fined Rs 5 (Rule 14) • Makers of the canal had first priority to use the water but traditional water sharing pattern was upheld. Irrigation from top to bottom was recognized canals could not allowed to be constructed upstream of existing canals if that lessened water supply to the downstream canals.

[25] Shantam S. Khadka (1997) Water use and Water Rights in Nepal: Legal perspectives, p.15

Table 1 (contd.)
Procedures

S. No.	Ruling Dynasty	5 Concerned Aughority	6 Jurisdiction	7 Remarks
1	Kirat Dynasty	Local Assemblies and Individuals	Water related conflicts as well as other issues	
2	Lichahavi Dynasty	• Panchali, Drang, Adhikaran. Birtawala	• Panchali was village level assembly of five adults like a trial court, all case: within their jurisdiction. • Drang was province level or appeal level court and Adhikarn was central level. • Birtawala had authority to hear local level water related cases within their Birtra land area.	• Birtawalas were person, who receive landgrants, usually tax free, from the state.
3	Malla Dynasty	• Pancha Samuchaya (Assembly of five local people) • Dwares (gateman) • Birtawala (land lord) • Pundits (Priests)	• All village level disputes including water related. • All appointed by King, Princes or Minister to hear petty cases including water related issues of their respective area.	• In 1626 AD. Jitendra Malla of Bhaktapur issued a royal order to levy for the use of canal water • Water related disputes were not considered as important disputes of the society.
4 a. b.	Shah Dynasty Legal system before codification of law Legal system since the promulgation of codified law in 1854 AD.	Pancha Dware Thare Mukhiya Birtawala Choudhary Court of Bichari (Trial Court)		Jurisdiction of state agencies and their authorities overlapped

These provisions clearly show that from ancient time, water is essential for life and livelihoods. As demands for water increase for drinking, domestic use, irrigation, industry, and environmental conservation areas that were once water abundant are increasingly challenged by conflicting claims and the need form to better allocate water resources. Worldwide, as resources become scarce, contesting claims usually drive attempts to determine more clearly who has rights to use the resource.

Presently, there are bundle of water related laws in Nepal but among them Water Resources Act, 1992 is an umbrella legislation in this area. Different laws related to water provides powers, responsibilities and duties of institutions and defining rights and ownership of the people on waters. Traditional modalities of water uses are guided by customary law and even Interim Constitution has given priority for water resources too.

4. LEGISLATIVE FRAMEWORK

Water Right in its broad connotation way is termed as "right to life" laws related to water in Nepal are as following Interim Constitution of Nepal. There are various legislation, policies, strategies and actions plans to address all of these water system related issues in Nepal.

Water resources law in Nepal consists of customary - and statutory -. Customary rights are acquired through years of usage as incident to ownership of land adjoining the stream or river. The statutory law comprises of numerous Acts passed by the legislature of the country including the National Code, 1963 (Muluki Ain of 2020 BS). The National Code is a revised Code first promulgated in 1853 (1910 BS). In this chapter a list and main objectives of the legislations relating to the development and conservation of water resources has been provided. This section has been divided into three groups- Acts, Regulations and policies.

The Interim Constitution of Nepal 2063 (2007)

Right to life of each citizen of Nepal is guaranteed by Article 16 of the Interim Constitution of Nepal. Right to life includes right to live in a healthy environment and the right to basic health services free of cost from the State, as provided in law. Thus the state has greater responsibility to ensure the essence of this right.

Constitution also provides that ratification of, accession to, acceptance of or approval of treaties or agreements on subject of natural resources, and the distribution of their uses be done by a majority of two -thirds of the members present at a joint sitting of both Houses of Parliament.

Provided that out of the treaties and agreements as referred, if any treaty or agreement is of an ordinary nature, which does not affect the nation extensively, seriously or in the long term, the ratification of, accession to, acceptance of or approval of such treaty or agreement may be done at a meeting of the House of Representatives by a simple majority of the members present.

A. Acts

a) Water Resources Act-2049

Water Resources Act, 2049 which has replaced the earlier Canal, Electricity and Related Water Resources Act, 2024 is the first of its kind in the field of water rights, uses and allocation. The Act takes the water resources of the country under the ownership of the State and allows their uses under two conditions: one, by the license issued by the prescribed authority, and the second, without license, for individual of water such as for drinking, household purposes, running household water mill and boating

for transportation. In the case of water standing on one's own land, the land-owner is entitled without permit to uses as specified.

The license can be taken only by those who come up in the form of water users' association registered under sectioned 5 of the Act. The licensing authority is the District Water Resources Committee constituted under the Chairmanship of the Chief District Officer (CDO).

The Act prescribes a hierarchy of uses of water in priority in which the drinking and household use come first and the irrigation, agricultural, hydropower, industrial and mining, navigation, recreation and other uses come one after the other. In case any dispute arises in the use of water this would be settled on the basis of the prescribed priorities of uses along with the degree of beneficial use made of water by the user.

The Act also undertakes to acquire land and houses for the license holder for the purpose of the construction of dam or embankment, or irrigation canal or tunnel and also offers security for any structures related to the permitted use of water. The Act includes provisions about prescribing quality of water for different uses as also tolerance limit for its pollution.

b) Soil and Watershed Conservation Act, 2039

Under this Act the soil and watershed protection includes activities to make the volume and flow of water stable and torpid. The Act enables GON to declare any watershed as protected so that the Watershed Protection Officer can carry on protective activities while prohibiting some specified activities to take place in such areas. There are at present fifty-five districts having watershed protection officers designated for such activities. The Act also enables GON to constitute a Natural Resources Protection Commission to give advice to it on the subject of the soil and watershed protection and specify its functions, duties and authority.

The Natural Resources Protection Commission was constituted in 1983 under the Chairmanship of the Forest Minister and included Secretaries of the water related ministries. The rules under the Act were framed in 1985.

c) Electricity Act 2049

Electricity Act 2049 has provided for licensing the private sector for the generation, transmission and distribution of electricity. The maximum period of license will be five years for the project survey and 50 years for generation, transmission or distribution of electricity. However, no license is required for the generation, transmission and distribution of electricity up to 1000 kw. The Act guarantees that a license will not be issued for the second person in the same area. The license for conducting survey will be issued in 30 days and that for generation, transmission and distribution of electricity in 120 days. The Departmen of Electicity Development (EDC) provides a one window system for the applicant where the implications of several other sectors are checked and cleared by the Department itself instead of the applicant having to go around. However, the one window system has not been as effective as it should be. The Act also provides for the appointment of the Inspector to carry out inspection and supervision which may be necessary from the point of view of following up the conditions of the license or the public safety or the environmental considerations.

There is an array of traditional incentives thrown open by the Electricity Act, 2049. They are:

1) Investors can come up in different formation such as purely private, Government- private, national - foreign, national-foreign-Government and so on.
2) Investors are given income tax exemption for 5 to 15 years.
3) Foreign exchange facilities will be provided for the foreign currency expenditures of the project and for the repatriation of the capital.
4) Assurance of the bulk purchase of power generated

5) The rate of electricity purchased to be calculated in a way that would pay back the total investment in 25 years.

d) Aquatic Life Protection Act, 1960

This Act has been made for maintaining peace, providing convenience and protecting economic interest of the general public by conserving aquatic life of the country. This Act has defined water as pond, lake, river, channel, wetland, reservoir, crag and land used for fishery and the resources of such water. Aquatic life means lives living in any kind of water.

e) Local-self Governance Act, 1999 (2055)

This Act has been made for the purpose of providing an opportunity to all sovereign people to participate in the Government process by method of decentralization. It tries to institutionalize the development process by promoting the participation of socially and economically backward classes including all local people in the process of bringing balance and equal distribution of the mobilization of resources and fruits of development. This Act has intended to grant the power of formulation necessary plans and execution that of in the local level. Having such broad objectives local level Governments have been granted enough power in controlling and managing water resources of the local area.

f) Forest Act, 1992 (2049)

Since forest has an important role in managing water resources, Forest Act has many provisions effecting the integrated water resources management of the country. This Act has basic objective of developing and conserving the forests of the country. At the same time it has other object to protect environment. Environment, forest and water are interconnected.

g) National Code (Muluki Ain 2020), 1963

This Code is the oldest written legislation of the country of general nature. It has procedural as well as substantive aspects. Chapter of Cultivation of Land of this Code is particular with regard to the management of water resources. This Chapter gives the prior right to utilize the water resources for the purpose of irrigation to those who have made the irrigation channel in their own efforts and expenditure. In addition to this, the priority to utilize the water resources for irrigation has ensured to those who are the upper riparian. Despite this provision this Chapter states that the land being irrigated from the past time by the same water shall not be kept fallow by providing less water to it. It allows constructing a new irrigation channel only when the amount of the water in the channel immediately below is not reduced in its usual amount. This chapter further provides that such channel can be constructed in any kind of fallow or public land for the purpose of the cultivation of fallow land. If the channel is required to be constructed over the cultivated land of any other person such person has to be compensated with other equivalent land.

h) Nepal Electricity Authority Act, 1984 (2041)

This Act has established Nepal Electricity Authority for effective supply of electricity making the production, transmission and distribution of electricity reliable and easily available to all the people in the Country.

This is an autonomous and self-governed sole administrative authority regulating the activities regarding electricity. The Act has entrusted this Authority to provide necessary advice and consultancy to the Government while formulating electricity policy.

i) Nepal Water Tax Act, 1966 (2023)

The main objective of this Act is to manage water tax levied under prevalent laws of Nepal. Under this Act the water user who used the water through a tap distributed by His Majesty's Government are obligated to pay water tax as fixed by prevalent laws of Nepal. If such tax is not paid within the time as fixed by the law such person is liable to pay additional charges. This Act has exempted certain form of water use from water tax. The water line is disconnected if one does not pay the tax as fixed by the law.

j) Mines and Mineral Act, 1985 (2042)

Since water is an integral part of environment, prohibition of pollution of environment by any mines and mineral activity of this Act naturally amounts not to pollute the water resources also by such activities. Though the prime aim of this Act is to develop the country rapidly by developing mines and mineral resources, such aim is not allowed to be achieved in the cost of water pollution.

k) National Park and Wildlife Conservation Act, 1972 (2029)

Though this Act focuses on the declaration, management and conservation of National Park and Wildlife, the management and utilization of water resources of such area is in the hands of the Government. The utilization of water resources under this Act can be utilization for the purpose of transportation on water and other recreational utilizations.

l) National Trust for Nature Conservation Act, 1982 (2039)

The main object of this Act is conserving and managing nature and natural resources of the country. An autonomous trust under the patron-ship of than His Majesty the King has been established under this Act. The main responsibilities of this trust is to conserve, promote and manage wildlife and natural resources; to maintain necessary provisions for the development of National Park and Reserves; to conduct necessary scientific study and research of wildlife and other natural resources. As water is a natural resource, it is under the domain of this Act to such extent.

m) Land Acquisition Act, 1977 (2034)

As under this Act the Government is allowed to acquire private land paying reasonable compensation to the affected party for the public purposes, water resources laying and originating within such acquired area is spontaneously acquired under this process. Despite this there is no special legal provision how such water is allocated and managed. According to the National Code, the customary water user has a primary right to use such water.

n) Natural Calamity (Relief) Act, 1982 (2039)

The main objective of this Act is to provide immediate relief to the victim of natural calamity. This Act aims to protect the life and property of general public and public property affected by natural calamity. Though this has not direct provision effecting water resources management, different Committees constituted under this Act, has responsibility to provide safe drinking water to the victim of the natural disaster.

o) Town Planning Act, 1989 (2045)

This Act has established a Town Planning Committee for effective development of the towns. Since rapid growth and urbanization has created many environmental as well as other severe problems, this Committee is entrusted conduct physical development is sustainable manner. Concerning water resources management, this Act has empowered this committee to control and regulate publicly

used water and electricity. It has further power to control activities creating adverse impact on the environment of the town. While planning the town, maintaining effective drinking water supply and drainage system is also the duty of this Committee.

p) Industrial Enterprises Act, 1992 (2049)

This Act has a scheme to provide license to industries producing energy by water resources as well as to other industries. Section 9 of this Act provides that prior approval has to be acquired to establish, extend or diversify any industries that create considerable adverse impact on safety, public health and environment.

q) Arbitration Act, 1998 (2055)

Commercial disputes may be settled by Arbitration process under the Arbitration Act. Any agreement establishing water supply or use or hydro-electricity may stipulate Arbitration clause and disputes arising out of such agreement may be settled by the Arbitrator as provided in the agreement speedily, cheaply and effectively.

r) Pesticides Act, 1991(2048)

This Act aims to regulate the export, import, production, sale, distribution and use of pesticides used to kill and destroy the fetal insects and germs affecting different seeds, plants, trees, animals, birds etc. No one is allowed to export, import, produce, and use any kinds of pesticides which are not registered in the registration authority as established by Government of Nepal under this Act. Since uses of pesticides have direct impact on water uses systems, the provisions of this Act are significant in this regard.

s) Solid Waste (Management and Resource Mobilization) Act, 1988 (2044)

This Act has main objective of managing solid waste and mobilizing the resources of this connection and maintaining the health and safety of the general public by controlling the pollution generated from such wastes which create adverse impact on the health and safety of general public. As solid waste has direct impact on water supply system, discharge of solid waste in either public or private places have been prohibited under this Act.

t) Pashupati Area Development Trust Act, 1988 (2044)

Pashupati Area Development Trust Council has been established under this Act to conduct overall Pashupati area development activities. This Council is entrusted to maintain clean environment by maintaining planned construction, maintenance, conservation and sanitation in that area. This Council has duty to manage other means of basic public utility such as drinking water, drainage, cannel, electricity, telephone, road etc and maintain clean environment prohibiting the discharges of wastages in the area. This Council has further duty of protecting, promoting and maintaining drinking water, transportation in water, water stream etc and maintain pollution-free environment. This Act has a direct impact in relation with water resource management in the heart of the city.

B. Regulations

a) Irrigation Regulations, 2000 (2055)

These regulations have been made under the authority of Section 24 of the WRA. Irrigation has been defined as carrying the water from the structure up to the land for agricultural purpose. Water Users' Group is recognized under this Regulation. Such Group shall be registered in irrigation office of respective Districts for the purpose of utilizing the irrigation system developed by the Government. Such Group has responsibility to utilize, distribute, maintain, operate and manage the irrigation system handed over to it. Any projects or any cannel, subsidiary cannel, ditch etc of the part of any project developed by the Government may be handed over to the Users' Group registered for the same purpose under these Regulations. Larger projects, which are not under the Users' Group's capacity to maintain, can be managed on Government-Users' Group partnership. Government may inter into agreement with the Users' Group to manage such projects in such manner.

These Regulations have special provision for effectively controlling larger rivers and irrigation systems. Irrigation and River Control Committee has been constituted under these Regulations. Application has to be given to obtain the services from the irrigation system developed by the Government and Users' Group. The applicant can be allowed to receive such services acquiring prescribed charges and such services can be suspended in case of failing to pay such charges on the part of the consumer.

b) Water Resources Regulations, 1993 (2050)

These Regulations have established Users' Group for the purpose of utilizing the water resources. Any Group willing to utilize water resources has to formulate a Users' Group consisting of at least seven members. This Group has to apply in the District Water Resources Committee for registration. If satisfied, this Committee shall register such Group and issue the Certificate of Registration.

The District Water Resources Committee has been constituted under these Regulations for the purpose of effective utilization of the water resources of the District. Anyone willing to conduct water resources utilization survey has to acquire permission from this Committee. Water Resources Inquiry Committee has been formulated for the purpose of settling the disputes arising during the process of utilization of water resources. Any license-holder selling the services of the use of water resources has to pay prescribed charges to the Government under these Regulations.

c) Drinking Water Regulations, 1998 (2055)

Any individuals to be benefited by development and operation of any project for common benefits may constitute a Users' Group under these Regulations. There should be 9 members at least 2 females in the Group. Application for the purpose of registering such Group should be given to the District Water Resources Committee constituted under Water Resources Regulations, 1993.

Rights over the water resources up to the amount as specified in the permission given to the Users' Group shall vest to such Group under these Regulations. Further, permission has to

be acquired for conducting any kind of survey of water resources according to these Rules. Any individuals willing to utilize the water resources have to obtain license from the Committee. Such individuals have the right over the water resources up to the amount as permitted in the license. The license-holder shall pay the Government Rs. 50,000.00 each year for the utilization of water resources.

