Perspectives on an Overarching Water Policy for Sri Lanka

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Water policy defines the "rules of the game," guiding those actions governing the management, administration and procedures used to implement and direct a formal water planning process by which water rights, water uses and water diversions are evaluated, ranked and allocated on the basis of specific public policy goals and objectives. Such policies may be designated, either by legislative mandate, regulation or administrative fiat[2]. An inadequate understanding of the purpose of a water policy has created a lot of avoidable myths and fallacies. Consequently, Sri Lanka's past efforts at water policy formulation have been perceived as a "conspiracy to sell water". This is not surprising when one considers the confusion arising from a plethora of policy documents in the sectoral and sub sectoral areas in the domain of water.

Figure 1 presents such diverse fields for which policy development is taking place in the blue water domain.[3] For blue water, there already exist subsectoral policies on major irrigation, minor irrigation, anicut systems, urban water supply, small towns water supply, rural water supply, community water supply, rainwater harvesting, wetland systems etc. In the green water domain, land use, soils, agriculture and watershed management are policies that impinge on the overarching water policy.

Ideally, the water policy should consist of an overall and overarching policy document which should stand on top of the activity specific collection of sectoral and sub sectoral policies.

The objectives of this paper are to: outline briefly the experience to date with formulating a formal national water resources policy; clarify the meaning of a few widely misunderstood terms, such as, "ownership", "user rights" and "human right to water"; analyse several water policy themes and issues such as "bulk water entitlements", "ground water management", "user conflicts" and "roles of institutions"; suggest elements that should constitute a future water policy.

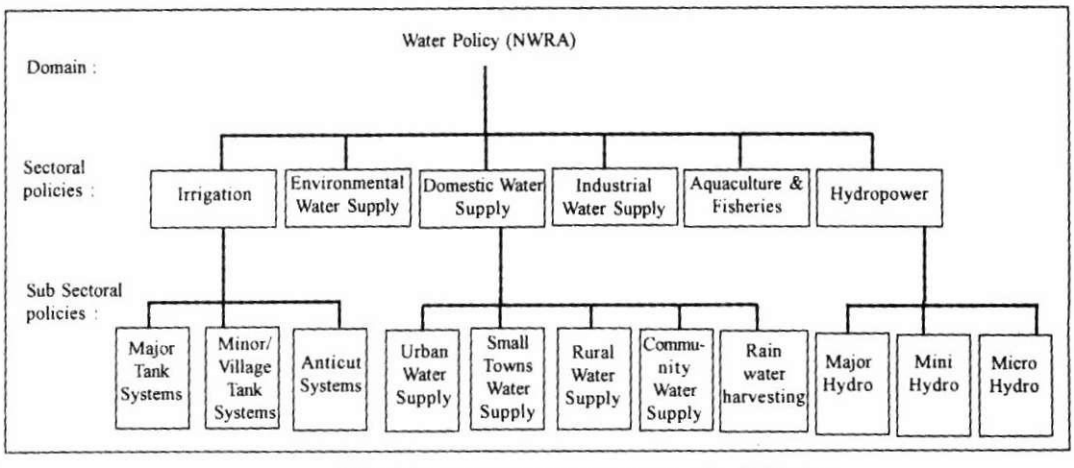

Figure 1: Policy Areas in the Domain of Water

Historical Context[4]

Does Sri Lanka have the right water resource policies for the 21st century? Such concerns prompted policymakers to attempt several policy reforms in Sri Lanka's water sector during the last five decades. One of the earliest attempts at developing a national water resources policy was the establishment of the Water Resources Board in 1964 to advise the Minister responsible for irrigation on the formulation of national water policies, integrated water resources planning, river basin and trans-basin development, coordination and project coordination in general and the prevention of water pollution. Despite its mandate, the Water Resources Board has not functioned as an overall policy formulator. At present, it carries out a narrower mandate of engaging in hydro geological investigations and the development of ground water through the drilling of tube wells.

In 1980, a Water Resources Bill was drafted by the Ministry of Irrigation, Power and Mahaweli Development. This draft legislation made provision for bulk water allocation to various sectoral agencies (and further allocation by those agencies) and for the establishment of a National Water Resources Council as an advisory body under a "minister in charge of water resources planning." However, the legislation was never submitted to Parliament due to a lack of Cabinet support. With the formal approval of the policy of "Participatory management of irrigation systems" in 1988, the Government of Sri Lanka called for substantial devolution of authority and responsibility to Farmer Organizations. In order to facilitate the implementation of this policy, the **Irrigation Management Policy Support Activity (IMPSA)** was designed and implemented by the

International Irrigation Management Institute (IIMI) with USAID assistance. It executed a systematic and analytical planning process to assess experiences and formulated policies and guidelines for implementation of the new irrigation management policy. The outcome of IMPSA was expected to be a broadly participatory activity involving a wide range of stakeholders including specialists, policymakers, irrigation managers and farmer representatives with an emphasis on achieving a broad consensus on future directions. The project highlighted the need to address competing demands for water in the light of limitations of available water resources. IMPSA was initiated by the Ministry of Lands, Irrigation and Mahaweli Development and the Ministry of Agricultural Development and Research.

