

Governing Water

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Context / Background

Sri Lanka has a unique hydraulic civilisation dating back over 2500 years. An agrarian society based on irrigated agriculture has been the mainstay of the country's socio-economic development since ancient times and on till the 20th century, when plantation agriculture was given prominence. This hydraulic society that sustained over many centuries treated water with great respect and value and its use was regulated by edicts issued by kings as well as by customary rights and obligations determined by the community.

Decline of this irrigation based civilisation, emergence of export oriented agriculture and sector based development initiatives over the last several decades are placing stresses on the demand/supply equilibrium which existed with respect to water availability, especially in the dry zone and where increased population pressure, urbanisation and better living standards are requiring diverting of water to uses hitherto captured by agriculture without constraint.

Over 40 Agencies and 50 Acts deal with water. This has led to confusion, duplication and inaction. Water rights have been linked to land and therefore appropriation and extraction is based on land ownership. This also applies to ground water which without regulation or physical impediments to extraction has led to over exploitation which is affecting the quality and sustainability of this resource as well. By the nineteen eighties stresses from competing uses were already being felt, especially in the dry zone areas while global and local initiatives were providing an impetus to consideration of aspects of sustainability of natural resource use. The National Conservation Strategy NCS (1988) Irrigation Management Policy Support Activity (IMPSA)(1992) International Conference on Water & Environment (Dublin 1992) Rio Declaration (1992) Study on Comprehensive Water Resources Management in Sri Lanka (Mosley 1994) thrust to the fore the need for concerted action in this regard. Further water-resources based major international conferences such as the 1st World Water Forum (Marakesh 1997) The Second World Water Forum (The Hague 2000) and ancillary activities in Tokyo, South Africa and Bonn (2001) have led to upsurge of efforts towards Integrated Water Resources Management or (IWRM). The establishment of the Water Resources Council and Water Resources Secretariat in 1995, a drafting of a National Water Policy and an overarching Water Resources Law, and the establishment of an Interim Water Resources Authority in 2001 are indicative of the progressive steps being taken by Sri Lanka with respect to Water Resources Management since the Rio declaration.

Integrated Water Resources Development and Management

Recent analysis of water resources indicate a positive situation overall. However the significant spatial and temporal variations in water availability need to be addressed before they become major issues. A major part of the rainfall is confined to the North East and South West monsoons and even these monsoons show considerable variation. A recent analysis shows that more than half of the 103 rivers in Sri Lanka have a zero or negligible flow in the Yala Season (Amarasinghe 1999). Demand for water far exceeds supply through out the dry zone and the

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than in a limited local context where a riparian and traditional rights may be honoured within a given sub sector such as irrigation.

Considering the promotion of development, regulatory aspects and enforcement has suffered especially where provisions of a legal nature are to be enforced through a delegated or decentralised arrangement in an environment of competing interests and political and social pressures.

To this end, arrangements such as the District Agricultural Committee (DAC), sub committee of DAC (DAC-SC) and District Coordinating Committee (DCC) Mahaweli Water Panel etc, have had little positive impact where issues of pollution conservation etc are concerned, other than when direct operations are affected.

Even at the central policy level the emphasis has been on monitoring of the development process and giving policy support as appropriate. Arrangements such as Committee of Secretaries, Economic affairs sub committee are development oriented. However, institutional arrangements such as the CCCIM (Central Co-ordinating Committee on Irrigation Management) and the SWSS (Steering Committee on Water Supply & Sanitation) have had some regulatory impact for eg, the Government has required the establishment of clearance mechanisms for aspects such as village tank restorations where cascades/inter provincial watersheds are involved, However, it is increasingly apparent that corresponding institutional arrangements need to be instituted within a coherent and integrated policy framework to ensure response to vital issues of environment and sustainability of water use.

Present Organisational Arrangements

While legal/regulatory provision exists to comprehensively address issues related to water resources the nature and functions of the organisations that are involved and their focus and priorities relegate environmental & resource conservation concerns to a point of little or no importance.

The development orientation of these institutions that fulfil sectoral/sub sectoral needs and compounded by a political process that reinforces this, leaves little room for attention to conservation aspects. Development programmes of agencies thus contribute not only to overly exploitation but also degradation of the resource.

Even in the services sector, like in the water supply, such considerations are only linked to the immediate periphery of their operations and do not tie up to the source areas. This is greater in the urban context where a local authority may only be concerned with getting any pollutant out their locality and area of authority, hence the increasing pollution of water ways, canals etc.

Institutional reforms with regard to management of water resources need to address the instruments utilised viz.

- a) Laws Regulations, Rules, Traditions
- b) Policies
- c) Organisations
- d) Institutional arrangements

Institutional reforms in water in the context of consideration for a) Equity b) Economic Returns and c) Environmental Productivity (Diagram 1).