The Resource Utilization Dispute Settlement Committee has been formulated under these Regulations to settle the disputes arising out in the process of the utilization of water resources projects developed and operated by the Users 'Group. Affected party shall have a right to sue in this Committee. The water quality standard fixed by the Government has to be maintained in the water supplied to the consumers. Water supplier shall not create adverse environmental impacts and pollute any resources while constructing any structures or carrying out any other activities.
The consumers willing to obtain water supply service have to apply to the supplier. In certain conditions, such as failing to pay service charges, violating the terms of water supply agreement and in case of destruction of the structure or the water to be supplied becomes polluted; water supply services can be suspended.

d) Electricity Regulations, 1993, (2050)

Any individuals or institutions willing to conduct survey of the production of electricity shall acquire permission under these Rules. The information of production, survey, transmission and distribution of electricity from 100 to 1000KW (which is exempted to obtain license) has to be supplied to the Secretary of the Ministry of Water Resources through Electricity Development Department. Likewise, any individuals or institutions willing to produce, transmit and distribute electricity have to obtain license from the Government. Any individuals or institutions willing to acquire the electricity service shall apply under these Regulations in a prescribe form.

e) Electricity Tariffs Fixation Regulations, 1993 (2050)

Electricity Tariff Fixation Commission has been formulated under these Rules in the Chairmanship of Individual from non-Governmental sector as appointed by the Government. The main responsibility of this Commission is to fix and review the electricity tariff and other relevant charges. Procedures fixing such tariff have been established in these Rules. License-holder has to apply in the Commission for the purpose of causing the tariff fixed of the electricity supplied to the electricity consumer.

f) Soil and Watershed Conservation Regulations, 1985 (2042)

These Rules have entrusted the Watershed Conservation Officer the duty to write the Department boundary and the area of the Protected Watershed Area to be declared by the Government after conducting necessary enquiry, survey and study and obtaining the recommendation of the District Soil and Watershed Conservation Committee for the declaration of Protected Watershed Area. The land within the Conservation Area should be cultivated in accordance with the land using planning. Watershed Conservation Officer has further responsibility to declare certain area of the conservation area as natural disaster vulnerable area and coordinate between the authorities working in the watershed conservation sector.

g) Local Self-Governance Regulations, 1999(2056)

The Village Council may formulate the Water and Land Committee in the Chairmanship of any member of the Council under these rules. This Committee can play a pivotal role in the water resource management in the local level. These Regulations have entrusted a duty to the Village Development Committee that it has to show the status of rivers, lakes, cannels, ditches, drainage, water resources, and other resources while preparing resources map of the VDC area. There is similar provision to be applied to the Municipalities and District Development Committee in these Rules. Local bodies can charge Rs. 1,000.00 in case of VDC and Rs. 2,000.00 to 10,000.00 in case of Municipalities for the use of water and other natural resources of the respective area as per these Regulations.

h) Environment Protection Regulations, 1997 (2057)

Under these Regulations, the Environmental Impact Assessment has to be made before starting any project using water resources, energy, drinking water projects and solid waste management projects operating in a mode prescribed in Schedule 3 of these Regulations. These Rules have granted the Government to declare Environment Protected Area. No one is allowed to use current and any other harmful materials in the rivers, streams, seasonal rivers, ponds, lakes and other resources of waters of such Area. Under these Rules no one is allowed to discharge wastage beyond the standards as prescribed by the Government.

i) Pesticides Regulations, 1993 (2050)

Any individuals of institutions willing to register any kinds of pesticides has to apply to Pesticide Registrar and the Registrar may allow registration after conducting necessary inquiry whether it has any impact on environment or human or animals lives. The Registrar may reject to register such pesticides which create adverse impact on environment and human and animal lives. Professionals spreading pesticides has obtain license under these Regulations. As use of pesticides have direct impact on water resources, these provisions are significant in integrated water resource management.

j) Solid Waste (Management and Resource Mobilization) Regulations 1990 (2046)

The Solid Waste Management or Resource Mobilization Center established under Section 2.1 of the Solid Waste (Management and Resource Mobilization) Act, 1988 have been entrusted to provide necessary service to any commercial, industrial, religious or social institution or any foreign or diplomatic commission or any other individual in managing solid waste under these Regulations. As such any water resources projects may obtain such service and maintain the water resource clean. This Center has further duty to duty to remove harmful, polluted or causing to spread mass disease discharged by any individuals, authority, commercial or industrial enterprise in the process of their daily transactions or activities on their request. The Center is empowered to charge necessary service charge in this process. It has also responsibility to coordinate the local people conducting sanitation activities in their respective local areas.

C. Policies

a) Irrigation Policy 1992 (Revised-1997) and New Irrigation Policy, 2003

Against the backdrop of so many years of planned development and achievement in irrigation sector in terms of hectare and skilled manpower, the elected Government, immediately after the restoration of multi-party democracy in 1990, felt that it had to streamline the efforts in irrigation development, which prompted the Government formulate and declare its Irrigation Policy in 1992. The policy had

objectives of cost -effectiveness and sustainability, uniformity in implementation procedure, reduction of Government's involvement, preserving traditional irrigation methods, institutional reform, and research capability enhancement. The 1992 policy was amended in 1997 with emphasis on rehabilitation of FMISs and additional objectives of reducing Government's recurrent cost in irrigation and maintaining regional balance. Thus for the first time in 1997, an irrigation related official document explicitly declared regional balance as one of its objectives. However, irrigation development planned henceforth has not taken this objective into consideration except that small irrigation development programs in sector approach have planned and implemented on demand that covered every district of the country.

There seems a great departure in the new Irrigation Policy, 2003, that has been formulated and put in effect from the earlier ones. Year round irrigation with storage schemes, integrated water resources management with other sub-sectors and involvement of local bodies according to the decentralization policy have been stressed in the prevailing irrigation policy. Thus, the prevailing policy clearly depicts a realization of all involved in the development of the sub -sector that utilization of perennial source including multi-purpose storage schemes has to be resorted to, if cropping intensity in irrigated agriculture is to be increased with year round irrigation. The present policy has come out of the realization that, particularly in the surface irrigation, if irrigated cropping intensity is to be increased or year round irrigation is to be provided, the erstwhile strategy of taking up periodic streams, which carry virtually no water in dry season and carry more sediments than water in monsoon flash floods, has to be altered.

b) Hydropower Development Policy-2001

The Hydropower Development Policy, 2001 aims at propelling the economic growth and prosperity of the country by providing electricity at low cost and supplying to the people at reasonable prices through the optimal utilization of the available hydropower resources of the country. It pledges to integrate electrification with economic activities and to develop hydroelectricity to meet the domestic demand with due emphasis on rural electrification and export of surplus energy.

Hydropower Development Policy, 2049 also provides for the private development of hydropower for the internal energy needs as well as for bulk export and places the licensing requirement for the development of a project. The major objectives of the policy include the following

- Supply electricity as per the demand of the people in urban and rural areas;
- Enhance the development of hydropower to meet energy needs required for industrial and agricultural development;
- Motivate national and foreign private sector investment;
- Assist in the conservation of environment by supplying clean energy through hydro- electric power.

c) National Water Supply Sector Policy 1998

This policy is comprehensive and embraces multifarious aspects relating to the drinking water supply sub-sector. It recognizes fresh water as limited and finite, and advocates demand management alongside supply management. It underlines the need for integrating "drinking water supply as a component of other water resources development projects whenever feasible".

An important feature of this policy is its approach towards " a shift from the traditional role of GON as a provider or implementer to a supporter or facilitator " in water supply and sanitation projects. It states: " The user groups and the local authorities shall be made fully responsible in the process of project formulation and operation/maintenance of the services." Four kinds of institutions are envisaged for this task, (i) municipality department operation, (ii) utility owned and managed by users' committees, (iii) independent public sector corporation and (iv) management contracts of whole or part of the utility functions to be handed out to a private enterprise. On the gender aspect, the policy

advocates encouraging women's participation in all aspects of water supply planning, management, installation, operation and maintenance.

Cost recovery is another significant feature of the NWSS Policy. With due attention to social aspects, the policy states: "The tariff policy for urban water supply systems should incorporate adequate cost recovery based on differential consumption which also provides a life-line rate for low income households with low consumption and a penalty rate for excessive consumption." With respect to rural water supply and sanitation projects, the policy is just "to raise sufficient water charges from users in order to meet O & M expenses". Capital cost recovery is not mentioned.

The policy envisages "private sector participation in water supply and sanitation development and management through provision of mutual public / private incentives within an appropriate legislative framework." Establishment of an independent Utility Commission / Tariff Board is also contemplated for price regulation.

d) Agriculture Perspective Plan (APP) -1995

The 1995 ADB-sponsored 20-year Nepal Agricultural Perspective Plan (APP) has identified irrigation as the key input for agricultural development taking into consideration a large still undeveloped potential of the irrigation sub -sector.

As agreed and approved by GON, the APP has, in its strategy for a growth, given first priority in accelerating the agricultural growth from 3% to 5% per annum through concentrated investment in four input priorities out of which irrigation is the foremost. In the hills and mountains, surface irrigation is emphasized to utilize all the potentialities of streams to double the year round irrigation area. For the Terai, in addition to rehabilitation and effective use of existing surface irrigation schemes, new groundwater schemes mainly shallow tube wells (STWs) are considered vital for the first half of the plan period (1995-2015). In the plan, management goal of the irrigation efforts is to expand farmer ownership and operation. Nearly all the schemes presently under agency management should become either farmer managed for small and medium and convert into joint management for the large systems by the end of the period. The APP has proposed to enhance agricultural growth by 2% (from 3% to 5%) per annum thus reducing the rural poor to 30% by the end of the two-decade plan period.

The integrated and coordinated programs that are spelt out in the APP are not seriously taken up for action; and it is being reviewed at present. GON has also formulated new Agriculture Policy- 2004, which has recognized the role of APP in directing development of the agricultural sector to only to a limited extent. The policy has a long-term vision of improving living standard of people through transforming subsistence agricultural system to commercial and competitive one.

e) Water Resources Strategy-2002

In 2002, GON formulated a national strategy for the development of water resources sector with a goal of “living conditions of Nepali people are significantly improved in a sustainable manner”. The WRS itself was prepared following a rigorous process of identifying first the issues in different subsectors and setting objectively verifiable targets for short-term (up to 2007), medium -term (up to 2017) and long-term (up to 2027). Several strategies have then been adopted to achieve these different sub-sectoral targets. Another noteworthy feature of the WRS is that it assumes Integrated Water Resources Management (IWRM) as the approach to the development of sector.

Policy principles that were used to guide Nepal’s water sector during development of the Water Resources Strategy include:

- Development and management of water resources shall be undertaken in a holistic and systematic manner, relying on Integrated Water Resources Management;

- Water utilization shall be sustainable to ensure conservation of the resource and protection of the environment. Each river basin system shall be managed holistically;
- Delivery of water services shall be decentralized in a manner that involves autonomous and accountable agencies (e.g., public, private, community and user-based agencies);
- Economic efficiency and social equity shall guide water resource development and management;
- Participation of and consultation with all the stakeholders shall constitute the basis of water sector development;
- Sharing of water resource benefits among the riparian countries shall be on an equitable basis for mutual benefit;
- Institutional and legal frameworks for coordination and transparency shall be an essential feature of water sector management; and
- Wider adoption of the best existing technologies and practices, and rapid innovation and adaptation of both institutional arrangements and new technologies, shall be ensured.

Though the Government approved the WRS from the cabinet, it has never been used to address the issues in its subsequent plans. The tragedy is that the Government has neither owned this document nor disowned. The subsequent Governments are busy in the preparation of new action plans particularly in the field of hydropower sector. The 10,000MW in 10 years plan introduced in 2008, and 25000 MW in 20 years introduced one year later in 2009 are among the few plans which are not mentioned in the WRS.

f) National Water Plan (NWP), 2005

The NWP is basically the set of activities (programs and projects) that are being or will be implemented to achieve the strategic targets. It was prepared to operationalize the Water Sector strategy of Nepal approved by the Government in January 2002. The Water Plan includes programs in all strategically identified output activities so that all these programs, in consonance with each other will contribute in maximizing the sustainable benefits of water use.

The broad objective of the NWP is to contribute in a balanced manner to the overall national goals of economic development, poverty alleviation, food securities, public health and safety, decent standards of living for the people, and protection of the natural environment.

The NWP is a framework plan to guide, in an integrated and comprehensive manner, all stakeholders for developing and managing water resources and water services. The NWP has developed a set of specific short, medium and long term action plan for the water sector including program and project activities, investments and institutional aspects. Like the WRS, the NWP also has been jeopardized by the Government with the announcement of new plans like the 10,000MW in 10 years and 25,000 MW in 20 years which have come merely as political slogans without any concrete financing plans.

As the National Water Plan has adopted the concept of integrated river basin management therefore, Prevailing laws need to be molded in the same fashion in regard to implementation, the issue of water right at the level of individual and public and private institutions. Present institutional mechanism at the district and village level would not be workable or sufficient.

CHAPTER II

5. OWNERSHIP OF WATER IN NEPALESE LEGISLATION

The Water Resources Act, 1992 (2049 BS) (WRA) is an umbrella legislation on development and conservation of water resources in Nepal. The Act authorizes the Government to frame regulation on different uses of water such as drinking water, irrigation, ground, and so on. So far as the generation of hydropower is concerned, a separate legislation (Electricity Act, 1992) has been promulgated. Section 9 of the WRA stipulates that:

" (1) Notwithstanding anything written in Section 8, the license relation to the survey of water resources and its utilization for the generation of hydroelectricity shall be governed by prevailing laws.

(2) The provisions of this Act, however, will apply so far as matters relating to the use of water resources other than generation of hydro-electricity are concerned."

This provision has given way to Electricity Act a special application with respect to the uses of water resources in the generation of hydro-electricity.

The WRA has endowed the ownership and control of water resources in the State. The Act vests the ownership of water resources available in Nepal. According to Section 3 of this Act:

"The ownership of water resources available in Nepal shall vest in Nepal."

Under this Act, the Government is empowered to allocate water for different uses and resolve issues related with uses. The terminology "water resources" is quite broad and includes surface water, groundwater or water in whatsoever form. Under Section (2)(a) of WRA water resources has been defined as:

"'Water resources' means water that is available in Nepal in the form of surface water, underground water or in whatsoever form."

The definition of water resources is quite broad and includes atmospheric water as well. It would, therefore, include water collected from the fog with the help of a screen to trap the water particles of the atmosphere.

The National Code 1853 (Muluki Ain 1910 BS) does not specifically address the issue of "ownership" of water. Unlike the statutory law, which is based on ownership principle, the National Code is based on religious scriptures. It does not talk about "rights". It is said that rights is western, and the more accurate term here is duty or dharma. Water rights would differ according to the meanings attached to water, and the sources and uses of water.[26] However, in the classical Sanskrit texts, the king has been considered as the ultimate owner or lord of all resources including water and the subjects had use rights over water for use of water for domestic or religious purposes. The chapter on Land Cultivation of the National Code confers the right to use water whosoever is in the first. The basic principle is prior appropriation. But on the other hand the National Code also seems to flavor a landholder who has land upstream. A person on the downstream will have a right to use water resources only after the need of the upstream user is satisfied. Section 1 of Chapter on Land Cultivation of The National Code provides that:

"No person shall get water unless the person who has constructed the ditch (kulo) with his money or by his labor gets water first.

[26] Pradhan et al., 1997 and 2000

Where water is shared traditionally, it should be maintained as per the share agreed upon previously.

After the upstream field is filled with water, the owner of the field further downstream may take water to his field. In case any obstruction is caused to the upstream landholder, the person next to him may take water and plant rice. Later, the upstream landholder may take water and plant the rice.

A new system of ditch may be constructed in the upstream provided it will not diminish water for the existing use downstream."

If seems from the above provisions that a right to construct an irrigation system is granted to all the riparian owners of land. But the guiding principle is "first-come first served". Consequently, Prior appropriation has held a strong position.

As water became scarce with the growth in population, shortcomings of prior appropriation became increasingly apparent. It made no provision for in-stream, non consumptive uses of water and was inherently wasteful. The common practice has been to apply for the maximum usable quantity, whether actually needed or not. It also relies heavily on prevailing community methods of water use and provides little or no incentive for the introduction of new techniques and better distribution. This seems to be the rationale behind the promulgation of WRA. The WRA, however, has also recognized the right of an individual or the community to use water for drinking or irrigation purposes on individual or collective bases. A license is required for the use of water resources. Under Section 5 of the WRA the following uses of water resources exempted from obtaining license:

"Notwithstanding anything written in sub-section (1), no license shall be required for the following uses of water resources:

i. For one's own drinking and other domestic use on an individual or collective basis,
ii. For the irrigation of one's own land on an individual or collective bases,
iii. For the purpose of running water-mill or water-grinder as cottage industry.
iv. For the use of boat on personal basis for local transportation,
v. For the use, as prescribed, of the water resources confined to a land by the owner of such land."

In spite of an individual's right to use water under customary law, the WRA does not recognize the notion of the "private water". However, the notion of the "private water" is specifically recognized by a separate legislation. The Aquatic Lives Protection Act, 1961 recognizes an individual's right own water confined to his or her land that is , in the lake, a pond or a reservoir. The terms "water" and "private water" has been defined in 2 (a) and (d) of this Act as follows:

"(a) "Water" would include waters of lake, pond, seasonal streams, streams, river, water channel, canal, reservoir, manmade reservoir, swamps, water in the cage and water in the paddy field fro rearing fish, and would also include their sources.

(d) "Private water" means lakes, manmade ponds or reservoirs that exist in the land within the ownership and possession of a person, and has been paying land revenue to the Government."

It means that an individual is free to store, collect and own water in one's own land. The way water has been defined in the above provision that seems to include the sources of water. The definition is very broad and directly contradicts with the provision of the WRA, which vests all water in the State.

Apart from the above -mentioned legal instruments that bear directly with the issue of ownership and control of water, the Local Self-Governance Act, 1999 also empowers the local Government bodies within their respective territorial jurisdictions to own and manage assets, properties and natural resources. The objective of this Act is to empower the local bodies (Government) by providing them with responsibility and authority necessary to formulate as well as implementing the plans. The Act provides that Village Development Committee or the Municipality shall have the full title over the property and natural resources within their respective jurisdictions. The Section 68 of this Act provides as:

"(1) The Village Development Committee shall have the full title over the following properties situated within the village development area, and the Village Development Committee shall have to supervise, repair, maintain and manage such properties:
…….
(d) Natural Resources.