In its 1992 summary report the Irrigation Management Policy Support Activity (IMPSA) made recommendations on land, watershed and water resource management. That report recommended that the government should establish a high-level, advisory National Water Resources Council and a Secretariat. The functions of the proposed Council would include the development of national water resources policy and law and a national water resources master plan. The IMPSA report also recommended "a comprehensive water policy that looks at water in a holistic way, to put water to the most beneficial use at the least cost, as to conserve it without degrading the environment, sustaining it for future generations as well."

In 1992, a proposal to carry out a water resources master plan was presented to external support agencies. As a result, in late 1993, the Asian Development Bank funded the "**Institutional Assessment for Comprehensive Water Resources Management (IACWRM) Project**" to assess the institutional capacity for water resources management. Its outcome was a strategic framework and an action plan for comprehensive water resources management. The action plan focussed mainly on the need to develop a **National Water Resource Policy,** to establish a permanent institutional arrangement for water sector co-ordination, prepare and enact "**The National Water Act**" and amend other related legislation, establish a system to provide information and data to decision makers and carry out comprehensive planning in selected watersheds. The Technical Assistance (TA) included broad consultation with the government agencies, water-related private sector groups and NGOs and other donor agencies. A strategic framework and an "Action Plan for Comprehensive Water Resources Management" were drawn up to establish the improved institutional framework over a three year period. The project recommended the formation of a temporary **Water Resources Council (WRC)** for a period of three years to oversee the implementation of the Action Plan and to recommend permanent institutional arrangements for water resource management.

Concurrently, the second TA project funded by ADB, "Institutional Strengthening for Comprehensive Water Resources Management" and the FAO/Netherlands funded "Water Law and Policy Advisory Programme" were developing water legislation and assisting groundwater policy development. On the basis of these recommendations the Cabinet of Ministers approved in 1995, the implementation of the Strategic Framework and Action Plan for the "**Institutional Strengthening for Comprehensive Water Resources Management**'**(ISCWRM)** project. As a result of these recommendations, the Government of Sri Lanka established a **Water Resources Council (WRC)** and a **Water Resources Secretariat (WRS)** in 1996. The Asian Development Bank approved funding of the project over a 30 month period beginning in April 1996. Parallel funding for legal and policy assistance was provided under the FAO/ Netherlands "inter-Regional Water Law and Policy Advisory Programme" over approximately the same time period.

In 2000, the Government of Sri Lanka signed a loan agreement with the ADB to obtain financial assistance for capacity building in integrated water resources management. The work programme to be funded by this loan agreement under the said Water Resources Management Project included the establishment of a National Water Resources Authority (NWRA) and formulate capacity building and sector reforms. The formation of the NWRA as a legally constituted body after the passage of Water Resources Management Law by Parliament was a precondition for the loan effectiveness.

These efforts resulted in producing the documents, i.e., the "**National Water Resources Policy and Institutional Arrangement**" and the "**National Water Resources Authority Bill**". The National Water Resources Policy was approved by the Cabinet of Ministers in March 2000. The draft National Water Resources Authority Bill was released by the legal draftsman's department in September 2000. However, this was subsequently revised due to public concerns expressed on certain sensitive issues.

In the year 2004, two policy documents were prepared by the Ministry of Agriculture and a Presidential Task Force. On 21 December 2004, the Cabinet approved the water resource policy contained in the Cabinet Memorandum No.04/1702/013/020. This national water resources policy recognized water rights, with regulations governing allocations. It also provided for transferable water rights and sought to introduce appropriate ground water management measures to regulate use. Yet, public concerns expressed on certain sensitive issues and the lack of consensus due to changing hands of the subject of policy development amongst

various successor Ministries resulted in the demise of this water policy formulation effort.

Ownership or User Rights

One of the most contentious issues in the national water resource policy process was the question of ownership. Skeptics alleged that the ownership would pave the way for sale of the water resource which should be freely available to the people as a human right. Can water be owned? Ownership connotes a right to prevent others from using a "resource". Yet water is a common property resource which is always in a state of flux. In the course of its movement in the hydrological cycle it can only be owned when captured in a receptacle. Hence, it is best defined as a common property resource, not as a state or a private property. Unlike land, water is hard to "capture". What is the value of expressing ownership for a fugitive and constantly changing asset? Therefore, what is important is the right to use and acknowledge a human right to a basic water requirement. Under the Roman law, the air, the rivers, the sea and the seashore were incapable of private ownership. This concept of common property, called, the Public Trust Doctrine maintains that the state holds navigable waters and certain other water resources as common heritage for the benefit of the people. [5] The doctrine can prevent the continued destruction of public waters (Stevens, 2003).

Water rights are linked to land ownership. In Sri Lanka, a landowner is regarded as owning the water underneath his land and consequently a right to pump all the water from the common aquifer, lowering the water table. Further, he may use or abuse all the rain which falls on his land. In Sri Lanka, all the streams that flow across a private land fall within the public domain. A right to abstract and use surface and underground water should be subject to a right of reasonable use without a permit. Extraction of water by mechanized means may not be a reasonable use for which, a permit requirement should be recognized. A water right entitles a holder of the right to the exclusive use of surface or subsurface (underground) water for a specified purpose. It does not, however, endorse a right to own the river or underground water. Consequently, a water right only permits the use of water up to the permitted quantity. Being a property right, its infringement by external parties can be prevented.

People may have an exclusive right to the use of water, but it can never be "owned" as it passes through a particular point on its continuous journey through the water cycle. The government is the custodian of the island's water resources, as an indivisible national asset and has ultimate responsibility for and authority over water resources management, the equitable allocation and usage of water and the transfer of water between catchments. This principle recognizes that where resources are limited and the competition is increasing, some party has to have oversight and custodianship over water. This means that the government is not the legal owner of water but the overall manager of water. Ownership is a difficult legal concept. Property rights can vary significantly in nature and degree. There is a difference between right to access / right to use and the ownership of water.

Water rights can be broadly categorized into public, common or private property on the basis of the decision making rights of allocation (Caponera, 1992). Public water is considered to be the property of the State. They are non-prescriptible, i.e., in spite of long use they do not confer upon the user any prescriptive right. In public water rights, state asserts its rights over water by controlling the allocation directly through government agencies. People get water rights by acquiring water permits, which allows them to use but not own water. Common waters are those waters considered as the common entitlement of the whole community. In common water rights people can use water in ways that are specified by some community as seen in many farmer-managed irrigation systems in Asia. Private rights emanate in respect of those waters which the law recognizes to be the possible object of private ownership. They are held by an individual or legal personality such as a corporate body. In some cases, private rights go beyond just user rights to include a sale or lease to others as in Chile's tradable water rights systems. (Mainzen-Dick et. al., 2007).

Is there a human right to water? In 1948, when the Universal Declaration of Human Rights was adopted, no explicit recognition of a right to water was made as water like air is so fundamental to preserve life. The International Covenant on Economic, Social and Cultural Rights (1966) recognized this right under two articles, namely, article 11- the right to an adequate standard of living and article 12- the right to health. The Committee on Economic Social and Cultural Rights adopted general comment No. 15 in November 2002 in which water is recognized, not only as a limited natural resource and a public good but also as a human right.[6] Although not legally binding, the right to water requires governments to increase progressively the number of people with safe, affordable and convenient access to drinking water. Access to basic sanitation is also included in the right to water. It is noteworthy that the right to water does not mean water is free, but rather that it be affordable and accessible to all.

Bulk Water Abstraction

Water has to satisfy multiple needs as it flows through a catchment. Currently, there is no proper bulk allocation system in Sri Lanka. Some large consumptive users allocate water to themselves. In the current situation, the agency that operates the structures con

trols the water allocation. For example, in the upper reaches of the Kelani River, hydro - electricity producers control the water releases. At the lower reaches at Ambatale, the National Water Supply and Drainage Board (NWSDB), who controls the intake structures, decides its allocation and consequently determines the balance flow for ecological purposes. In between, wherever Irrigation structures are found, the Department of irrigation controls the quantity for diversion. The most serious deficiency observed in water allocation has been the tendency by large water users to allocate water to themselves regardless of the needs of others.

Often, there are inter - agency conflicts, particularly during times of low flow. When consumptive users such as irrigators, urban water providers, industrial and commercial users appropriate the scarce surface water, who will ensure the minimum environmental flow for the preservation of river ecology, fishing and a host of other in - stream uses? The reasons for a neutral state authority involvement in managing water resources are to coordinate the sharing of water for the benefit of all existing and potential users, whether they obtain their water from watercourses, underground water or overland flow and to protect the environment. The challenge for the proposed authority is to establish a set of allocation principles that are rational and durable to accommodate the long term demands.