(2) The Village Development shall not be allowed to sell and dispose off or otherwise relinquish its title and possession on the properties as referred to in sub-section (1) without the approval of the Government…"

Similar authority has been given to the Municipalities in their respective jurisdictions (Section 134, LSGA). This Act has not defined the term natural resources but it would certainly include water resources.

This Act also provides the local bodies with power to levy taxes on commercial exploitation of natural resources. Financial authority of local bodies under Section 55 of this Act is as follows:

"The Village Development Committee may levy taxes as follows in its area at the rate approved by the Village Council, not exceeding the prescribed rate:

(j) Tax to be levied for commercial exploitation of natural resources and heritage within the Village Development area."

These provisions seem to imply that the local bodies have some kind of ownership rights over water resources within the territorial jurisdictions of such local bodies. These conflicting and contradictory provisions have left the issue of ownership far from settled. Under these circumstances recourse to the provision of the National Code will help clarify the legal issue under consideration. Part I of the National Code (Introductory Provision, Law No. 1) provides that whenever there is difficulty in regard to precedence of one law over the other recourse would be made to the provision of the National Code which says that specific law will prevail over the general law of the Muluki Ain. The relevant provision goes like this:

"Where specific law has been promulgated provisions of such laws take precedence over the National Code. In the absence of specific laws, the provisions of the National Code will apply."

As the WRA being the specific law on the subject of water resources it can be fairly assumed that ownership rights is essentially vested in the State. Similarly, the LSGA is also a specific law on the authority and responsibilities of local Government body, if can also be argued that the law will take precedence over the WRA. In view of these contradictory provisions of law it is difficult to say that which law takes precedence.

CHAPTER III

6. WATER RIGHTS IN NEPAL

A. Water and Property Rights

Property rights define relationships among persons depending on the bundles of rights that people hold. Schlarger and Ostram defined five types of distinct rights that may be bundled together in a variety of ways.[27] Those rights include:

- Access: The authority to enter a resource,
- Withdrawal: The authority to withdraw units from a resource,
- Management: The authority to make decisions about how theresource is to be used,
- Exclusion: The authority to decide who may enter the resource,
- Transfer: The authority to sell, lease or bequeath the resources,

Schlager and Ostrom classify the first two rights and the remaining three rights as collective choice rights. Holders of the first two rights have the authority to access and make use of the resource, but do not have the authority to make decisions about who can access or how use is to be constrained. Holders of the last three rights exercise considerable decisions making authority about how the resource is to be used and managed, who may enter the resource, and even whether the resource should be sold or lease. Thus, the more complete bundle of rights that people hold, the greater is their authority, compared to others who do not hold such rights, to make decisions on a resource.

The rights of access, withdrawal, management, exclusion and transfer are roughly cumulative. The right of withdrawal implies a right of access. In order to make use of a resource one must be able to access it. The right of management implies rights of access and withdrawal, that is, how the resource is to be used. A complete set of rights is commonly thought as private property rights. The holder of a complete set of rights in relation to a resource exercises considerable over it in relation to others. The holder of a complete set of rights possesses the authority to define rights of access and rights of withdrawal as well as the authority to transfer portions of or all of the rights to someone else. Approaching property as consisting of bundles of rights raises several critical issues. First, in any given setting, or in relation to any given resource such as water, multiple burdens of property rights systems are likely to be defined and exercised. Property rights systems for surface water are different from those that govern ground water. Native surface flows are treated differently that water used by down riparian and produced by large diversion and impoundment projects. Groundwater is treated differently depending on location and happenstance. According to National Code overlaying landowners are treated as primary holders of correlative rights and each is entitled to a reasonable proportion of the water supply in priority order. Appropriative rights exist alongside overlying rights. Appropriative rights are based on a seniority system. Between overlying landowners and appropriators, the prior have the superior right to water and appropriators are allowed to access and withdrawal any surplus water.

In general, overlying correlative and appropriative rights do not limit the amount of water pumped from a basin and water users can find them in pumping race in the Terai. There are very few instrument for ground water governing in Nepal. In such case such customary laws should be given legal flavor.

In some cases, water users have negotiated water allocations among themselves like a case in Pawati VDC of Dolakha District where they settle the disputes between the right of the appropriators and the owner of the water resources. But this process is overburdened by the strong controls of the feudal. The poorer the population the least is the bargaining power in such negotiation process. Lam in a study of over hundred irrigation systems in Nepal found that farmer governed irrigation systems

[27] Schlarger and Ostram (1992)

performed better than Government managed irrigation system.[28] Farmers exercised their rights of exclusion and their rights of management much more carefully that did access to irrigation systems in order to better match the capacity of the system with the land brought water irrigation, and devised water allocating rules than better matched the circumstances that Government officials.

There cannot be single optimal property rights for covering resources, concludes Ostram (1999). Most resources, and the physical, Institutional and cultural setting in which they are embedded are too complex to admit of a single optimal form of governance. Instead, according to him, if resources are to be governed well, property rights and how they are exercised must be carefully matched to the resource setting. That is much more likely to occur if resources users share in the governance of the resources, if they are allowed to exercise rights of management and exclusion and design rules of use and access. In addition to holding more complete bundles of property rights, resources users must have access to conflict resolution mechanisms to settle differences that arise as many people exercise rights of access, withdrawal, management and exclusion. Particularly, the Government must respect the resources users' rights. Customary rights are viewed as anti-democratic that communities should be governed by open, constitutional policies and that legislation should be openly discussed and determined.

B. Right to Water in Nepal

Right to water can be understood as the claim of the individuals or communities to utilize water in their respective uses. Since the ownership of water is vested in the State, individuals or communities have only the right to use water available in the country. The state laws also regulate even such rights. Anyone who is willing to use water resources is required to obtain license from the State, which regulates the mode of use of the water resources. WRA, however, recognizes an individual's right to use water resources acquired through years of usage. It is not required to go through a process of licensing. Domestic use, irrigation of one's own land on an individual basis or on a collective basis, or running water mills is allowed without going through a process of licensing.

Where the water has not been put to use in the past, individuals or the community will have to go through a process of licensing in order to avail the right to use water resources. The regulatory provisions of state law with respect to right to use water can be divided into two parts which is discussed as under:

a. Customary Law

The old-aged or the customary right to use water has been accorded a status of legal rights under the National Code. WRA has also protected this right under Section 4. The characteristic of this right is such that it does not limit the quantity of water entitled to use. Such a right also did not have any time limit. Thus right to use water was for ever.

b. Modern Law

Under modern water resources laws, Government is empowered to allocate water rights, and to license and control usage. The rights of the riparian have been substantially altered in favor of Government regulation. In this direction Section 4(1) of WRA reads as under:

"(1) No one is allowed to use water resources without acquiring license under this Act." If one has acquired the license, right to water resources of such license-holder has been established in different state Rules. Rule 22 of the Water Resource Rules has stipulated as follows:

[28] Lam (1998)

"Any person who has obtained license to operate the activities of water resources use under these Rules shall have right to use such water resources limiting the water resources of the area and location as prescribed in the conditions of the license for the permitted purposes."

Concerning right to drinking water, Drinking Water Rules has recognized certain rights to the water resources user who has obtained license under these Rules. Rule 8 of these Rules is related in this connection:

"(1) After the Users' Group is registered pursuant to Rule 6 of these Rules, such Group shall have right to use water resources limited to the amount as prescribed.

(2) In case if any drinking water project developed by the Government has already been handed over to the Users' Group pursuant to Section 11 of the Drinking Water Act before the commencement of these Rules, right to use such water resources of such Users' Group up to the amount as permitted shall remain in such Users' Group."

Similarly Rule 18 of these Rules states that:

"Individual who has obtained license to use water resources under Rule 14 of these Rules shall have right to use water resources limited to the amount as prescribed in the permission."

This new approach of administrative control in the management of water resources is in fact a result of worldwide development, which began in earnest after World War II under the impact of growing demand of water. Permit or license in mandatory for commercial and industrial use and these rights are transferable too. This has made possible for the Government to manage the country's water resources more effectively. Under this WRA, the riparian landowners are required to apply for license fro it use except for domestic use as mentioned above. Exceptions have been made for one's own drinking water or irrigation for one's own land on an individual or on a collective basis as stated in the preceding Chapter.

There are certain other legislations, which grant water rights to special purpose bodies or as an incident of regulated activities. These include special purpose activities such as granting license for water rafting and collection of license fees, and restriction of access to a stream or closing the stream altogether for the general public within national forests for development and conservation of the forest.

WRA stipulates that water resources users using the water resources prior to the commencement of Act are also required to get license under this Act. Section 8(3) of this Act provides as under:

"(3) Except the implication of Section 4 (2) of this Act, individuals or organized body utilizing the water resources prior to the commencement of this Act shall also apply to the designated authority with prescribed descriptions within one year of the commencement of this Act for the purpose of obtaining license." This Act came into effect in August 1993 (Bhadra 1, 2050).

Even though this Act is an umbrella Act it does not include the integrated management concept in it. However, it requires a person or an organized body to use water without causing damage to other. Section 4 (3) is related in this connection:

"(3) Individuals or organized body using the water resources shall use the water resources beneficially without causing any damage to others."

In such manner this Act emphasizes for beneficial use of water taking consideration of other uses.

C. Integrated Use of Water

The WRA has provided for the general order of priority in the utilization of the resource. While utilizing water resources a certain order of priority must be followed. Section 7(1) of the WRA stipulates that:

"Generally following priority orders shall be followed while utilizing water resources:

(a) Drinking water and domestic uses,
(b) Irrigation,
(c) Agricultural uses such as animal husbandry and fisheries,
(d) Hydroelectricity,
(e) Cottage industry, industrial enterprises and mining uses,
(f) Navigation,
(g) Recreational uses, and
(h) Other uses."

In case if any dispute arises while utilizing the water resources, designated Committee shall determine whether the utilization is legitimate or not on the basis of the priority orders as fixed in Section 7(1) and beneficial use of water resources as directed under Section 4(3) of this Act. The determination of the Committee shall be binding to all the users of water resources in dispute.

Under Drinking Water Rules the water supplier shall give due consideration to certain facts while distributing the drinking water. Rule 29(1) reads as under:

"Water supplier while providing services shall base on following subject -matters:
(a) Geographical structure,
(b) Population,
(c) Quantity of waters available in the source,
(d) Capacity of the structure, and
(e) Other Technical factors."

Similarly, Rule 30 of these Rules states that:
"Water supplier shall give priority to the following Consumers to provide services subject to Section 29(1):

(a) Health Post, Orphanage, Old-age-home or Social Organization,
(b) Temporary shelters created due to natural disasters such as flood, fire, mass infectious disease, or similar kinds of other disasters,
(c) School, Hostel, Police Post, Governmental, Semi-Governmental or Non-Governmental Offices or the Quarters of the employees working in such offices,
(d) Residential Houses of the General Public,
(e) Very important construction works of public interest,
(f) If in case of industry or factory, workers of such industry or factory.

Under these Rules, the water supplier is required to obtain necessary concurrence from respective Village Development Committee, Municipality or District Drinking Water Office and the District Water Resources Committee while fixing priorities other than prescribed above.

CHAPTER IV

7. PRIORITY ON WATER USES IN NEPAL

Priority on water uses in Nepal is based on beneficial uses is considered as appropriation, distribution, utilization and conservation of water and legitimate way of controlling it. Nowadays there is a growing debate on how to manage water resources in an efficient, productive and equitable way and learn from past experience for a better future.

Section 2(b) of the WRA has defined the term "Beneficial Uses" as (b) *"Beneficial Uses" means rational utilization of water resources within the available means and resources"*

Rational use or optimum use, therefore, is not to be interpreted solely in the light of technical possibilities of the resource alone. It is conditional, and should be seen in the context of available means for its development.

A person or an organized body willing to utilize the water resources in required obtaining license. No one is allowed to utilize the resource without first obtaining license under WRA. However, there are some exceptions, such as domestic use of water, irrational use on an individual or collective basis, and running water mill in which case a license is not needed as stated in preceding Chapters. But one is required to use the resource in a beneficial way with out causing harm to other. Any dispute arising out of its utilization needs to be resolved on the basis of water the use is beneficial. The Water Resources Rules provides for the establishment of a Water Resource Utilization Investigation Committee for resolving the disputes raised thereof. Furthermore, if a particular use is found to be not with priority order set by the Act, or is harmful to the local people, the Committee may decide whether such use is beneficial or not. While deciding upon the case, the Committee may also specify the manner of its utilization, or prescribe conditions of utilization.

Classification of water uses could be divided as following:

A. Domestic Use

Drinking water for domestic use is free from the state regulation under WRA. Riparian landowners may make use of the water that flow through their land as incident to property. Use of water on an institutional basis for collective benefits of riparian or non-riparian landowners, however, is subject to regulation and requires a license. For this purpose the WRA has provisions for constitution of Water users' Group . Such a Group functions as a corporate body and has all the rights as to a natural person. Section 5 of the WRA has provided for the establishment of Users' Group as under.

"(1) Individuals willing to utilize water resources for collective benefit in institutional basis may constitute Water Users' Group

(2) Water Users' Group pursuant to Sub-Section (1) shall be registered in the designated officer or authority in a prescribed manner.

The registering authority has been designated in the Water Resources as willing to constitute shall apply to the Authority Complying the following particulars as per Rules 5 of the Water Resources Rules:

(a) Full name and address,
(b) Objectives and scope,
(c) Qualification for the membership and membership fee,
(d) Dismissal and resignation of the members
(e) Claim on and transfer of title or nomination of titleholder,
(f) Regarding General Meeting,

(g) Formulation of Board of Directors (election and power, duties and functions)
(h) Conditions to remain in the post of Board of Directors,
(i) Procedures of the meeting of Board of Directors,
(j) Fund and audit,
(k) Amendment in the Constitution,
(l) Winding up,
(m) Miscellaneous

Upon Submission of the application the District Water Resources Committee satisfied issues the Certificate of Registration under Rule 6.

One the absence of specific regulation with regard to the use of groundwater, people are free to extract groundwater, and there is no limit of depth one can go or amount of water one can pump.

The responsibility of providing public water services for drinking purpose rests on several agencies including the local bodies. KUKL, a public company, has been vested with the responsibility of supplying water for domestic use in selected urban areas. In other areas or the country including the rural areas, the Department of Drinking Water Supply and Sewerage is responsible for providing the service to the public. Such a service can be provided through Water Users' Group (The Group) constituted under the WRA and Water Resources Rules. The Group is required to take license for supplying water to the consumers. The license provides The Group with a right over the quantity of water mentioned in the license. Consumers are required to apply for water supply service. They have to pay charges for the service and should refrain from doing harm to the system or avail service on an unauthorized manner.

However, in the rural areas, the local Government bodies may provide the service of water supply to the public. The Village Development Committee (VDC) in the rural areas and municipalities in the urban areas have the authority to plan, construct and operate water supply systems. Similarly, the District Developments (DDC), (a district level local Government) have jurisdiction over water supply functions, duties and powers of the VDCs regarding drinking water have been prescribed follow:

"(1) In addition to the execution of the decisions and directions of the Village Council, VDC shall have following functions, duties and powers:

(b) Relating to village drinking Water supply:

(1) To operate and execute drinking water project required within the jurisdiction of the VDCs for meeting the local necessity of drinking water supply and preserve such project.
(2) To construct and protect well, pond and water-tap within the area of VDCs and
(3) To conserve the sources of the water resources within the area of VDCs."

Section 96(1) (b) and 189(1)(b) has endowed the similar powers, functions and duties to the Municipalities and DDCs respectively. But in connection to DDCs, they have power to formulate and execute the drinking water supply projects to the consumers of more than one VDC. the Local bodies, however, do not undertake construction activities themselves. Under Sections 28(2), 96(3) and 208, of the LSGA, these bodies are to encourage the Users' Groups or other non-Governmental organizations to operate, organize, supply and construct water supply system within the VDC area.

B. Irrigation Use

The ownership of water lies with the State, so no person is allowed to utilize water without the license term WRA. However, certain exceptions are allowed by; the WRA where riparian landowners are free to take water for irrigation individually or on a collective basis. They are not required permission or license to their farming needs. They can use the water where passes through their land

as an incident to the property. But license is required for use of water by non-riparian landowners collectively or on institutional basis. The WRA has provisions Water Users' Group (WUGs) to prove water for irrigation to the benefits of the farmers. A separate Irrigation Rules, 2000, have been formulated under the authority of WRA to regulate the irrigation system in Nepal. These Rules States the formulation of the Water Users' Group, which enjoys all rights of a legal personality as a corporate body. The WUG is required to obtain license or permit for withdrawing the Public water to supplying to the consumers. Under Rule 5(1) of the Irrigation Rules, the WIG shall have following function, duties and powers:

a. "To maintain, operate and manage the irrigation system operated by it. Provided that if in case it requires change or replacement or some parts or equipments that affect the structure, the WRG shall obtain prior approval from concerned Irrigation Office.
b. To make the water available to farmers in time and quantity as required by the type of crop and condition of the land,
c. To keep record of the land where service could not be availed and to recommend for the exemption of charges as payable by the consumers of such land,
d To supply water to new users without causing impact on the previous users receiving the service,
e. To mobilize the public participation for the maintenance of the irrigation system, and
f. To construct additional structure to increase the irrigation area considering the amount of water available.

In addition to the above functions and powers of the WUG as state above, Section 5(2) and (3) further provide that:

"(1) While repairing and maintaining the structures if the WRG requires technical constancy, it may request to the concerned Irrigation Office and if such request is made, the concerned Irrigation office shall provide necessary technical constancy.

(3) WUG may delegate certain functions and powers to various sub-committees formed from among the users receiving the service."

The authority of registration of the WUG lies concurrently in two agencies under two different Rules incased under the WRA. The authority of registration under the Water Resources Rules, 1993 lies with the District Water Resources Committee, whereas, the same authority for to registration also lies with the District Irrigation Office under the Regulation Rules, 2000. The former is a coordination committee in the district level composed of representatives of various agencies in the district under the chairmanship of the Chief District Officer. The later agency is a regular Government body in the district under the Department of Irrigation.

Following the Government's policy of involving the users or the beneficiaries in the operation and management of irrigation facilities, the WRA created the provisions for giving such facilities to WUG, these Groups exercise authority for regulating the services which also include laying down procedures in applying for use of irrigation facilities by a person and conditions of such use. It can also stop water to consumer who has failed to pay service charge or has failed to fulfill the conditions of agreement between the consumer and the WUG a mentioned in Rules 18 to 23 of Irrigation Rules.

Similar functions of supplying irrigation water, among others, also lies with the local Government bodies at the local level. These Local bodies are also required to utilize consumer committees (EIG) for construction and operation of the facilities. Rules 70 and 71 of The Local Bodies (Financial Administration) Rules 1999 provide a detailed mechanism and procedures with respect to the works to be carried out through the consumer committees along with the function and powers.

C. Fishing

Fishing is regulated by; Aquatic Livers Protection Act, 1960, Local Self-Governance Act, 1999 and National Park and Wildlife Protection Act, 1972. The Aquatic Lives Protection Act prohibits fisher with the help of current explosives or any poisonous substances. Section 3 of the Act is particular on matter, which provides that "No one is allowed to use any kind of current, explosives or other poisonous substances in the water or surroundings of such water with the intention of catching or killing the aquatic lives living in the water. "Provided that notwithstanding anything contained in the above provision, the owner of private water is not prohibited to utilize other methods other than using poisonous substances to catch or kill the aquatic lives of the private water without hampering other aquatic lives."

The above restriction is limited to public water only. The restriction with regard to methods of fishing in the probate waters is less stringent. In the case of private water, the prohibition is limited to using poisonous substances. In addition to the above stated general rule, section 4 of the Act also empowers the Government to prohibit catching, killing or causing harm to certain species of aquatic lives by publishing notice in the Nepal Gazette. It empowers the Government to issue notice prohibiting in general or in particular season of catching, killing or causing harm to certain prescribed species or aquatic animals without the permit from the Government or local authority. However, fishing in private water is exempted from the above restrictions. Section 5(b) also require construction of domestic use or irrigation or any storing or diverting water for generating electricity, domestic use or irrigation or any other purpose. Where construction of fish ladder is not possible, a hatchery or aquatic nursery; should be established near the site for artificial reproduction of the designated species. Section 3(a) prohibits closing or dismantling fish ladder, or dam or any other structure established for the protection of aquatic lives. The Government as well as the local bodies are authorized to award contract for fishing communicably under section 7 to the Act.

The DDC in each or the seventy-five administrative districts and within its territorial jurisdiction has been authorized to issue license for catching fish in the river and impose amount of fees as approved by the District Council under Section 217 of LSGA. Section 218 entrusts DDC the power to sell sand, gravel and boulders from rivers within its jurisdiction.

National Parks and Wildlife Protection Act, 1972, govern regulation of fishing within the area for national park. The definition of "wildlife" mentioned in the Act includes fish, among other animals and birds. Section 2(f) of this Act defines "wildlife" as: "Wildlife" means and includes except domestic lives all mammals, birds, reptiles, fishes, amphibians, or insects and also eggs in case of hatching lives." The Act prohibits hunting including fishing without a license, and under the conditions and methods mentioned in the license.

Section 11 of this Act states;
"(1) No one as allowed to hunt wildlife without obtaining license."

One willing to obtain license shall apply to the designated authority in prescribe format. The manner and method of hunting shall be prescribed in the license issued to the applicant and the license-holder is required to follow such conditions while hunting including fishing in the National Park area.

D. Hydro-electricity

The Electricity Act, 1992 and Electricity Rules, 1993, govern generation of hydroelectricity. No person or corporate body, foreign national is allowed to conduct survey, generate, transmit and distribute electricity without the prior license under the Act. But license is not required for survey, transmission and distribution of the electricity up to 1000 KW of power. Section 3 of the Act provides that;

"No one is allowed to survey, generate, transmit or distribute electricity without obtaining license. Provided that no national person or organized body shall require obtaining such license

for the generation, transmission or distribution of the electricity up to 1000 KW power and conducting any survey required for the purpose. Before surveying, generating, transmitting or distributing electricity from 100KW to 1000 KW, a notice in the connection shall be served to the designated officer in a prescribed manner."

Individuals or organized body willing to survey, generate, transmit or distribute electricity from 100KW to 1000 KW should provide notice to the Secretary of the Ministry of Energy in the Connection Disclosing the following particulars (Rule 3 of the Electricity Rules, 1993):

"(a) Detail project report,
(b) Map of the project location (disclosing main structures of the project)
(c) Source and amount of the water to be utilized,
(d) Area of distributing electricity and number of consumers to be benefited from the project,
(e) Description of other previous utilization by any; other persons of water resources estimated to be utilized if any,
(f) Other necessary particulars."

Section 4 of the Act stipulates that issuance of license for the survey and generation of electricity above the stated amount. This Section reads as:

" (1) Individuals or organized body willing to survey, generate, transmit and distribute electricity shall apply to the designated officer along with economic, technical and environmental study report of the related subject, disclosing other prescribed particulars"

Other particulars have been prescribed in Rule 4, 5 and 6 of the Electricity Rules. Rule 4 states that individuals willing to apply for obtaining license for survey of the generation of electricity shall apply to the Secretary through District Development Center disclosing the following particular:

(a) Map of the project location (clearly disclosing the initial electricity plant, dam, water reservoir, cannel, tunnel., sub-station, transmission line, initial map of distribution area, village, city, historical places, ways etc. of the project area)
(b) The area and amount of water resources to be surveyed.
(c) Estimated cost and total duration to complete the project,
(d) Total joining capacity and annual production estimate of the project,
(e) Other necessary particulars.

Likewise any body willing to obtain license for survey of transmission of electricity shall disclose following particulars in the application to the Secretary as per Rule 5:

(a) Initial route map of the electricity transmission line (disclosing proposed main transmission additional line),
(b) Total length, of the transmission line, objectives and necessity,
(c/ Standard and capacity of the voltage to be used for the propose of transmission
(d) If in case transmitting wholly at once, maximum load of the electricity and kind of the consumers,
(e) Estimated cost for completing the transmission line and total duration (including survey and construction
(f) Other necessary particulars."

Applications for the license to distribute the electricity shall disclose the following particulars as stated in Rule 6 of the Electricity Rules:

(a) Map of the distribution area (clearing disclosing the geographical description of the area, existing distribution system, and initial map of the proposed distribution system)

(b Objective and necessity of the distribution system,
(c) Number and kinds of the consumers to be benefited by the distribution system,
(d) Point if selling and receiving electricity and other particulars relating to sale and distribution,
(e) Estimated cost for the construction of distribution line and total duration including survey and construction),
(f) Other necessary, particulars."

The Secretary of the Ministry after the receipt of the application may conduct through the Electricity Development Center an enquiry on the application and if satisfied issue the license of survey; to the applicant under Rule 7 and 8. Once the license for survey is issued, it may; be valid for a maximum period of five years in Section 5 of the Electricity Act.

Similarly in the application for acquiring license for generation, transmission and distribution of electricity the applicant has to disclose certain particulars as provided in Rules 12, 13 and 14 of the Electricity Rules.

According to Rules 12 of these Rules the applicant should disclose following particulars in the application to acquire license to generate electricity.

(a) Detail project report (clearly disclosing map of the project area, sources of the electricity to be generated, estimated cost and duration of completion of the project, name of the participant of the project and kinds of their participant, person or organized institution retaining ultimate ownership of the project and name and addresses of the board of directors of such institution etc.)
(b) If in case use of any minerals to generate the electricity, kinds of the minerals to be used, supply method and storage system of such minerals or agreements or memorandum of under standing or any other document if any in this regard,
(c) Feasibility analysis (technical prescription or economical analysis including detail map of the project, details of the costumes and consumers, estimated amount of the electricity to be distributed, descriptions of other transmission and distribution system existing in the ownership of any other individual or organized institution, if any to be used in the supply of the electricity),
(d) Financial Provision (Estimated financial provision of the project, economic status of the investors of the project, commitment of the financial institutions directly participating in the project, liability and share capital of the investors and percent of the interest,
(e) Utilization and acquisition of houses and lands (total amount of the Governmental or non-Governmental land required for permanent or temporary utilization or acquisition for the project and the record of the land owners
(f) Environment Impact Assessment (method to be applied for minimizing the considerable adverse impacts on environment to be created by the project, in addition to the social and economic impacts to be created by the project, training to be given to the local people in connection with existing local labor and maintenance, construction and operation provision or possible impact to be occurred to the respective landowners in the operation of the project, record of the people to be displaced and necessary; provisions for rehabilitation and resettlement of such population.
(g) Details of sale and purchase of the electricity 0agreement or memorandum of understanding or other documents, if any, relating to sale and purchase of electricity power to be generated from the project
(h) Details relating to supply, transportation and storage of the fuel (agreements or memorandum of understanding or any other documents, if any, relating to supply, transportation and storage of electricity or
(i) Other necessary particulars"

Likewise, Rule 13 of the Electricity Rules requires following particulars to be disclosed by the applicant applying to obtain license for transmission of the electricity:

(a) Detail project report (disclosing source of electricity to be transmitted, estimated cost and duration of completion of the project, name of the participants of the project and kinds of their participant, person or organized institution retaining ultimate ownership of the project and name and addresses of the board of directors of such institution etc).

(b) Rout -map of transmission line and sub -stations necessary for transmission, necessary right -of -way and ceiling line diagram,

(c) Standard of the transmission voltage, transmission capacity, quality of construction, size of the wire and duration in-between, kinds of high-tension and insulator and detail map of construction,

(d) Feasibility Analysis (technical details and economic analysis of the project, if in case to be transmitted and supplied whole production at once details of the consumers and costumers, estimated amount of electricity to sold and descriptions of other transmission and distribution system existing in the ownership of any other individual or organized institution, if any, to be used in the supply of the electricity),

(e) Financial provision (Estimated financial provision of the project, economic status of the investors of the project, commitment of the financial institutions directly participating in the project, liability and share capital of the investors and percent of the interest,

(f) Utilization and acquisition of house and lands (total amount of the Governmental or non-Governmental land required for permanent or temporary utilization or acquisition for the project and the record of the land owners),

(g) Environment Impact. Assessment (method to be applied for minimizing the considerable adverse impacts on environment to be created by; the project, in addition to the social and economic impacts to be created by; the project, training to be given to the local people in connection with existing local labor and maintenance, construction and operation provision or possible impact to be occurred to the respective landowners in the operation of the project, record of the people to be displaced and necessary provisions for rehabilitation and resettlement of such population.

(h) Details relating of sale and purchase of the electricity (agreement or memorandum of understanding or other documents, if any, relating to sale and purchase of electricity power to be generated from the project),

(i) Map disclosing other electricity related structures of within 1.5 km diameter area of the transmission line,

(j) Other necessary particulars

Rule 14 requires following particulars to be disclosed in the application for acquiring electricity distribution license:

(a) Detail project report (disclosing the source of electricity to be distributed, estimated cost and duration of completion of the project name of the participants of the project and kinds of the their participant, person or organized institution retaining ultimate ownership of the project and name and addresses of the board of directors of such institution etc.)

(b) Feasibility analysis (technical details and economic analysis of the project, estimated amount of electricity to be sold, descriptions of other transmission and distribution system existing in the ownership of any other individual of organized institution, if any, to be used in the supply of the electricity),

(c) Financial provision (Estimated financial provision of the project, economic status of the investors of the project, commitment of the financial institutions directly participating in the project, liability and share capital of the investors and percent of the interest),

(d) Map of the distribution area (geographical status of that area, existing distribution system, new distribution system to be constructed),

(e) Standard of distribution voltage, or quality of construction,

(f) Number and kinds of costumes to be served,
(g) Details relating of sale and purchase of the electricity (agreement or memorandum of understanding or other documents, if any, relating to sale and purchase of electricity power to be generated from the project),
(h) Other necessary particulars.

After the submission of such application with the above detail, the Secretary may conduct necessary enquiry and if satisfied issue the license for generation, transmission and distribution of the electricity to the applicant the applicant would start the project physically within three months incase of survey and within one year in case of transmission and distribution.

Any license-holder willing to import electricity within Nepal shall obtain prior approval from the Government of Nepal as per Rule 23 of the Electricity Rules, 1993.

The license for generation, transmission and distribution may be given for a period of 50 years under Section 5 of the Electricity or in the event of natural calamities. Similarly, supply can be stopped if the consumer fails to pay electricity charge and other charges or uses electricity in a unauthorized way. A person or organized body is required to maintain the quality standard of electricity supplied as prescribed by the Government in Section 23 of the Act. The liability for paying the charges of electricity by each consumer is determined by Rule 33 of the Electricity Rules. The Electricity Charge Fixation Commission formulated under Section 17 of the Electricity Act fixes the rate of electricity charges.

Control of Theft of Electricity Act, 2001 has prohibited stealing electricity and has provided punishment for person committing such act. The punishment to the offender may extend up to three months of imprisonment or fine up to five thousand rupees or both. The offender shall also be liable to pay compensation of actual damage and additional amount equal to the compensation to the distributor. If the same offender the offender repeats the offence shall be liable to pay compensation of actual damage and 200% additional amount of the compensation amount to the distributor. Further, the offender shall be punished with the imprisonment up to 6 months or fine up to ten thousand rupees or both each additional offence. The must of offence under the Act is public offence.

E. Mining and Industrial Use

There is absence of specific provisions in the law for granting water rights for exploration and testing for exploitation of minerals or for the use of industries. The Industrial Enterprises Act, 1992 or Nepal Mining Act, 1966 or the Mines and Minerals Act, 1985 do not authorize the use of water for such purposes. The provisions of WRA would, therefore, apply to these activities and thus it is required to get license for use of public water. Because drawing water form the source may interfere with other uses of water and disturb the rights of others. The only exception allowed is for running water mill or for cottage industries, where a license is not required as provided in Section 4(2) of the WRA.

However, Section 10 of the Industrial Enterprises Act state that any proponent establishing any industry which may have adverse environmental impact shall obtain prior approval from the Government before its establishment, extension and diversification. Similarly Section 11(a) of the Mine and Minerals Act, 1985 provides that any person conducting mining activities shall not create significant adverse impact in the environment. These provisions may; have direct impact on water pollution. It mans that industry; cannot be established, extended or diversified and mining activities cannot be carried out creating environmental pollution in the water resources.

F. Navigation

Inland navigation in Nepal is confined to country boats for crossing the river in the hills or in the Terai. WRA does not contain any specific provision on the use of water for inland navigation. The scope of the provision of Section 4(2) of the WRA is limited. The rights of person to use a boat for

personal purpose and for crossing the river are accepted by the Act, which does not require a license therefore all other case, it can be assumed that a permit is required for use of water for inland navigation however no detail rules, has been framed under the Act invoking the provision of the Act to navigation. People generally use river for floating timber or bamboo in certain parts of the country. But there is lack of rules governing safety or the conduct of rafts-men River Rafting Rules 2001 is silent on it.

The authority to develop inland navigation has been given to the local body under LSGA. According to Section 189(1) (d) among other functions and powers of DDC, it has power, "(6) to develop and promote navigation and rope ways."

But; no detailed rules have been framed regulating such activities. The authority to levy fees under the Act, for navigation, rafting and fishing has been delegated to DDC under Section 217 of the LSGA. The Local Self-Governance Rules, 1999 authorizes the DDC to levy fees for issuing license and renew them on annual basis The objective of these provisions, however, is limited to collecting revenue for the local body rather that regulation of activities.

Likewise, Section 10.1.14 of the Pashupati Area Development Act, 1987 has entrusted the Pashupati Area Development Council of Directors the power to protect and conserve the cremation area, river navigation, water resources or water stream etc. It includes the power to manage the water resources of the area beneficially considering the maintenance of environment of the area.

G. Recreational Use

Whitewater rafting, a recreational use of water is very popular and is one of the most important tourism activities in Nepal. Nepal's terrain is suitable for such sport. Section 45(a) of the Tourism Act, 1978 provides registration and licensing of whitewater rafting business. It also provides for renewal and regulation of the activity including suspension and cancellation of such business. Even a tourist going for rafting has to acquire license from designated officer under section 45(b) of this Act, The Trekking and Rafting Rules, 1984 has laid down procedures for applying for a permit, fees to be charged and facilities provided for the import of necessary boats and tools for the operation of rafting. The authority to grant permit has been given to the Ministry of Tourism. Anybody or a group wishing to engage in rafting has to apply to the Ministry in the prescribed format provided for in the Rules.

River Rafting Rules 2001 provides that the local bodies have the authority to change annual fees to rafting business for licensing or renewal of such license. The amount of fees to be charged by the local body has been proscribed in the Rules as stated earlier.