Do we need to establish a formal water allocation system? Can we meet all our water needs in the domestic, irrigation, hydropower generation, recreation and navigation and fishery development sectors? Can we guarantee a basic water requirement to all the people for all the above competing needs without managing the resource? The dilemma we face as a nation is how to manage our water bodies in a sustainable manner so that future generations too will inherit a healthy river system with the capacity to provide our drinking water needs, capacity to support productive agriculture and preserve an ecosystem with a diverse range of flora and fauna.

When allocating water, at present, responsible agencies have to take into account many more competing demands than in the past. And to this day about 4.6 million out of the 20 million inhabitants in the country, predominantly those living in the rural areas, do not have access to safe drinking water (Wickramage, 2008). They have to meet their water requirements from wells and rivers, the quality of whose water is questionable. How can universal access to safe drinking water be ensured unless the freshwater sources are protected from *ad hoc* withdrawals by powerful vested interests?

Water use consists of three types:

(a) intake uses
(b) on site uses and
(c) flow uses.

Intake uses for domestic, agricultural and industrial purposes, actually remove water from its source. Onsite uses include water consumed by wetlands, swamps, evaporation from the surface water bodies, natural vegetation and wildlife. Wetlands act as sponges during dry periods of the year and regulate run-off and recharge groundwater resources while purifying water supplies. Flow uses include water for estuaries, navigation, waste dilution, hydro-electricity, fish and recreational uses. What is important is to determine whether the allocation for such uses has to be permitted as a "free-for-all" or whether guidelines should be enforced by a neutral agency.

The use of water for primary needs like domestic use, and watering of plants and livestock should be free without the need for a permit. Any system of bulk water entitlements is likely to fail, if the "reasonable user" categories are not clearly specified in legislation. (Nanayakkara, 2003)

User Conflicts

With less water available, the resource harbours a considerable potential for conflict which may occur amongst individuals or community groups who require water for drinking or for cultivation or for commercial/industrial purposes. While the irrigation sector's head-end-tail-end problems are well known and such conflicts are resolved at *Kanna* meetings there is no arbitrator for water conflicts between drinking or cultivation purposes. Furthermore, the share of the urban population in Sri Lanka is projected to increase to 45 percent by 2015 and 65 percent by 2030. (Presidential Task Force on Housing and Urban Development, 1988, p.4). Expanding water requirements of growing urban populations are making serious inroads into scarce water, previously devoted to agricultural use, particularly in the Dry Zone. A case in point is the Anuradhapura Water Supply scheme which competes with irrigation requirements of the Thuruwila farmers. (Aheeyar et.al., 2008). With economic growth, new appropriation of water for commercial agriculture, industry or hotels would injure the earlier appropriations.

Increasingly scarce irrigation water in many parts of Sri Lanka is used wastefully and excessively by some farmers to the point of causing water logging and salinization of soils, while other farmers in the same irrigation system suffer from water shortages and unreliable supplies. The water stress in Sri Lanka's South Eastern arid zone has communities fighting with one another for its dwindling water supplies. A recent HARTI study shows that the water sharing arrangement practised in the Kirindi Oya Irrigation and Settlement Project (KOISP) between the "old system farmers" and the "new system farmers" as a clear case of inequity, where the old system farmers are provided with 70 percent with only the balance for the new system users. While a large number of small tanks used by

the farmers in the new system area were demolished for the KOISP, they were denied equitable use, with a "prior appropriation" right taking precedence over "riparian" rights (Aheeyar et al: 2008). Further, it is observed that customary cattle watering places were not recognized in the development of the Kirindi Oya system. (Ruth Meinzen-Dick, 2001). Farmers and pastoral groups in Kirindi Oya area have totally different perceptions on water.

Admittedly, the Dry Zone is historically a water stressed region. But what is the situation in the water-rich Wet Zone? The following case illustrates an instance of conflict among the farmers depending on small tank/ anicut systems and the beneficiaries of rural village water supply schemes, for which water is drawn from the same supply source upstream of the small tank. The townships of Galaha and Deltota in the Kandy district suffer from a severe water shortage for domestic purposes. The rural water supply schemes are unable to cater to this fast developing area where human settlements have increased. In order to meet this demand for domestic water, extraction from Loolkandura Oya has been mooted. However, the farmers in Gabadagama area object to any diversion of water from Loolkandura Oya as water from this stream has been used to cultivate paddy in Gabadagama North and South. In addition the villagers in Gabadagama obtain their drinking water requirements from this source.[7]

The absence of any principles for sharing of water between the upper and lower riparians as well as between drinking and irrigation purposes has hindered the development planning efforts of both the Irrigation Department and the NWSDB. Should the "prior appropriation" doctrine prevent any beneficial use by later water users? Clearly, the rapidly growing population in Galaha and Deltota townships fosters fierce competition for the use of scarce water of Loolkandura Oya placing a strain on a fragile and finite resource. Who should get priority of use during times of shortage? Where, in the balance of competing interests, does natural justice lie? Climate change and population growth may exacerbate the ever more complex problems of water abstraction.

There is no mechanism or institutional arrangement for decision making with regard to bulk water allocation as the above case illustrates. The absence of such a bulk water allocation policy compels *ad-hoc* decision making by reference to political authorities who are dictated by pressure groups rather than any decision making by obtaining a consensus amongst the stakeholders. It is essential to develop principles for equitable sharing of water between the upper and lower riparians.

Ground Water Management

Although hidden from view, groundwater plays a central role in our environment, maintaining wetlands and river flows through prolonged dry periods. A water policy should address not only surface water but also the groundwater resource. Currently, a doctrine of territorial sovereignty is applied in groundwater extraction which means that "what is beneath our feet is ours to use". Groundwater, though not as visible as surface water, is ubiquitous in the Island's land mass and its use is rapidly increasing in Sri Lanka, intensifying cultivation and improving the standards of living of poor farmers in the Dry Zone. However, the Dry Zone farmers lament the lack of water for their crops at the end of the growing season- because over extraction has dried out aquifers. In some areas, like the Kalpitiya Peninsula, high concentrations of nitrates and agro-chemicals are already being found in the groundwater (IWMI Water Policy Briefing, Issue 14, p.2). Despite the intense use of agro wells during the last couple of decades, groundwater use has so far been unregulated. Ownership of the overlying land should not permit the occupier to pump underground water through mechanical means. Guidelines should be established prescribing the spacing norms for pumps and wells.

Effective management of groundwater necessitates proactive intervention because high abstraction rates and uncontrolled developments require management policies which strive to balance the needs and interests of all water users and affected stakeholders in a particular region. A survey conducted by IWMI revealed that "...in Sri Lanka, some aquifers are already being pumped dry by the end of the dry season, and some communities have been left without drinking water." Furthermore, farmers in the lower reaches of the Hakwatuna scheme in the Deduru Oya basin, for example, are lamenting that heavy pumping upstream has reduced the availability of both groundwater and surface water in their area (IWMI, Water Policy Briefing, Issue 14, p.4). Water rights may offer a way for poor irrigators to protect their river water from being stealthily stolen by wealthy and powerful investors through induced seepage and reduced base flow caused by heavy pumping. Development of groundwater must ensure a sustainable balance between the proportion of the natural recharge abstracted for supply and the amount left to flow naturally from an aquifer to protect the aquatic environment. If groundwater is abstracted from an aquifer at rates that exceed the average long tern replenishment from rainfall, water levels steadily decline and the yield of water will eventually decrease. Because Sri Lanka's aquifers are shallow, they are particularly vulnerable to pollution. Safeguarding water quality is vital - especially as 66 percent of rural drinking water comes from open dug-wells (DCS, 2008). Additionally, other pollution problems have also emerged. Several deep tube wells constructed

recently to provide drinking water in the dry zone have been abandoned because of high iron and fluoride concentrations. (Panabokke, 2008)

The implications of stream-aquifer connectivity and the need for a conjunctive management approach are the most under appreciated issues in Sri Lanka. A management policy should clearly stipulate that groundwater should not be regarded as a resource separate from surface water. The policy should recognize that both surface and groundwater are hydrologically connected and are complementary components of a larger single system.

Governance and Institutions

Water use planning requires that all the players - water users, policymakers and planners at all levels be actively involved in decision making, planning and implementation. Centralized and sectoral approaches to water resource development and management are insufficient to solve local management problems. The role of government needs to change to ensure a more active participation of people, local institutions, NGOs and CBOs. The fundamental principle of the management of the resource at the lowest appropriate level requires a decentralized approach to water management. Yet, such an approach would fail if it were to operate in an institutional vacuum.

The quasi-federal character of the Sri Lankan polity after the enactment of the 13th Amendment to the Constitution has some particular implications for water management. The confusion governing the allocation of the subject of irrigation within the provincial, central and concurrent jurisdictions is illustrated in Table 1 by juxtaposing the subjects and functions assigned to the centre and the provinces. The Provincial Council list empowers the centre to handle inter-provincial irrigation and land development projects which utilize water from rivers flowing through more than one Province. It also empowers the centre to handle all schemes where the command area falls within several Provinces, such as the Mahaweli Development Project.