H. In-stream Use

The WRA is not specific about in-stream use of water. It does not state how much water should be left in the river for in-stream use, However, there are certain provisions in the Act that bear on this issue indirectly. The Act provides that use of water resources must be beneficial without causing damage to other users. Similarly, the Act further stipulates that while utilizing water resources, it shall be carried out in a manner that no adverse affect be made on environment by way of soil erosion, flood, and landslide or similar other cause. The Phrase "similar other use" would denote any other use of water in the river including maintaining ecology of the river, maintaining aquatic life, use of the local people for religious or cremation purpose.

8. RESETTLEMENT AND OTHER ISSUES

A. Resettlement

With the exception of a few projects in other sectors, water projects involve a large number of displacements. Reservoir projects generally have problems of displacement and hence resettlement. Moreover, Projects taken up in recent years have affected more people per unit of land acquired because of the growth in population. Considering the environmental concerns of the present day, the issue of resettlement will be more complex in the future.

There are several laws that touch upon the issue of resettlement. The Interim Constitution of Nepal is the main legal document guaranteeing the fundamental rights of the citizen. It guarantees the property rights of all citizens. Furthermore, it states that except for public good, the state will not acquire or obtain or exercise authority over individual property. More importantly, it specifies that in case the State acquires or establishes it rights over individual property for public good, the State will compensate for the loss of property and the basis and procedure for compensation will be specified under subsequent acts.

The major part of the Interim Constitution 2007 with regard to the compensation to be provided to the citizen for the acquisition of their property is as under:
Article 19 of this constitution provide the Right to property, where

(1) Every citizen shall, subject to the laws in force, have the right to acquire, own, sell, dispose of, and otherwise deal with, property.

(2) The State shall not, except in the public interest, requisition or acquire, or otherwise create any encumbrance on, the property of any person.

Provided that this Clause shall not apply to any property acquired in an illicit manner.

(3) Compensation shall be provided for any property requisitioned, acquired or encumbered by the State in the course of enforcing a scientific land reform program or in the public interest, in accordance with law. The amount and basis of compensation and the procedure therefore shall be as determined by law.

Land Acquisition Act, 1977 (2034) is the main legislation to guide the compulsory acquisition of land in the country. The Act clearly states that if Government deems it necessary to acquire land for any public work it may, subject to the award of compensation pursuant to this Act, acquire the land

"Section 3: The Government, if deems necessary for the purpose of public interest, may requisition any land laying anywhere within the country of any one awarding necessary compensation as prescribed under this Act ".

The Act also specifies the types of compensation to be paid to the affected families. It states that the compensation for the land to be acquired under this Act shall be paid in cash. The Act also envisages possibility of two separate rates of compensation distinguishing between families who lose all land and those who lose only some portion of their land. In determining the compensation, the Committee has to consider guidelines of the Government and the loss suffered by persons due to acquisition of land, shift of residence or place of business to another place. If the land has to be acquired for institutions other than the local Government Committees and institutions fully owned by the Government the Committee has to consider the following in fixing the compensation amount.

- Price of land prevailing at the time of notification of land acquisition,
- Price for the standing crop therein and the house, wall, shed, etc., and

- Damage incurred by the concerned person by being compelled to shift his/her residence or place of business in consequence of the acquisition of the land.

Generally the mode of compensation has been cash compensation for land acquired, not withstanding of a legal provision of compensation in favour of land for land. If a family loses all his /her land and opts land for land compensation, the Government may, if *ailani* (unclaimed land) or other Government land is available, provide land to them. These clauses are too general in nature.

The provisions of the Land Acquisition Act fall short of the liberal spirit of the Interim Constitution of Nepal. In the existing legal framework procedural matters regarding the land (plus other assets) acquisition and compensation have been dealt with but details are missing. Some of these missing details include factors determining compensation, procedures of assessment, rehabilitation, depreciation of assets while relocating, the social and psychological aspect of the seriously affected individuals. Existing legal provisions do not require implementers to ask for compensation options to the affected people while deciding to acquire their assets. Although fulfilling everyone's compensation options may not be feasible, but to be insensitive to the choices, especially of those who lose most of their livelihood seriously undermines the spirit of human rights and the Constitution seriously except cash. Operationally, cash compensation is the easiest mode of operation but its long-term impact on families who are not used to large cash flow is more negative than otherwise. There is lack of serious consideration for rehabilitation programmes. The law does not meet the high aspirations of host communities by acquisition of land. Beside Land Acquisition Act, 1977, the Water Resources Act, 1992 make some general provisions regarding settlement and rehabilitation, although the provisions of this Act are vague and not specific. This Act states that if GOVERNMENT or a licensee implements a construction work relating to the development and utilization of water resources, GOVERNMENT may prohibit the use of the premises, whether a house or land. GOVERNMENT may prohibit the use of the premises, whether a house or land. GOVERNMENT or the licensee shall pay compensation as prescribed to the concerned person for the damage or loss caused by the prohibition. Similarly, the electricity Act, 1992 has the same provisions about land acquisition and prohibition on using the premises of construction area as are mentioned in the Water Resources Act. The procedure is applied in paying compensation, too.

In addition to laws, some sectoral Policies and Strategies also make some provision in this regard. The Hydropower Development Policy, 2001, stipulates that appropriate provision shall be made to resettle displaced families. Similarly, the Water Resources Strategy, 2002, suggests that project induced resettlement should be avoided or minimized, if resettlement is required. It sates adequate and timely compensation and rehabilitation measures should be provided to fully offset social and economic losses and to enable affected people to share in overall project benefits.

B. NO HARM ON WATER

a. Watercourse and Catchments Protection

The Water Resources Act provides that utilization of the resources should be made without
Causing substantial adverse effect on the environment. Section 20 of the Act stipulates that: "Water resources shall be utilized without causing substantial adverse impact on the environment in the form of soil erosion, flood, landslide or other activities of similar nature."

The law requires that utilization must be done in a manner that no adverse effect is caused to the environment by way of soil erosion, flood or landslide. Nevertheless, other legislation for example, the Environmental Protection Act provides that environmental studies be carried before starting the project. Section 3 of the Environmental Protection Act, 2053 reads as under:

"A proposer shall, for prescribed proposals, conduct initial environmental examination or environmental impact assessment."

Soil and water conservation, as well as control of floods, landslides and soil erosion, come within the scope of the Soil and Watershed Protection Act, 1982 (2039). The Act authorizes the Government to designate any area as Protected Watershed Area. Under Section 3 of this Act the Government is entrusted to proclaim such area as under:

"Government of Nepal, if deems necessary, may declare any area within Nepal as watershed protected area determining the area"

In the area thus designated, the Soil and Watershed Protection Officer may construct dams or check dams embankments, terrace improvement works, water channels or diversion channels, retaining walls, ponds and similar other structures for the protection of the area. The Officer may also protect and maintain forest and greenery in the slopes where there is danger of landslides, and also maintain a balance between the nutrients of the soil and water and the environment. The officer is also authorized to restrict activities that might contribute to soil region or cutting of the banks or slopes in around the design aria. The authority of the officer is quite extensive and extends to restarting certain activities in aria that are prone to natural calamities. Notwithstanding anything provide in other law and in area prone to soil erosion nobody can collect or restrain water from any system, channel, lake or ground water and divert to a cannel for use else where through construction of dams without the permit of watershed protection officer. However, these reactions do not apply to development of water recourses under taken by the Government.

At the local level the local bodies. VDCs, municipalities and the DDCs) have been charged with preparing and implementing soil erosion and river control programs under Local-self Governance Act, 2055.

b.Drainage and Sewerage

The responsibility for the provision of sewerage services to the public into urban area lies with the KUKL. Houses and buildings are required to connect their domestic lines to the sewers. In addition to the above service, the Corporation provides storm water drainage service as well. At the local level, the Village Development Committees have been given the responsibility of providing sewerage services in residential areas. Disposal of solid wastes from houses is governed by a separate regulation. Under the Solid Wastes (Management and Resources Mobilization) Act, 1978 (2044), the Solid Wastes Management and Resource Mobilization Centre was established. The Centre was changed with the responsibility of, among others, providing container service, transporting and managing wastes, recycle and produce manure from the wastes and construct treatment plant. The activities of the Centre were limited within the Katmandu Valley. Since the enactment of the Local Self-Governance Act, the responsibilities of managing solid wastes and providing drainage service have been given to the municipalities. The Centre has now been closed down.

While the legislation mentioned above dealt with the legal aspects of management of solid wastes and drainage service, the Environment Protection Regulations, 1997 provided for a regulatory mechanism. The Regulations provides that no one shall discharge wastes in contravention f the standard set by the Ministry of Environment. The Regulation also prohibit excessive release of noise, heat and radio-active emission from means of mechanized transport also requires industrial establishments to obtain a Pollution Control Certificate within a specified period of time. It also provides for a mechanism for hearing complaints, taking action and realizes from the person or industry the cost of cleaning up operations. The Government may fix environmental standards on sound, heat, radio -actives, and other solid wastes being discharged from any machines, industrial enterprises and other places publishing the notice in official gazette under these Rules.

c. Floods and Other Harmful Effects

The Water Resources Act have authorized the Government to frame detailed rules on specific subjects including soil erosion and flood control. The problem of soil erosion has been partially covered by Soil and watershed Conservation Act and the National Park & Wildlife Conservation Act within their respective jurisdictions - within the designated protected area and national parks. There is absence of detailed rules applicable all over Nepal. The Water Resources Act has made provision to frame rules relating to flood control and soil erosion. The Irrigation Regulations, 2000, however, provides for the constitution of Irrigation and River Control Committee in all the seventy-five administrative districts of Nepal under the chairmanship of the Chief District Officer. The functions and rights of the Committee are to protect the irrigation canals and other areas from natural calamity of floods and landslides and monitor the implementation of prevention and control measures carried in the district. The Committee can also submit a report containing suggestions and recommendations to the Government for the development, extension and protection of irrigation programmes as well as for river control.

9. WATER POLLUTION

A. Misuse of Water

The waste of water or misuse of water is not an issue under the prevailing law. The law does not have specific provisions discouraging wastes while utilizing the resource. The Act is silent on the issue of efficiency in use. But the authority granting the license for utilization can prescribe in the license methods for utilizing the resource. Moreover the right of the licensee is limited to the quantity of water mentioned in the license. The Act, however, provides for detailed rules to ascertain whether the use can be called beneficial when the particular use is in dispute. The Water Resources Act requires a person or a corporate body to us water resources in a beneficial way without causing damage to other. The term "beneficial use" has been defined in the Act as "rational use", and can safely be assumed that the law prohibits wastes or misuse of the resource. The Act furthermore requires that if any dispute arises in the utilization of the resource, the prescribed committee for resolving the dispute is required to consider, among others, whether or not the beneficial "use or misuse" has been made. In the course of deliberations by the committee whether the use is within the scope of beneficial use or not, the committee furthermore is required to take into consideration of various factor including the impact it would have on the environment. It can therefore be assumed that the use not only prohibits wastes, it also does not tolerate misuse of the resource.

B. Pollution Control

The Water Resources Act does not have provisions for control of pollution. It has left the task of formulating separate rules under the Act. Such a regulation has not been frame yet. However, the Drinking water Regulations issued under the Water Resources Act has made certain provisions for prevention of pollution. It prohibits pollution of the source or constructing the structure of water supply system in such a way that might pollute water in the source. The Environment Protection Act also has made provision for framing of rules for the control of pollution of water resources. Not such rule, however, has been framed under the Act. The Act only has provisions to prohibit disposal of sound, heat, radioactive rays and wastes from any mechanical device, industrial enterprise contrary to the prescribed standard. Under the Act few standards including the emission level of vehicles have been framed.

C. Water Quality

The Water Resources Act requires the Government to fix the quality standard of water resources for various uses. Section 18 of the Act reads as under: "Government may, by notifying in the official gazette, fix necessary standards for different uses of water resources." Anybody who wants to utilize

water resources he or she is obliged to maintain the standard. Such a rule fixing the standard, however, has not yet been issued. The Act also authorizes the Government to prescribe the pollution tolerance limit of water resources. The Act prohibits discharge of any litter, industrial wastes, poison, chemical or toxicant in excess or the standard set by the Government. Such an act is punishable under the law. The Government, however, has not yet issued notice fixing the tolerance limit of water Supply Regulation and the Irrigation Regulation also have provisions for ensuring the quality of water supplied to the consumers.

10. LEGISLATION ON UNDERGROUND WATERS

Water resource is defined as water that is available in the form of surface water, underground water or water in whatsoever form. Since the ownership of water resources is vested in the State, and no one is entitled to utilize it without obtaining a license under the Water Resources Act. However, certain uses have been excluded from the regime of license including the domestic use and for irrigating one's own land. It is understood that by the token of the above rule, the use of ground water for domestic use and for irrigating one's own land does not require a prior permit. The Ground Water Management Committee is established for regulating ground water but hardly it could work these days.

11. PROTECTION OF WATERWORKS AND STRUCTURES

A. Public Works

The construction, operation and maintenance including the security of the structure of water resources works are the responsibility of the concerned department or public utilities. The departments include Water Supply and Sewerage and Irrigation, and the Public utilities include KUKL and Nepal Electricity Authority. In addition to the above agencies, water user's associations are responsible for general maintenance and rehabilitation of water supply and irrigation facilities handed over by the Government for operation by such associations. The irrigation Regulations has made detailed provisions for the security and proper operation of irrigation facilities. Under this provision the concerned authority is authorized to restrict entry into the area, prohibit inflicting damage to the structure or replacing anything relating to the structure, among other things.

B. Private Works

On the request of the person or a corporate entity the Government, if it deems necessary, may make necessary arrangement for the security of the structure related to the utilization of water resources. The cost incurred on account of this is to be borne by the concerned person or the corporate body. So far as the hydropower structure is concerned, the Electricity Act has made similar legal provision

C. Forests and Other Protected Areas

There are important area of natural heritage or aesthetic beauty can be designated as protected areas under various laws where certain restrictions with regard to the use of water resources may be imposed. The Environment protection Act can designate certain areas as Environment Protection Area. Section 10 of the Environmental Protection Act, 2053 provides:

"Government may declare any area as environment protection area considered as very important from the point of view of environment protection such as natural resources, beautiful or rare wildlife, biodiversity, plant, places of historical and cultural importance notifying in the gazette."

Where such areas have been designated as protected area, certain restrictions or prohibitions can be imposed under the Environment Protection Regulations. In such case use of electric current any

kind of harmful plant based materials or chemicals in the rivers, streams water fountains, rivulets, lakes, ponds, reservoir of other sources of water are prohibited under Aquatic Lives Protection Act, 1960 (2049).

Similarly, protected areas in connection with the control and prevention of the harmful effects of water as well as soil and water conservation can be designated under various other legislations. Under the Soil and Water Conservation Act, the Government may designate certain area as protected Drainage Area. With the authority provided by this provision, certain protection measures including construction of dams, check dams, embankments, drainage and diversion channels, retaining walls and similar other structures can be undertaken. Within the protected area where there is danger of flood and soil erosion, the water conservation officer can prohibit certain activities in the land without his permission.

12. WATER ADMINISTRATIONS IN NEPAL

A. Institutional Mechanism-The Central Water Agencies

Water Resources Development Council (WRDC)

The body of WRDC is headed by the Prime Minister and consists of most of the Ministers holding important and related portfolios. It was originally constituted in May 1992 and was reconstituted in May 1994 to include representatives from each political party and also free lancers in this field. The main functions of the Council are to bring up a national consensus in the proper utilization of water resources and to identify the strategic policy planning.

The Council is especially aimed to get across the government policy and program on water resources to different sectors of the government as well as various political parties in order to secure a smooth sailing. Although the terms of reference seem to allow discussion on matters concerning a central agency, it is so far used as a forum only for controversial issues of water. By the way it is composed it seems least likely that regular strategy issues will be discussed effectively in the whole body.

Water and Energy Commission (WEC)

WEC was set-up in 1976. It is constituted under the chairmanship of the Minister, MOWR, with Secretaries of MOWR, MOF, NPC, MOAC, MFSC and MFA and also two renowned persons from nongovernmental agencies or private sector as members. The Executive Secretary of Water and Energy Commission's Secretariat (WECS) serves as Member-Secretary to WEC. Basically, WEC is an advisory body to GON in the field of water and energy resources development. It is supposed to conduct studies, surveys and investigations and provide policy recommendations. The main areas of responsibilities of WEC are as follows:

I. To formulate short and long term policies in the field of water and energy development.
II. To prepare necessary laws pertaining to Water and Energy Development.
III. To do and cause to be done comprehensive survey and investigation of the total water and energy resources of the country
IV. To make and cause to be made studies of the total requirements (the present and the future requirement) of water and energy resources in the country.
V. To study and analyze the bilateral and multilateral programs pertaining to water and energy development and formulate policies.
VI. To prepare and cause to be prepared programmes for the conservation, development and beneficial utilization of water and energy resources.
VII. To study and analyze the national and international laws, and bilateral and multilateral efforts on international understanding and agreements for the development of the water and energy sector.