Definitive resolution of boundary problems is sometimes not possible because at any time there are several different and plausible approaches. For instance, the cultivation of tobacco and potatoes in the steep slopes in the Hill country poses a serious environmental problem. Soil erosion is a subject assigned to the concurrent list in the 13th Amendment while the Department of Agriculture which is a central functionary is entrusted with the responsibility. Land use planning on the other hand is a subject assigned to the Provincial list in the 13th Amendment. Who should intervene to improve cultural practices in steep slopes? It is very easy to "pass the buck" in such situations. The practical arrangements to deal with over lapping responsibilities are left to bureaucratic measures.

There is a need for an institutional arrangement at the national level, such as a proposed National Water Resources Authority (NWRA) capable of defining the overall water policy directions and adjudicating disputes. The complex functions of a national authority lie in the establishment of effective integration of the overall socio-economic and environmental decision making process. Figure 2 depicts the sectoral and sub sectoral areas dispersed in the domain of water with a need for a central apex body to provide a system of linkages between existing organizations, including basin authorities for harmonizing policy approaches.

Unfortunately Sri Lanka does not have a single water administration, which is responsible for the freshwater resource, as a whole. But, it does have multiple authorities for sectoral aspects of water administration. Where traditions of inter-jurisdictional jealousy and distrust preclude opportunities for coordination and economy, fragmentation remains an impediment to productivity gains. Consequently, the responsibility for the development, apportionment and management of the freshwater resource is *ad-hoc*, tentative and confusing.What does the sectoral organization of society imply with regard to demands on water? The health authorities are interested in water supply and sanitation to protect against water-related diseases, high morbidity and mortality. To date, around six million inhabitants in the country, have to meet their drinking water requirements from wells and streams, whose water quality is questionable. How can universal access to safe drinking water be assured unless the freshwater resources are protected from ad hoc withdrawals by powerful vested interests?

The agricultural authorities are responsible for crop production, in generating increasing water requirements, often leading to land degradation. Irrigated agriculture claims the lion's share of the Island's water use, accounting for over 70% of total withdrawals. The Central Environmental Authority is responsible for habitat protection to avoid ecosystem degradation and maintenance of water quality. The economic development authorities are responsible for industrial production, generating increasing water requirements.

In-stream use of water also serves fisheries, transportation and recreation needs. Although hydro-power is a non consumptive use, it requires public water allocation through decisions to build dams and the operating rules that change the flow pattern of rivers. Public allocations to fisheries, wildlife and navigation are embodied in the restrictions on the development or withdrawal of water for other uses. The primary challenge in Sri Lanka is, and will be, how to cope with the rising competition for water between multiple kinds of users in ways which are equitable, efficient and sustainable.

At the national level, a large number of Ministries, Departments and Public Corporations have responsibilities impinging on water resource management. These institutions numbering over 30 perform various functions such as irrigation, drainage, water supply, hydropower and ecological purposes (Imbulana et.al., 2006). Central agencies are separated by resource (irrigation, drinking water, hydroelectricity, forest, land), each with multiple functions (policy, regulatory, commercial and conservation). It is easy for an agency to compromise one function in favour of another. The tunnel view tendency in each of these sectoral bodies introduces incoherence in decision making that explains many of the difficulties in coping with emerging problems.

Responsibilities for management of the water resources are thus scattered over different agencies within provincial, district and divisional administration. Management of some of the major and medium sized irrigation reservoirs and minor tanks/anicut schemes has been entrusted to the Project Management Committees/Farmer Organizations with shared responsibilities. Some of the large reservoirs serving multi-purpose objectives are also managed by agencies such as the Ceylon Electricity Board, Irrigation Department, National Water Supply and Drainage Board and the Mahaweli Authority of Sri Lanka. A multiplicity of institutions is sometimes unavoidable. Water resource, by its very nature is cross sectoral, whereas administrative arrangements of government are based on the sectoral approach.

The above institutions also fall into the category of water users when they function as service delivery agencies, playing a dual role at the same time. There is no integrated approach to water resources management or a system of separation of authority for management of the resources from development and service delivery functions. There is also no legally empowered authority or agency to allocate water for different water users although the Irrigation Department in certain critical situations undertakes such a responsibility.

6. The Way Ahead

What could be the elements of a comprehensive, integrated and sustainable countrywide water policy? The ensuing policy directions present a number of principles that can be applied at all levels in the polity. We must acknowledge the doctrine of reasonable and beneficial use to mean that water must be allocated fairly and used efficiently. All users should avoid actions that impair the quantity and quality of water available for other users. This public resource must continue to be managed by the state to further the benefit of all who live in the country. Whilst there are multiple sectoral and sub sectoral policies, there is no clearly defined policy for the overall water resources sector.

Despite common public ownership there is no single custodian of the natural resource. A neutral agency should determine the appropriate balance between the demands for water for off stream consumption and the volume of water flows needed by the river system. The growing competition for water between irrigation use for food production and domestic use by both urban and rural dwellers needs resolution by a nonpartisan body at the apex, such as the proposed National Water Resources Authority (Bandaragoda,

Table 1: Competence Jurisdiction relating to Irrigation in the Thirteenth Amendment

List 1 - Provincial	List 2 - Reserved	List 3 - Concurrent
9.2 Rehabilitation and maintenanceof minor irrigation works 19.**Irrigation -** Planning, designing, implementation,supervision and maintenance of all irrigation works,other than irrigation schemes relating to rivers running through more than one province or inter provincial irrigation and land development schemes.	**National Policy on Irrigation** Rivers and waterways; Shipping and Navigation: Maritime zones including Historical Waters, Territorial Waters, Exclusive Economic zone and Continental Shelf and Internal Waters; State Lands and Foreshore, Except to the Extent Specified in Item 18 of List 1. **Inter-Provincial Irrigation and Land Development Projects** 2.1 Such projects would comprise irrigation and land development schemes : (a) within the province initiated by the State and which utilize water from rivers following through more than one province: a Provincial Council however, may also initiate irrigation and land development schemes within its province utilizing water from such rivers; (b) within the province which utilize water through diversions from water systems from outside the province; and; (c) all schemes where the command area falls within two or more provinces such as the Mahaweli Development Project. 2.2 These projects will be the responsibility of the Government of Sri Lanka 2.3. The administration and management such projects will be done by the Government of Sri Lanka.	17. **Irrigation -** 17.1 Water storage and management, drainage and embankments, flood protection, planning of water resources: 17.2 Services provided for inter-provincial land and irrigation schemes, such as those relating to rural development, health, education, vocational training, co-operatives and other facilities.

Source : M K Nadeeka Damayanthi and V K Nanayakkara (2008), Impact of the Provincial Council System on the Smallholder Agriculture in Sri Lanka, Colombo HARTI, p. 21

National Level	
Non Sectoral Players	
♦ WRC (Proposed)	Policy formulating body for Water Resource Allocation
♦ NWRA (Proposed)	Water Rights, Bulk Entitlements
♦ CEA	Environmental Quality Standards, EIA Procedure (Tolerance limits for discharge of effluents into inland waters)
Sectoral Players	
♦ Irrigation Department	Irrigation development and maintenance
♦ CEB	Power generation, transmission and distribution
♦ Mahaweli Authority	Water and related infrastructure development in designated basins; Water panel
♦ NWSDB	(1) Regulator for Drinking Water : (2) Operator of Integrated Urban Schemes, Small Town schemes
♦ Department of Agrarian Development	- Village irrigation
♦ Department of Fisheries	- Aquaculture, marine fishing
♦ NARA	
♦ Water Resources Board	- hydro geological investigations into groundwater
♦ National Aquaculture Development Authority	
Provincial Level	
Provincial Ministry of Irrigation	
Provincial Ministry of Local Government	
Divisional Level	
♦ Divisional Secretary	Divisional Agricultural Committee, Kanna meetings
♦ Farmer Organizations	O& M of field channels, and distributory channels ,Village irrigation
♦ Local Government Level	
Municipal Councils	Urban water supply systems
Urban Councils	Unintegrated urban systems, small towns water supply schemes,
Pradeshiya Sabhas	Rural Water Supply Schemes
Village Level	
CBO*/NGO*	Community water supply schemes (piped, gravity schemes, rainwater harvesting schemes.)

Figure 2 : Institutional Setting

2006). It should determine the sharing and allocation of water between multiple kinds of users in ways which are equitable, efficient and sustainable. Currently, there is no administrator for the water rights system.

Like air, water is a resource that transcends society's boundaries. Watersheds and aquifers cross property borders as well as and national, sub-national and local government boundaries. At the national level, a dilemma has arisen concerning appropriate degrees of centralization and decentralization of water planning and administration. Water resources planning and management are frequently not based on the river basin as the natural unit for hydrologic management, resulting in inefficient use of water and inadequate concern with in-stream and ecosystem values.

Typically, environmental water is what remains after all other users in the system have taken their share. Most water laws in Sri Lanka were enacted to assist the abstraction of water for consumptive uses. The maintenance of stream flows in keeping minimum water levels for in-stream uses and protection of ecological uses has never been implemented in Sri Lanka. Consequently, environmental concerns such as the loss of biodiversity, salinity intrusion and seasonal drying up of wetlands have surfaced. A percentage of the flowing water in streams must be dedicated to the environment for fish and stream reservations. The purpose is not to return all streams to a pristine condition but rather to ensure that water dependent ecosystems are catered for in water allocation decisions. Therefore, it is imperative to recognize environment as a legitimate user of water.