Water and Energy Commission's Secretariat (WECS)

WECS was established in 1981 long after the parent body was constituted. The main functions of WECS are to provide technical support to WEC as also to carry out its decisions. WECS is headed by the Executive Secretary and consists of four Directorates: 1) Energy Planning Directorate, 2) Water Resources Planning Directorate, 3) Social, Economic and Environmental Directorate and 4) Legal and Institutional Arrangements Directorate. Canadian International Development Assistance (CIDA) has made a tremendous contribution to strengthening its human resources capabilities as well as bringing up the status of research on water and energy in Nepal. WECS with CIDA's help has completed a number of useful studies on water resources and energy in the past. It is staffed with competent manpower in different disciplines necessary to do the central agency function. It could also play a vital role of policy resourcing to the policy and planning unit of the newly formed Ministry of Irrigation (MOI) and the Ministry of Energy(MOEN) by dissolving the Ministry of Water Resources (MOWR). But presently WECS is not well fitted into the planning and policy formulation process relating to the water resources development. The limitations of WEC to function as central water agency and the plan preparation and policy resourcing unit to MOI and MOEN are as follows:

1) lack of statutory authority and mandate
2) lack of structured relationship in the planning process and policy resourcing process
3) lack of status
4) the Commission members are not full time workers
5) lack of regulatory authority
6) lack of authority to generate needed hydrological data
7) lack of basin and district coordinating mechanism.

Department of Hydrology and Meteorology (DHM)

The Department of Hydrology and Meteorology (DHM) is under the Ministry of Environment. DHM started its function from 1967. Before this, the function of this Department was being done in the form of a UNDP project. However, later the Department was merged as a wing in DOI for some time and came into the present form late in 1987.

The central organization of DHM has four divisions. It has three basin offices at the field level, namely Koshi Basin, Narayani Basin and Karnali & West Rapti Basin Office, covering the total activities in the country. The Department is operating a total of 176 river gauging stations. It also maintains a nation-wide network of 337 precipitation stations, 25 sediment stations, 68 climatic stations, 22 agro - meteorological stations, 9 synoptic stations and 6 aero-synoptic stations. The mandates of the Department include collection and dissemination of hydrological and meteorological information for water resources, agriculture, energy and other development activities; issue of hydrological and meteorological forecasts for public, mountaineering expedition, civil aviation and for the mitigation of natural disasters.

The general data are at present made available free of cost in the form of publication. So are the meteorological data for aviation, tourism, etc. But when data are generated and collected for specific purposes for some party, private or public, the cost is charged or the task is performed under contract. However, the sectoral agency gives very low priority to the collection of data. There is given very low priority for the data collection. This tendency has put DHM to run in very low profile.

There is no restriction whatsoever in the release of the data as there is found no serious interest at the national level in the generation and supply of hydrological data.

DHM can be considered to run in a self-sustained basis. That is, it can work on demand of the consuming sectors on charge basis so far as the project specific data are concerned. This will provide work- incentive for the employees and lead to an expansion of their business. There is a good scope to turn this business to a public sector enterprise. This may have to be achieved in two stages: one, a phase of undertaking consultancy work on contract, and the second to run the whole programme in a self - sustained basis.

Policy Level Institutions

National Planning Commission (NPC)

NPC is the highest planning unit having a planning jurisdiction over all the Ministries and public sector agencies in GON to formulate the periodic and annual plan and oversee its implementation but in an advisory capacity. The Commission is constituted under the chairmanship of the Prime Minister and with full time and ex-officio members. It does its functions under the broad directives given by the National Development Council which is a larger body comprising knowledgeable people from all walks of life so as to represent all sections of the nation. The main functions of NPC can be stated as follows:

- to formulate periodic plans on the basis of long term goals
- to formulate annual plans within the framework of periodic plan
- to issue directives to concerned Ministries and Departments and public sector agencies in connection with the formulation of development plans
- to collect data and conduct research which are necessary for the formulation of national development plans
- to estimate internal and external resource each year and suggest ways and means to increase
- to monitor and evaluate development projects

NPC has no source of statutory authority to pull in discharging the above functions except consultation with it on very limited items (such as targets amendment, feasibility study of the large projects etc.) made binding on sectoral agencies by the GON's Transaction of Business Rules. The only other way that it can exercise the formal authority is to attract the approval of the Prime Minister who is its chairman. But constitutionally every Minister is individually and collectively responsible to the parliament for his/her portfolio of responsibilities which has created an ambiguity as to how far the Prime Minister could go to meddle with the routine matters of the Ministers (especially when it is not one party government) unless it is a cabinet issue. Secondly, NPC's members are the political selection made by the cabinet decision which puts a limit to the extent to which they can displease the individual Minister.

Such a situation in the Nepalese context has by this time created for NPC the tradition of a subsidiary role to play rather than one of independent public body of experts. The staff provided to NPC has not been their choice, nor is it a specialized workforce belonging to a planning cadre - usually it is found to be a shunted stuff. The NPC's organization itself is being designed after the bureaucratic way rather than a research and study entity. This is how NPC is incapacitated in discharging its public functions.

As a result the sanctity of planning priorities is usually flouted by political interests and planning document becomes a package of all good programs beyond the capacity of the organization and the resources. The planning directives issued by NPC have tended to be stereotyped and the annual planning has come to be the authentication of the Ministry's wishes. There is very little that NPC can assert as planning norms, priorities and strategies to be observed and followed by the Ministries, nor is it adequately equipped to closely monitor the agencies' activities and evaluate their performance on plan implementation. The two planning review meetings taking place every year generally end up with ritual proceedings.

Ministry of Irrigation (MOI)

The Government of Nepal has recently formed two ministries the Ministry of Irrigation (MOI) and the Ministry of Energy (MOEN) by dividing the then Ministry of Water Resources (MOWR). MOWR was one
of the few oldest Ministries of GON with the mandate of developing water resources policy, plans and programs pertaining to irrigation and electricity. With the division of MOWR, a large number of plans and policies require to rewrite in order to address the particular policies of irrigation and energy. The MOI will be responsible for the matters related to irrigation and the water induced disaster prevention.

Department of Irrigation (DOI) and the Department of Water Induced Disaster Prevention (DWIDP) are the two departments under this ministry. MOWR had at one time jurisdiction over irrigation, hydro-power and drinking water but the last sub -sector of water has gone out from MOWR to MHPP from 1989. Also watershed protection is under the jurisdiction of Ministry of Forest and Soil Conservation. There have been frequent changes in this sector.

Ministry of Energy (MOEN)

All the works related to hydropower that used to be looked after by the MOWR come under the jurisdiction of the newly formed Ministry of Energy. It provides license for survey, generation and distribution of electricity. A detailed work description of this ministry is yet to come from the government but at present this ministry is working with the hydropower sector only because other components of the energy viz. the petroleum fuel, solar energy, biogas, etc are under the jurisdiction of other ministries.
The new trend in the government as a whole and the hydropower sector strategies in particular call for a definite role of MOEN. Water professionals criticize this decision of the government not being friendly to the water sector and demanded to revoke the decision.

Ministry of Physical Planning and Works (MPPW)

MPPW is responsible for drinking water supply at the policy making level since 1989. Earlier, drinking water supply was the responsibility of MOWR . The reason given for the shift was that the drinking water supply was a part of the housing concern which is completely a utilization aspect. Therefore, the placement of the water supply aspect in MPPW has created some problem in the aspects of water resource management as well as integrated water resources development. Within MPPW there is a separate Division in charge of a Joint Secretary to look after the drinking water supply. The main responsibilities at the Ministry level lie in developing policy strategies and institutions, arranging finance, making inter -sectoral coordination and monitoring and evaluation. Under MPPW there are DWSS and NWSC which we will discuss later under the section `Operational and Implementing Agencies.'

Implementation Level Institutions

Department of Water Supply and Sewerage (DWSS)

DWSS was established in 1972 prior to which water supply was looked after by the Irrigation and Water Supply Department. Now, DWSS is the Lead Government Agency in water supply and sanitation sector in Nepal. It has envisioned improving health & hygiene condition of Nepalese people through the provision of access to water supply services & appropriate sanitation facilities . The mission of DWSS is to providing access to at least basic level of water supply services and sanitation facilities to all the people of Nepal. DWSS has its office in all the 75 districts of Nepal with 5 Regional Level Supervision & Monitoring Offices , 43 Divisional Offices and 27 Sub-Divisional Offices .

At present the role of DWSS has been transformed from a program implementer to facilitator. In order to successfully play such role DWSS need to provide necessary technical and managerial support to the local communities. Also, it has to support local authorities in preparing periodic plans , project preparation, preparing plans for repair maintenance and rehabilitation of the system , developing middle level skilled manpower for service operation, and collecting updating and disseminating services related information to the people. The main activities of DWSS can be summarized as below:

A. Increasing Coverage
1. Water Supply: Demand Driven Community Based Approach
    - Programs on GON regular budget
    - ADB Aided Community based WSS Project
2. Appropriate Level Sanitation and Sewerage Facilities

B. Improvement of Quality Services

- Water quality improvement program
- Service level improvement program (on cost sharing basis)
- Arsenic (in drinking water) mitigation program

However, there are certain issues and constraints in DWSS. The growing dependency on external resources which is up to 70% of the sector budget for aided program is the main issue for a sustainable development in this sector. Also, there is a lack of funding for research and development activities. Lack of coordination among stakeholders and institutions causing duplication of works, and low priority for repair, maintenance and rehabilitation works because of low budgetary allocation in this area are other issues of this sector. The on-going political conflict in different parts of the country is posing serious problem in the implementation of various programmes in this sector.

Nepal Water Supply Corporation (NWSC)

NWSC was established in 1989 to replace Water Supply and Sanitation Board (WSSB) which started as a project in 1974 under the World bank loan to improve water supply system in the Kathmandu Valley and Pokhara in Phase I, Birgunj and Biratnagar in Phase II and 8 other urban areas (Banepa, Dharan, Janakpur, Birgunj, Hetauda, Butawal, Bhairahawa and Nepalgunj) in Phase III. The operation and maintenance responsibility of 13 municipal water supply systems carried by NWSC out of 36 urban systems (the rest is with DWSS) is thus just a historical inertia rather than any logical division of works.

GON has to chalk out an arrangement for the transfer of the water supply system in all the Municipal areas. The outside urban water supply systems suffer from lack of demand for pipe connections (due to free tubewell water) in some areas and lack of efficient management in all. Both are sure to find a solution under rational management operation. The Municipal body can decide to run them in a feasible size and add attractive incentives to get it run by the private sector. The Municipal body can also decide to cross subsidize the water supply system for a given period of time where it is not commercially feasible or beyond local affordability. NWSC has only to make available to the operating agency necessary technical manpower and assistance if need be.

There is a vast scope of improving supply in the Kathmandu Valley both in terms of coverage of population, supply hours and quality. Presently only less than 40% of the potential customers is being served and only with 6 hours supply. The quality of water and the service is anything but satisfactory.

In view of the deficit in the water supply, GON in collaboration with NWSC and some other private companies has set up the Melamchi Water Company to augment the supply. The total cost goes up to rupees 12 billion. This is the first venture of private investors in the water supply enterprise in Nepal. The company will by a diversion scheme on the Melamchi river deliver to Kathmandu by its 36 kilometre long tunnel a supply of raw water of the order of 127 million litres per day. This will be a big addition compared to the present status of 120 million litres in the wet season.

The entry of Melamchi Water Supply Company has unfolded a vista of new enterprises in the area of water supply in Kathmandu Valley in days to come: 1) There is the possibility of an enterprise in the area of filtration and treatment of raw water delivered by Melamchi Company. The treated water can be delivered by the main pipe to different points of distribution where it can be metered out to retailers. 2) There can come up many retailing companies to distribute water to consumers and offer a competitive price and service to their customers. 3) Some private sector company may specialise in meter reading and the collection of revenue and 4) still some will specialize on maintaining and expanding the system.

However, the progress of work in this project has been seriously affected by various demands of the local people including their right to the water, land and jungle. These people are also demanding a separate federal state on the basis of ethnicity and the Melamchi Water Supply Project always becomes victim of these demands.

In this changed scenario, NWSC will have to decide its own future role. NWSC can come up as a co investor with the private sector in the installation and operation of the treatment plant. NWSC can check the standard and quality of water in treatment and distribution. The inherent area of competence of NWSC will be the expansion and maintenance of the system because this will have to do more of technical works and less of service to the community.

Kathmandu Upatyaka Khanepani Limited (KUKL)

Kathmandu Upatyaka Khanepani Limited (KUKL), a public limited company was established in 2007 under the "Company's Act" under a Public Private Partnership (PPP) model. The current shareholders of KUKL are the Government of Nepal (GON), Municipalities within the Kathmandu Valley (Kathmandu Metropolis and Lalitpur Sub-Metropolis), Federation of Nepalese Chamber of Commerce and Industries (FNCCI)/Nepal Chamber of Commerce (NCC) and the Employees Trust. The Board of Directors of the company consists of seven members including three independent Board Members.

A thirty-year license was granted to KUKL on 13 February 2008 by the Kathmandu Valley Water Supply Management Board (KVWSMB) for operating the water supply and sanitation services in the service areas within Kathmandu Valley. KUKL took over responsibilities to operate the water supply and sanitation services under this license and a lease agreement for the same period (between KVWSMB and KUKL) on 13 Feb 2008.

Rural Water Supply and Sanitation Fund Development Board

Government of Nepal created the Rural Water Supply and Sanitation Fund Development Board, on 14th March 1996 to promote sustainable and cost effective demand -led rural water supply and sanitation services in facilitation of Non-governmental and Private Organizations with full emphasis on community ownership in conformity with the Government's Eighth Plan (1992-97), Ninth Plan (1997-2002) and Tenth Plan (2002-2007) sector policies, which aimed at fundamental changes in rural water supply and sanitation service delivery mechanism in the country. The Ministry of Physical Planning and Works is the line ministry for the Board.

The Board is designed based on the experience of a field tested pilot project, acronymed 'JAKPAS' (the Nepali acronym of Janata Ko Khanepani Ra Sarsafai Karyakram - meaning People's Water Supply and Sanitation Program). Preparation studies for the pilot were carried out with funding by the United Nations Development Program (UNDP) and a grant from Japanese Grant Facility (JGF). The World Bank executed the pilot for a period of three years, during 1993-96, financed by two additional JGF grants.

The Board has completed its First Project (1996-2003) successfully and entered into Second Project (2004-2009) to support rural communities on implementation of water supply and sanitation schemes. The Board is being funded by World bank (IDA) and DFID.

The Board has a practice of conducting i) short term sustainability studies of schemes completed 3 years back and ii) long-term sustainability studies schemes completed 5 years back. The findings of these studies carried out in 2007/early 2008 for Batch - I schemes (6-10 years in operation) and Batch II schemes (5-8 years in operation) showed 76% and 78% sustainability rate (assessed using weighted scores for social/environmental (20 points), financial (15 points), institutional (35 points) and technical (30 points) criteria). It is noted that the Board is the only institution in the RWSS sector conducting this type of study considering all the four major dimensions to assess the sustainability of the scheme by employing third party services agencies.

The Board provides grant assistance to communities and SOs for the implementation of rural water supply and sanitation programs, which also integrates the following components:

1. community organization and mobilization;
2. non-formal education (NFE);
3. health, hygiene and sanitation education (HSE);
4. capacity building of SOs/SAs and communities;
5. environmental management;
6. school sanitation program;
7. skill-based training;
8. women's technical support service linking to income generation;
9. micro-irrigation; and
10. other programs to support sustainable and cost-effective water supply and sanitation development.

The Board follows a scheme cycle of about 37 calendar months required from Social Organizations and scheme selection to scheme completion. Each financial year a new batch of schemes with a new scheme cycle is introduced. Each scheme-cycle consists of three main phases as briefly described below:

The Pre-development Phase of a scheme lasts about 12 months and begins in October of any given year. Its main objective is to identify and select SOs and schemes that meet Board's eligibility criteria to enter into partnership between the Board, SOs and communities.

The Development Phase lasts about 12 months and begins in November of the second year with development phase contracts concluded between the Board and the SOs. In this phase, community organize institutionally and prepares scheme plan as a proposal for implementation phase. The community capacity would also be appropriately strengthened. Only those communities who successfully complete the development phase activities, and are willing to participate in the implementation phase, submit implementation phase proposals.

The Implementation Phase lasts about 13 months and begins in August of the second year. Tripartite implementation phase contracts are concluded between the Board, SOs and the communities, represented by WSUCs. The outcome of the implementation phase is the consolidation of all development and implementation phase activities, a completed and functioning water supply and sanitation scheme, and trained WSUC, VMW and community members to operate and maintain the scheme.

The Post Implementation (Follow-up) Phase lasts for 24 months after completion of the scheme. The primary objective of this phase is to follow -up on sustainability factors that include social, environment, institutional, financial and technical matters. During this phase SO will conduct quarterly follow -up sustainability monitoring units and provide technical support required to the community.

UNICEF

UNICEF's cooperation with GON started from 1970 and occupied a very important place among the donor agencies. The activities of UNICEF mainly included community water supply and sanitation (CWSS) for gravity flow water supplies in the hills , Terai Rural Water Supply and Sanitation with shallow tube wells in the terai areas and construction of household and institutional latrines. Also training of WSS technicians and other technical training courses, organization of special workshops and seminars and delivery of health education and personal and environmental hygiene education were conducted. UNICEF not only assisted to implement projects but also helped enormously to build village capacity for operating and maintaining completed projects by involving beneficiary people actively in the different phases of implementation process.

Department of Irrigation (DOI)

The Department of Irrigation under the Ministry of Irrigation is responsible for the development and management of surface and groundwater. The functions of the Department are (a) planning, design and implementation of major and minor irrigation systems; and (b) sustained operation and management of the completed systems. The Department also plays a major role in designing the irrigation policy. The central organization has five divisions, each headed by a Deputy Director General. Director General is the chief of the organization.

Groundwater is widely used for drinking purposes in the Terai region and in the Kathmandu Valley. Large scale conflict of uses has not arisen yet because groundwater extraction for irrigation purpose in terai is still at a low level. With the expected increase in the use of groundwater for irrigation under the Agriculture Perspective Plan (APP), this will bound to affect domestic use. The situation of Kathmandu Valley has taken a serious turn because the extraction is three times greater than the recharge. Groundwater is being mined rather than harvested. Pollution is another serious matter for regulation and administration.

The National Irrigation Development Committee has been formed with a view to coordinating irrigation programmes and to utilize limited resources. The Minister is the Chairman of the Committee. The Committee includes members from various ministries, departments and related agencies. There is also a Groundwater Resources Development Board chaired by the Secretary of the ministry with membership from various ministries, departments and related agencies.

Department of Electricity Development (DOED)

DOED is comparatively a newly set-up Department constituted at an operational level under MOWR in 1993. The main objective of this Department is to promote private investments in the generation, transmission and distribution of hydro-electric power as also to issue license for the private sector enterprises and regulate and inspect them. DOED is also responsible for conducting survey, investigation and feasibility study of multi-purpose projects and making a basin master plan. DOED, now comes under the newly formed Ministry of Energy.

The strategic function of this Department comprises 1) Projects preparation, 2) Promotional activities, and 3) Privatization.

Projects Preparation

One of the basic functions of DOED is to conduct necessary studies so as to prepare projects and make them available for investors in order to meet the demand for power. However, at present there is no such activity going on in the Department because of budget deficiency. To depend on the NEA's survey and study works in the present context is anomalous. Investors usually do not find much choice in the existing stock and would, therefore, prefer to survey and investigate new projects themselves.

Privatization

GON has by its Hydropower Policy of 2049 and the subsequent Electricity Act has declared its policy of inviting the private sectors in the development of hydro-power resources. The policy has both short and long range objectives. In its short range view, the policy aims to get the private sector involved in the generation, transmission and distribution of electricity. There is a need to propagate small hydro -electric projects in the hilly and remote Himalayan region where the national electricity system has not been extended or would not be extended in the near future. Also, it has been of utmost necessity to extend distribution of electricity in rural areas in order to help develop agricultural production and cottage and small scale industries. In the longer perspective, however , Nepal has got to make strategic use of its immense hydro-power potentialities for the national economic development. This means generation of more power for accelerating general industrial development, initiating specific power intensive industries, export of the surplus to improve the trade deficit and to hold a better negotiating position in the

international trade.

National and international private sector investment in the hydropower sector of Nepal has already started to come. DOED has recently issued license to GMR-ITD Consortium, and Sutluj Jalvidyut Nigam of India to construct the Upper Karnali Hydroelectric Project (302 MW) and Arun-III Hydroelectric Project (402 MW) respectively on the basis of Build Own Operate and Transfer (BOOT) principle. This is one of the major breakthroughs in the involvement of international private sector organizations in the hydropower development of Nepal.

Nepal Electricity Authority (NEA)

Nepal Electricity Authority was established in 1985 as a public corporation with the franchise for power generation, transmission and distribution throughout Nepal and engages in power exchange with India. NEA's responsibilities include 1) supporting GON to determine long term and short term power policy, 2) generating, transmitting and distributing electricity, 3) planning, constructing, operating and maintaining power stations, distribution systems and all associated facilities required to provide electricity.

NEA practically started four functions together: project preparation, project financing, constructing new projects and distributing the power. As a matter of fact, NEA has been made responsible for recommending short term and long term power supply policy to GON by NEA Act. Thus NEA became almost a monopoly in the development and sale of power.

However, NEA is not able to meet the tremendous gap between the supply and demand of power in Nepal. There was an 11.31% growth in peak power demand and 10.76% growth in energy demand in the last fiscal year 2007/08. In the dry months, shrinking of snow fed rivers further worsens the situation resulting in the load shedding to every costumer. Because of this gap in the supply and demand, last year, NEA went for a load shedding of up to 18 hours a day (including the capital Kathmandu) in the winter season. This situation will worsen in the years to come if timely measures are not taken by the government.

Another factor affecting the management of hydropower is the low ratio of the average to the peak load of the system. In the last fiscal year 2007/08 the average peak load of the system is only 55.2% of the peak load which indicates that the peak load of the system needs to be flattened by employing various measures under the demand side management. A large volume of storage capacity is urgently required to balance the system against time of the day and the seasonal variations in demand and supply.

Of the 1.5 million customers 95. 66% belong to the domestic category accounting for 42.52% of the total energy sale and 40.66 % of the total revenue earned in the fiscal year 2007/08. Industrial customers though representing only 1.67% of the total customers have significant contribution amounting to 38.81% of the total energy sales and 35.93 % of the total revenue earned in the fiscal year 2007/08.

NEA has started to construct some of the projects to meet this power demand. The important projects are Chameliya (30MW), Kulekhani-3 (14 MW), Upper Tamakoshi (302 MW) and other small hydropower projects viz. Heldung Small Hydropower (500 kW), Gamgad Small Hydropower(400kW) etc. Because of unlimited number of demands by the local people, the construction time and cost of the project is going to increase.

Regulatory Institutions

As the government has opted for a policy approach of getting the community organizations, NGOs and the private sector to gradually take over the functions of the public bureaucracy in producing goods and delivery of services, it has become necessary on the part of the government to provide for an appropriate institutional mechanism for their regulation. The more the government sends the programmes out to the community organizations and the private sector, the more will be the responsibility on the part of the government to see that these functions are being carried out properly and in the interests of the

consumers. The purpose of regulation, however, is not to put restriction. Regulation needs to encourage or promote competition for better service and its sustained use.

The Water Resources Act, 1992 and the related regulations provide for a set of instruments for regulation of the use of water. As the ownership of water resources is vested on the government, the use of water is regulated through a system of permits. A system of license has been introduced. The District Water Resources Committee in each of the 75 districts is empowered to grant license for their utilization. Domestic uses have been put outside the domain of licensing for practical reasons. The Committee is chaired by the Chief District Officer and includes members from various district-level sectoral offices. They include district-level offices of agriculture, forestry, water supply, irrigation, project office of electricity, if any. The Committee also includes representative from the District Development Committee and the Local Development Officer is member-secretary. The office of the Local Development Officer is designated as the secretariat of the Committee. The Water Resources Regulations also provide for a joint meeting of two or more district committees if the related use extends beyond the jurisdiction of one district.

Natural resources including water of rivers and their products are being seen as main income sources of the District Development Committee. Water Resource Act 2049 provides the Local Development Officer as the member Secretary of District Water Resources Committee but in reality there is no any interface with the water use administration institution such as irrigation and drinking water in relation to the use of the river beds and gravels and boulder. Therefore, there if a need to introduce some specific legislation in to its relationship between the water use intuitions and those who administer the river bed and boulder in and outside of forests area.

Similarly, the Secretary of the MOEN (split ministry from MOWR) grants permits for survey, generation and distribution of hydropower. In this case, the DOED processes the application for a request for license.

The WRA and the regulations under the Act provide for dispute resolution mechanisms. A Water Resources Utilization Investigation Committee at the national level has been provided, the membership of which consists of a representative of the MOWR as chairman and one representative each from the concerned DDC and the regional office of the National Planning Commission Secretariat. If the dispute is related with two or more districts, one representative from each of the concerned DDCs will be the member of the Committee. The Regulations provide for the guidance of the Committee detailed factors to be considered while deciding on the dispute. The Water Supply Regulations under the WRA, on the other hand, provide for two committees for the resolution of the dispute, one for water users' association and the other for individuals. The committee is called Water Source Dispute Resolution Committee. The Committee for water users' association consists of the DDC chairman as Chairman and representative of the District Irrigation Office, Administrative Officer of the District Administration Office as members and the Chief of the District Water supply Office as member -secretary. The Committee to decide on the dispute relating to water supply systems operated by individuals consists of a member nominated by the government as Chairman and one representative each from the MOPPW and the MOEN and Chief of the District Water Supply Office as member-secretary.

The Electricity Tariff Fixation Commission (the ETFC) under the Electricity Act, 1992 has been established for fixing the tariff of electricity. The membership of the Commission consists of a representative of GON and other members include an economist and five others from among the agencies relating to generation, transmission and distribution and the consumer. The tariff is fixed after consideration of various factors including the rate of depreciation, return for the investment, royalty, operation cost and the consumer price index. The tariff is revised as and when necessary.

B. Disputes Settlement Mechanism in Water

Disputes over use and management of natural resources are common in Nepal and guided by socio-political, cultural and legal aspects in society. There are vast systems of dispute settlements in the

community level. Farmer's strategies and procurers, role of communication and facilitation, external organization, power-relations, culture and ownership issues are common influencing the negotiation.

A new dispute settlement mechanism has been introduced under Drinking Water Management Board Ordinance, 2005 and Drinking Water Rate Fixation Ordinance, 2005. Sections 6 (l) of the DWMBO empowers the Drinking Water Management Board to hear the injury of the consumers arising out of the services provided by the service-provider and provide appropriate remedy that of. Likewise, Section 15 of the DWRFO empowers the Commission to hear the case if any consumer is not satisfied with the services provided by the service-provider. This Section further empowers the Commission to issue necessary direction against the service-provider in this matter. But these provisions are still in the test of application.

With the growth of the population and the development of the multiple uses and benefits of water as well as the growth in demand, especially for irrigation, issues and disputes relating to water were raised from time to time in different parts of the country. Basically, such disputes are settled in the community level using different alternative dispute resolution techniques. When the disputes could not be settled in the community level the cases are brought to the court system for formal settlement. Despite this fact, there are very few cases, which have reached in the Supreme Court of Nepal. Few cases are referred here to know the trend of the court settlement system in Nepal.

In Yogeshwor Rajure vs. DJC Dang and others,[29] a writ was filed on the ground that the respondents encroached on their land of easement through which water flowed and converted it into a farmland. Prior to filing the writ petition in the Supreme Court, the Village Judicial Committee had ruled the action of the respondents unlawful. Thereafter, an appeal was filed with the District Judicial Committee, which refused to hear the appeal on the ground of lack of jurisdiction as the issue in dispute also involved entitlement of landed property. The Supreme Court held that DJC is authorized body to hear appeals against the decisions of the VJC and quashed the DJC'S decision.

In Dharma Ratna Sinurkar vs. Suryamuni Sakya and others,[30] a writ petition was filed on the ground that Kathmandu Municipality had decided to shed wastewater in a drain constructed through the petitioner's land. The petitioner claimed that the Municipality had no legal authority to decide issues relating to landed property. The Municipality contended that the Municipality should resolve issues relating to drain and it had performed its task in accordance with the law.

The Supreme Court held that the Municipality is empowered to resolve disputes relation to drainage and as the Municipality, in the present case, had decided only on the issue of the drainage, the action of the Municipality was valid.

In Lalit Bdr. Rimal vs. Nara Bdr. Rimal and Others,[31]a writ petition was filed in the Supreme Court on the ground that the defendant had diverted a cannel to his land, which mad the petitioner's land dry. The case was at first filed with the local VJC but the VJC did not agree with the claim. An appeal against the decision was filed in the DJC, which in turn quashed the earlier decision and established the petitioner's claim. The defendant filed a writ in the Supreme Court contending that the DJC did not allow him the opportunity of explanation, which was in violation of the principle of natural justice. The respondent contended that the decision made by the DJC under a statutory authority should be held valid.

The Supreme Court held that opportunity should be given to the disputing parties to present and defend their cases failure of which means the violation of the principle of natural justice under

[29] NKP 2045 p. 509
[30] NKP 2044, P. 636
[31] NKP, 2043, P. 517

Section 202 of the chapter of Court Procedures of National Code. Hence, the decision of the DJC was held unlawful. This decision established the principle that the consultation with the disputing parties is compulsory.

In Ramesh Shrestha vs. Dhananjaya Prasad Acharya,[32] an Injunction petition was filed in the Koshi Zonal Court on the ground that the Plaintiff had been asked by the District Panchayat to pay levies for the extraction of sand and stones from the Koshi River. The Zonal Court held that since the work was done under a bilateral agreement between Nepal and India, the District Panchayat had no authority to charge a levy. The chairman of the District Panchayat filed an appeal in the Supreme Court against the decision. The respondent claimed that he did not have to pay any local levy or charge because he was supplying the stones and sand under an agreement reached between the two Governments.

The Supreme Court held that the respondent is simply a contractor authorized to carry stones from the Koshi, the main parties being the Government of India and Nepal. Therefore, the District Phanchayat cannot levy tax or fees under the district Panchayat Act.

In Tej Maya Shakya vs. Govinda Lal Ranjitakar and others,[33] a writ petition was filed on the ground that Kathmandu Municipality had not given permission to build a house on the ground that the proposed building site will encroach on a public drain. The person concerned disagreed with the Municipality's decision and filed a writ petition sating that the Municipality did not have the authority to deny him the permission because the drain was constructed in his private land. The Municipality contended that no individual could claim ownership of the drain because it is a public property made for public use. Therefore, the petitioner should not be allowed to make a house on the drain site.

The Supreme Court held that although the drain was located in the petitioner's private property he cannot claim personal right over it and must give access to the public. Hence, the petition was dismissed.

In Saukhat Ansari & Others vs. Jaleswor Nagar Panchayat and Others,[34] a writ petition was filed against a Jaleswar Municipality, which claimed that the pond adjoining the petitioner's house was its property. The petitioner claimed that he should be regarded as the owner of the pond because he had been paying land tax for it. The Municipality contended that as per the Municipality Act, 1962, it is the owner of the pond and urged that the court to dismiss the writ petition. The Supreme Court, upholding the claim of the Municipality, ruled that the pond in dispute is the property of the municipality because ownership right of the pond was not claimed by anyone.

In Ram Babu Prasad Yadav & Others vs. Bbulal Shah Teli and Others,[35] an injunction petition was sought on the ground that a pond constructed fro religious purposes by the ancestors of the petitioner was claimed by the Village Panchayat as it's property as per the provisions of the Village Panchayat Act. The defendant refuted the petitioner's claim and contended that the disputed pond was the Village Panchayat's property.

The Narayani Zonel Court dismissed the petition stating that an order for injunction could not be issued if it raised right and entitlement issues.

The Supreme Court upheld that Zonal Court decision which ruled that the Village Panchayat had no authority to claim ownership right over the private pond only on a ground that it is located within the territory of the Village Panchayat.

[32] NKP, 2044 P. 59
[33] NKP, 2044, P. 768
[34] NKP 2046-p. 987
[35] NKP, 2047, P.689

In Kanshi Thakur Bhumihar vs. Hiya Shani Malaha & Others,[36] A dispute arose when a lake, owned by Ram Janaki temple, was given to the plaintiff for use and exploitation of its products under an agreement reached between the plaintiff and the Ram Janaki Temple Management Committee. The Village Panchayat then claimed the pond as its property and restrained the plaintiff from using it. The plaintiff filed a petition for injunction on the ground that the Village Panchayat violated his civil rights. The defendant denied the charge and urged for the dismissal of the claim because the Village Panchayat Act clearly stated that Village Panchayat's own ponds and lakes located within their territory.

The court held that the Village Panchayat cannot interfere in the property of the temple because the pond has been its property since time immemorial. The court further stated that apart from having sacred and religious values, it was the property of the temple on the basis of custom and tradition. Therefore, the Village Panchayat could not claim ownership of such properties failing within its jurisdiction merely on the basis of existing general legal provisions.

In Shanta Devi Shrestha vs. Kathmandu Town Panchayat,[37]a dispute arose when the petitioner constructed a boundary wall preventing access to others to the well in her land. The action resulted in shortage of drinking water for the people of that area. On receiving a complaint, Kathmandu Municipality pulled down the newly constructed wall and made the well accessible to the local people. A writ petition was filed with the Supreme Court against the Municipality's action. The respondent, the Municipality, contended that it had pulled down the wall to make drinking water available to people of that area.

The Supreme Court held the action of the municipality unlawful but ruled that the local people should be given access to the well because they had been dependent on it for a long time. The Supreme Court through this decision upheld use rights based on customary water use. Its decision allowed for the use of water located in someone's private property on the ground that they were long-term users.

In Ram Bdr. Tamang & Others vs. Krishna Raj Lama,[38]a case was filed claiming that the defendant encroached upon the land and a pond located on the disputed land. The defendant denied the charge.

The Superme Court held that the encroachment of the land by the defendant is unlawful, but at the same time, it allowed both the parties to use the water in the pond as per their convenience because they had been jointly using it for a longtime. The Supreme Court upheld this principle on the basis of customary right of water by both the parties.

In Ak Bdr. Maskey and Others vs. Punaram Dhami,[39] the petitioner filed a case in the Pyuthan District Court requesting that a) the defendant pay him compensation for damages to the wooden pipes he had installed to supply water to his canal and b) to establish his rights to use the canal water. The defendant denied the allegations.

The Pyuthan District Court ordered the defendant to pay compensation for the damage of the pipes. The Mid Western Regional Court held that if the new canal has disturbed the old one, the claim should be entertained. The Supreme Court held that all the farmers have equal right to use the disputed canal water. They can use the water as done traditionally and customarily, i.e., following the turn-by-turn rule, which they themselves had made. They may face legal obligations if they violate this rule and deny some farmers access to water.