Many water problems stem from a failure to take an adequately large "systems viewpoint" (like upstream-downstream relationships on major rivers), while day-to-day administration and public participation call for a more local approach. Appropriate resolution of this issue requires delineation of administrative boundaries to conform to river basins. This is a complex issue retarding the progress on implementation of devolved responsibilities as set out in the 13th Amendment.

Apart from the creation of a single new institution at the apex, the mandates of existing sectoral agencies need to be clarified in order to establish a clearer vision for the development of coordinating mechanisms to harmonize and reconcile policy differences. Further, the roles and responsibilities of the existing water agencies would have to be re-oriented to reflect their revised mandates of service delivery separated from resource management function as the institutional roles and responsibilities remain unclear and partly overlapping. The need for separation of the policy making and regulatory roles from the implementation, operation and service management is paramount. The mandates of sectoral agencies as structured at present, do not address some important gaps such as water sharing, conjunctive use and basin management.

A broad array of variables and their interrelationships has to be examined in the context of land and water management. Many land based activities have implications for water flows and quality. Water's capacity to trigger soil erosion has further impacts on land degradation. Therefore, a coordinated management of water and land resources offers the possibility of addressing the dynamics of an ecological system.

Can our land stewardship be separated from water stewardship? Since the mode of land use also helps determine the water balance, this means taking an integrated view of land and water use, and presupposes that management planning be watershed-based, which often cuts across administrative boundaries. Improved water governance will thus require a revision of the present system, which is a "free for all", through the development and enunciation of a shared, comprehensive vision of water resources. Integrated Water Resources Management (IWRM) assists communities to improve the ways they share, manage and protect water resources. Groundwater is inextricably linked, physically connected, to surface water and must be managed conjunctively and sustainably. The principle that the overlaying property owner carries with it no private ownership right to groundwater beneath his feet except for a reasonable user right has to be given legal recognition.

Because of a general perception of water abundance, Sri Lanka's laws from colonial times never reflected any urgency for conservation. Hence the policy has evolved over the last two centuries as if water had no cost and there were no limits to its availability. Despite Sri Lankans being profligate users of water, there is not enough water anywhere in the Island to permit every user to do with it as he pleases. Like other laws governing scarce things, a water law must encourage desirable activities and prevent or discourage undesirable conduct. There is an urgent need for a comprehensive water resources legislation to fill this void. Water allocation priorities, particularly in water stressed situations should be established in consultation with all water user groups on a legal basis.

It is important to recognize that water is not simply a free "gift of nature". In all its competing uses, water has an economic value. Some form of cost recovery is evident in the domestic water supply sector which includes the recovery of operation and maintenance costs plus the greater of debt service or depreciation from revenues derived from tariffs. Managing water as an economic good (certainly not as a commercial good to be traded in the market) is an important way of achieving equitable and efficient use and encouraging conservation.

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Footnotes :

[1] *Writer also a former Chairman, Water Resources Council, Sri Lanka. vk_nana@yahoo.com; hartidir@sltnet.lk*

[2] *Webster's Dictionary defines "policy" as a definite course of action selected from among alternatives and in light of given conditions to guide and usually determine present and future decisions.*

[3]*Blue water is the portion of rainfall that enters into streams and recharges groundwater. Green water or soil water is the portion of rainfall that is stored in the soil and then evaporates or is incorporated in plants and organisms.*

[4] *This section draws heavily from an earlier paper. See* Nanayakkara, V K (2003), *"**Sri Lanka's Efforts in Introducing Water Sector Policies and Initiating Related Institutional Development,"** International Water Management Institute, Project Final Report, Vol. 5, Appendix III.*

[5] *Issuing its landmark judgment on the Water's Edge Golf Course Case, in the matter of an application under Article 126 of the Constitution in S.C. (F.R) No. 352/2007, the Supreme Court declared that the Sovereign lands of a state are held in trust by the state for the benefit of all the people of the country and ruled that the tract of land at Battaramulla acquired for the public purpose of providing water retention as a low lying area has "to serve needs of the general public as distinct from the elitist requirements of the relatively small segment of society in Sri Lanka."*

[6]*The comment provides guidelines for States Parties on the interpretation of the right to water emanated from and was indispensable for an adequate standard of living as it is one of the most fundamental conditions for survival. The right to health entails the underlying determinants of health, **inter alia**, access to safe and potable water.*

http://www.unhchr.ch/html/menu3/b/a-cesr.htm .

[7]*Information obtained as per interview on 25 May 2009 with Ms Illangasinghe, Project Director, Towns South of Kandy Water Supply Project, National Water Supply and Drainage Board.*

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