[36] NKP, 2043, p. 941
[37] NKP, 2043, p. 636
[38] NKP, 2043, P.465
[39] NKP, 2039, P.306

In Tanakpur case having national and international concern, the Supreme Court of Nepal observed Article 126 of the Constitution of the Kingdom of Nepal and different state power under it with regard to holding natural resources of the Kingdom. In this case among other things, in December 1991 the Government of Nepal and the Government of Nepal entered into an agreement, explained as a mere 'understanding' and not a 'treaty' that would have to be presented before Parliament. This understanding allowed India the use of 577 m of Nepali territory to complete the construction of the left afflux bund of the Tanakpur Barrage. Nepal was to receive 'free of cost' 10 million units of electricity as well as 150 cusecs of water fro irrigation.

The details of the understanding that began to emerge after GP Koirala, the Prime Minister of Nepal of that time, return to Kathmandu after his visit to Delhi raised a lot of suspicion and hackles.

On December 17, 1991 public interest advocate Bal Krishna Neupane filed a writ in the Supreme Court of Nepal challenging this understanding and appealing to the court to have it declared a treaty required parliamentary ratification by a tow-thirds majority as per Article 126(2) of the Constitution of the Kingdom of Nepal, 1990. On March 11, 1991, Prime Minister Girija Prasad Koirala presented a written reply to the Supreme Court defending his Government's position stating that it was a mere understanding but not a treaty requiring Parliament's approval.

In the mean time all-party special committee of the Parliament was formed to analyze the matter, which held extensive meetings and invited external specialists as well as Government experts to the hearing. It was, however, unable to reach a consensus as sharp divisions remained regarding the actions of the Government and the interpretations of the constitutional provision. Instead of a single document, the committee presented three different reports to the Lower House of Parliament on September 9, 1992; eight communist factions stated that the Tanakpur 'understanding' signed by the Prime Minister Koirala was a treaty, which could only be implemented after ratification by a two-thirds majority in the Parliament.

Hearing of both parties on December 15, 1992, the Supreme Court of Nepal decided that the Tanakpur agreement was indeed a treaty and not just an 'understanding', and that it would have to be presented to the parliament for ratification as per Article 126 of the Constitution of the Kingdom of Nepal. The Court, however, failed to prove a ruling on the second point of the petitioner, which was to require parliamentary ratification by a two -third majority as per Clause (2) of Article 126. It was left to the parliament to decide whether the ratification should be by a simple majority or, if a two -thirds majority deemed the matter "pervasive, serious and long-term impact".

A month after the Supreme Court decision, the Government constituted a Committee (Baral Commission, 1993) to evaluate the impact of the agreement. This commission, after a deep analysis and observation on different six criteria, this commission concluded the agreement of a simple nature and not a "pervasive, serious and long-term" one.

In Ram Saran Nagarkoti & Others vs. Ichangu Drinking Water, Food and Beverages Pvt. Ltd. and others, an injunction Petition was filed in the Appellate Court of Patan in Asad 8, 2062 (2005), on ground that the defendant's (three water selling companies) action of boring and well digging dried up the Panch Dhara commonly used by 562 local households as their customary right for drinking, and other domestic uses.

In this case the petitioners claimed that the disputed local water resource is only the resources that is being use by the local people of ward no 4,5,6 of the Inchangu VDC and ward no 8 and 9 of Sitapaila VDC adjoining Kathmandu Metropolitan City in its northern side and armed police forced located in the Sitapaila area from time memorable. The defendant started their water business by boring and digging new well nearby the tap area using high-powered machines resulting to drying up the tap. They also claimed that the assailants have not acquired the necessary

license under Water Resources Act for the utilization of the water, which is treated the sole property of the Government under this Act. Even the use shall be beneficial without hampering the customary water-use right of the local people.

The defendant defended that they are using their own land plot no.622 of Sitapaila VDC Ward no. 9 (c) as owned by themselves and Water Resources Act allows the owner of the land to utilize the resources lying within the private land. Hence, the petition merits to be quashed.

In this case the Appellate Court held the defendants' action illegal and ordered to immediately stop exploiting the water resources as used to be. The court observed that these companies have not taken the approval from the District Water Resources Committee constituted by the WRA; the ownership of the water resources, be the stream or ground water, vests on the Government under WRA; the use pattern of the defendant is not exempted by the WRA; the local water resources have been dried due to the activities of the service-provider which can not be allowed; the defendant can not have right to use their property effecting to dry the local peoples' resources; and the defendants have not also obtained the license from the appropriated authority to use the water resources.

CHAPTER V

13. FINANCIAL VALUE OF WATER

A. Pricing of Water

Subject to a valid license for utilization of water resources a person or a corporate body is free to develop and extend the services to the consumers against payment of charges or fees. The licensee may make services available to any person on the basis of terms and conditions mutually agreed and realize the charge in consideration of such services rendered. In the case where the service generated by the Government is made available to any person, the service charge may be fixed as prescribed and realized in consideration of such services rendered to them. A provision has been made in the Water Resources Regulations for constituting a three-member committee for determining the rate of the fees to be charged by projects developed by the Government. The committee, while determining the rate of the charges, is required to take into consideration of factors such as the rate of depreciation, return from the investment, the mode of operation of the facility, and changes in the consumer price index.

The water Supply Regulations and the Irrigation Regulations also provide for the constitution of service fees fixation committee at the local level. These committees are composed of representatives from the concerned department together with the representative of the concerned user's group.

Drinking Water Rate Fixation Commission Ordinance, 2005 has constituted a commission for fixing reasonable rate in drinking water and sanitation services and ensuring quality drinking water and sanitation services to all the consumers. A three-member technical committee has been formed under Section 3 of the Ordinance for this purpose. The main function of the committee is to fix the rate of fees to be charged by the service-provider to the consumers and monitor the quality of the services provided by the service-provider and maintain the same. The other major function of the Committee is to settle the disputes arising out of service agreement between the service-provider and the consumer. 101 Section 15 of the Ordinance provided that any consumer not satisfied with the services provided by the service-provider may file a petition in the Committee which in the process may issue necessary directions against he service-provider to maintain the quality of the service.

The development of hydropower in the country is opened to the private sector for investment, foreign or domestic both. The license for generation, distribution and transmission may be given for a maximum period of 50 years. The Government guarantees the purchase of power produced by a private producer, domestic or foreign. The rate for the purchase of the power produced is decided by mutual agreement between the private producer and the Nepal Electricity Authority. However, the Electricity Act provides that the tariff to be charged to the consumer needs to be assessed by an independent agency. The Government is required to constitute a Tariff Fixation Commission. The Commission again is required to fix the tariff and other charges on the basis of the rate of depreciation, reasonable profit, mode of operation of the plant, changes in the consumer's price index, royalty, among other things. There is absence of similar provision for fixing the tariff in the case of water developed and supplied by the Nepal Water Supply. Corporation. The Corporation is authorized to fix the tariff for the water supplied to the consumer and sewerage service provided.

B. Water Rates and Charges

It is the responsibility of the consumers to pay the charges fixed by the facility operator. On the failure to pay the service charge or fees levied the facility operator can stop the supply to the consumer. The Water Resources Act ,the Electricity Act, The Water Supply Regulations, the Irrigation Regulations, authorize such action by the supplier.

Similarly, the Nepal Electricity Authority Act and the Nepal Water Supply Corporation act authorize the concerned utility operator to stop the services on failure to pay the dues by the consumer. Under Section 13 of Drinking Water Management Ordinance, 2005 stipulates that the Commission constituted under the Ordinance may charge, from the service-provider, a prescribed fee not exceeding than two percent of the total fees charged by the service provider to the consumer. Similarly Section 16 of the Ordinance provides that the Commission may fine the service-provider up to Rs. 50000.00 in case if the service provider rises the charge more that the fixed rate, or does not apply the fixed rate or imposes discriminatory rates. These legislative provisions also authorize the service provider to realize the dues by initiating the process of auction of the property of such person.

14. IMPLEMENTATION OF LAWS

In this section legal provision concerning protection of rights or interests in water resources, enforcement of water laws and regulations and penalties will be reviewed.

A. Protection of Water Rights and Interests

Water rights of the people and the community enjoyed by them before the enactment of Water Resources Act have been continued and safeguarded by the Act. The traditional rights have been left undisturbed. The general course of redress under the law of the land or the Civil Code are available to the holder of rights or interests in water seek in redress from un-due interference from other users of water. They can exercise the right free of Governmental interference e. Water rights of the people cover both surface as well as groundwater.

B. Enforcement of Water Related Legislation and Regulations

The protection of water rights is further effected in connection with the compulsory acquisition of water rights by the Government in accordance of the law. The further requires the holders of water rights affected be afforded an opportunity to be heard in the process of acquisition and be compensated for the loss of their rights or interests.

C. Penalties

Penalties sanction most regulatory provisions related to the use and protection of water resources. A fine up to five thousand rupees can be imposed to a person who acts in contravention of the provisions of water resources Act or rules made under the Act and realize compensation if cause damage. A fine up to five thousand rupees can be imposed or close such activity if any person utilize the water resources without license. A person faces imprisonment up to ten years if the offence is serious that is, if a person is found to demolish, destroy or cause harm with mala fide intention to water resources structure related to its utilization, faces imprisonment up to ten years. Water authorities are also empowered to disconnect services if consumers fail to pay their utility bills. A fine up to Rs.50,000.00 can be imposed to a person incase he dismantles or destroys any construction, linkages, or infra-structure related with the service under Section of the Drinking Water Management Board Ordinance, 2005. Likewise, up to Rs. 25,000.00 can be imposed against a person who pollutes the drinking water under the same Section. Water supply may be suspended for six months and compensation may be imposed against such service-receiver who is involved in stealing, dismantling or destroying the pipe joined in the service system under this Ordinance.

15. New Federal Constitution making process and water rights issue

In a state with a federal structure, along with issues like international relations, income tax and revenue the legislative power over environmental resources, service and goods are also divided or distributed among the Centre or Province and the local Governments. If there is clear provision in relation to distribution of water resources in a federal structure, the legislative rights over environmental resources between the federation, province and local government would become clear. As a result, it would also contribute to protection of water resources, sustainable use and equitable distribution of the benefits of utilization of water resources, and also prevent disputes.

Therefore, in relation to management of water resources, among the environmental resources, the federation shall formulate laws in relating to protection of water resources, prevention and control of pollution, sustainable use and equitable distribution of the benefits of utilization of water resources, and the provinces shall enforce the laws as provided by the constitution. Accordingly, if the Constitution assigns legislative rights along with the determination of a level and parameters, then every level will enjoy legislative rights on the one hand while on the other the federation, province and local government and communities shall not be deprived of the opportunity to develop their respective regions through protection and management of water resources within the assigned level and parameters. The province and the local government and communities should be given the right to produce power as per their capacity and it would be good to not fix a production ceiling. If the recommended provisions are compared with the models of environmental federalism, then we will find all the four models here, only determination of law and parameters has specified the jurisdiction of every level but all the four levels would be working in the water resource sector.

In relation to the tariff collection from the use of water resources, it would be appropriate to include in the Constitution "the province shall use water resources within the boundaries of the federal law and would have the right to levy necessary tariff for consumption".[40] If a provision stating that "the federation shall give priority to the interest of the province that is the source of the water resource" is made in the Constitution, then it would provide some guidelines to the federation and provide sufficient ground to resolve any possible disputes in the future. It seems to be appropriate to include a provision stating that "Rights related to the inter-provincial watershed areas running between two or more provinces and laws related to it shall be formulated by the federation, and would also resolve possible disputes" in the Constitution. If a provision reading "The community shall have rights along with duties over traditional stone spouts, small rivers and streams, community lakes, local renewable resource management, and production, sale and distribution of farmer-managed irrigation, management, maintenance and preservation of drinking water" then it would preserve and respect the community knowledge on such resources managed and operated by the community so far, and would also end the situation where the concerned community has to depend on the aforementioned subjects of any government.

[40] Narayan Belbase , Environmental Federalism, Jankaripatra-Baisakh 2067 at 5

16. CONCLUSION

Water resources are wealth of nation. Nepal's unused water wealth is flowing away in the absence of proper planning and other constraints. At the same time pressures to define property rights emerge for water and other resources as they become scarcer, and competition among water users emerges. In the economies of scarcity, the right to water is an essential right. Experts says it need to be prioritize water in favor of drinking and domestic water uses before irrigation and industrial uses, thus at the same point court have considered the right to water as a vital aspect of the right to life.

A water right is a legal permission to use a specified amount of water for a beneficial purpose such as drinking, fishing, irrigation, farming, hydro-electricity generation or industry. In the past ownership and rights issues concerning water has never been viewed seriously. Nor much regulatory framework specific to the rights on water by its user as well as the stakeholder exists in Nepal.

A water right usually constitutes the right to use but not ownership of the water itself. The only acceptable rights to water would be *usufructuary* rights over water. According to public trust Doctrine State being the trustee of water resources has sovereignty on it and need to manage by law. Rights to water are accompanied by duties on the State and on the citizen to conserve and maintain water resources and not to pollute.

Water rights are available to the people in Nepal by the following ways:

A. Natural rights for which license is not required, but only for limited purposes;
B. Rights acquired by licensing. Such rights are limited to the purpose for which the license is awarded. However, by acquiring the license, the licensee gets right over the use of water as property, which he can sell(license) to others, collect fees from users of the water or product thereof, and terminate the service upon non-payment of the charge/fee.
C. Riparian rights have been recognized, under which the upper riparian has prior right to irrigate his land in comparison to the lower riparian.
D. Customary use right and prior appropriation rights have been recognized in two senses. First no other irrigation canal can be constructed above the existing one if water supply to the existing canal is decreased. Second, the water share of a person who has been getting it traditionally should not be stopped and he should not be compelled to leave his land fallow.

All these rights can be adversely affected by government intervention as per the law in Nepal. Thus water rights are normally subject to a series of terms and condition. A system of water rights therefore is based on formal water legislation. Water Resources Act 2049 has thus established a system to water right based on right to use the available water, as a means to reduce interference, avoid counterproductive conflicts and resolve emerging disputes between neighboring users. It seems to provide a sound foundation for the development and conservation of water resources and the protection of aquatic ecosystem. How ever, there is still some provision within the said act to be activated by making enabling legislations and remove overlapping and conflict in sectoral legislations.

As the National Water Plan has adopted the concept of integrated river basin management therefore, Prevailing laws need to be molded in the same fashion in regard to implementation, the issue of water right at the level of individual and public and private institutions. Present institutional mechanism at the district and village level would not be workable or sufficient.

Uses of gravels and boulders in a large scale have invited many types of natural disaster in present situation. District Development Committee is haphazardly tendering rivers gravels and boulders without assessing environmental concern and effect on water uses for gathering fund to the district. Natural resources including water of rivers and their products are being seen as main income sources of the District Development Committee. Natural Resource Committee of Parliament had also intervened

from time to time to stop over using of these products. Still the situation is hardly under control. Water Resource Act 2049 provides the Local Development Officer as the member Secretary of District Water Resources Committee but in reality there is no any interface with the water use administration institution such as irrigation and drinking water in relation to the use of the river beds and gravels and boulder. Therefore, there is a need to introduce some specific legislation in relation to its relationship between the water use institutions and those who administer the river bed and boulder in and outside of forests area.

The credibility of above mentioned legislation is contingent upon timely and effective administration by ensuring public support for and compliance with it. Administration of the water related legislation is equally important to establish the security of rights to water resources and to promote private sector investment as well as public-private partnership. It will, however, take place in a context where meaningful protection is provide for basic human and environmental requirements while available water resources get allocated to uses in an increasingly competitive environment. Therefore, the government should able to administer and enforce legislation and to let the water users comply with it.

The new constitution making exercise has covered the future of water right in its various schedules and article in different way. The concept paper and preliminary draft of the distribution of Natural Resources, Financial Powers and Revenues Committee of Constituent Assembly covers the prevailing principles relating to natural resources in the world, the principles relating to financial powers and sharing of revenues, commitment of Nepal towards international treaties relating to natural resources and provisions in some other federal countries of the world, it serve the purpose of a rich and useful reference.

Schedules provides many lists of sharing of revenues provisions in various countries relating to natural resources including water resources, legislative accountability, allocation of taxation obligation, allocation of obligation between federal and state governments, sharing of obligation between the authorities of the centre and the province. As schedule 27 of the concept paper gives detail information of natural resources, financial powers and sharing of revenues as provided for in the Interim Constitution 2007 as well, it could be expected that it would give an invaluable insight into the making of the new constitution.[41]

Schedule 42 of the concept paper gives an outline as to allocation of powers between the local and various levels of government, the bases of revenues for local government, and details as to the grants to be made available by the federal government to local governments. It would be easier for providing allocation of financial resources at a time while the country is heading towards a federal setup.

Article 24 of the preliminary draft proposes formation of a natural resources commission as a constitutional body for conservation, promotion and sustainable use of natural resources. The main functions of the said commission include, inter alia, settlement of disputes arising out among centre and provinces, province to province and province and local government.

The preliminary draft tries to provide a clear cut arrangement as to allocation of fiscal powers and sources of revenues but the draft fails to provide as to how to distribute natural resources among the states/provinces, which resources to belong to which province/centre, what are the parameters for distribution of resources jointly shared by more than one provinces. Therefore the work performed by this committee is very useful to define future water rights including other rights in natural resources.

[41] Natural Resources, Economic Rights and Revenue Allocation Committee, Constituent Assembly-Report of the Preliminary Draft of the Constitution (with Concept Paper), 2066, Kathmandu, Nepal

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