The institutional arrangements are further devolved/ conditioned as part of a continuum from the national level to the smallest project in a local authority area. To this is added the dimension of rural/urban demand with special local authorities involved.

The emerging organisational and institutional framework would need to develop on the basis of some assumed guiding principles related to water. i.e.

- that water should be managed holistically/efficiently,
- that Management (ownership) of Water Resources will be by the State as held in trust on behalf of the people.
- that the delivery of Water Services (and ownership of infrastructure) may be, by public/private utilities, CBO, NGO etc.,
- that there would be stakeholder participation.

Environmental Issues Related to Water Resources

The major issues impacting on environment and affecting water resources may be categorised as

- i. Pollution of Water Resources both ground/surface
- ii. Degradation of source areas (catchments/watersheds)
- iii. Overcrowding and sanitation in the overall rural/urban context.

While point source pollution in metropolitan, urban and industrial areas are identifiable and mitigatory measures taken, non point source pollution could cause cumulative irreversible damage, polluting not only of natural water courses and rivers but also constructed drainage/flood protection waterways etc. Institutional arrangements to minimise such pollution and monitor them are practically non existent other than in certain adhoc project based instances. Also aspects of waste management (solid/liquid) fall within the purview of the respective local authority, handling of storm water, flood discharge etc come under institutions such as Irrigation Department, SLLRDC which are National level institutions. Major concern has been the discharge of solid waste and chemicals such as heavy metals that are not easily bio degradable and affect not only the aquatic life but also the surrounding land areas. Pollution of low lying areas including marshes are also a problem. While adequate legal provision exists to regulate these aspects lack of institutional capacity and conflicting interests lead to non enforcement.

Certain non Governmental Organisations are playing an increasingly positive role in this area by creating awareness etc., and linkages need to be built up among all interested parties to make this more effective and broadbased.

Similarly in the rural sector including in agriculture there is a complete absence of institutional arrangements to deal with such issues. Though in principle agencies such as ID, DA, MASL and Provincial Departments are required to be responsible for these aspects lack of priority and commitment, capability, institutional arrangements and legal basis to control pollution in normal water bodies are main reasons for ineffective regulation.

Also unregulated extraction of ground water has already impacted adversely in the Jaffna peninsula and NCP, NWP resulting in adverse impact not only on the vegetation but also intrusion of saline water due to over extraction.

Shrimp farming in NWP has led to corruption of soft water lenses due to discharge of saline water into ground water aquifers. Also closing of drains to lagoons and the sea has created

problems for natural drainage. Seepage from surface waterways polluting ground water supplies in urban areas are also a common feature.

Free Trade Zones are creating pockets of industrial development that need vigilance and careful monitoring in view of the favourable status with regard to operations that such industries are granted.

Issues of Governance

The emerging crisis in water may be termed a crisis of governance. Legal and institutional arrangements tuned to sectoral interests have now to be geared to supporting an integrated and holistic approach to water resources utilisation. This is an uphill task considering that erosion of some of the broad sectoral power bases would not be openly welcomed by some sectoral interests including by the politicians unless there is an overwhelming will to support such changes. This is further compounded in the case of Sri Lanka by the very large proportion (over 75%) of the natural resource base being in the custody of the state signifying the limitations of the other stakeholders in influencing in major decisions with regard to use and management of natural resources, including water. Sri Lanka particularly does not have transboundary issues as an island nation.

Nevertheless some attempts resulting from various national and international efforts including IMPSA – 1992, Dublin 1992, Rio 1992 and 1st & 2nd World Water Forum outputs coupled with acceptance of the emerging critical issues related to water together with some donor supported programmes, have identified the need for integrated management of this limited and critical resource of water.

The concept of IWRM has attracted attention following several international conferences starting with Dublin 1992. However, IWRM has neither been unambiguously defined nor has the question of how it is to be implemented been fully addressed. It now connotes fashionable jargon used loosely in relation to water resource use and conservation and therefore some clarity of what is meant is required.

The Global Water Partnership (GWP) has highlighted the fact that while certain basic principles underlying IWRM may be commonly applicable, independent of context and stage of economic and social development, there is no blue print as to how such principles can be put into practice. Practical implementation of approaches derived from common principles must reflect the variations and diversities in local conditions. The 4 Dublin principles are significantly the most accepted and promote changes which are considered fundamental to improved water resources management.

The 4 principles are:

- i. Freshwater is a limited and vulnerable resource essential to sustain life, development & the environment (one resource to be holistically managed.)
- ii. Water development and management should be based on a participatory approach, involving users planners and policy makers at all levels (manage water with people)
- iii. Women play a central role in the provision, management and safeguarding of water (involve women all the way)
- iv. Water has an economic value in all its competing uses and should be recognised as an economic good. (after basic needs allocate water to its highest value)

The Dublin principles aim at wise water management with focus on the poor. (Poor water management hurts the poor most.)

IWRM is thus an integrating mechanism leading us from sub sectoral to cross sectoral water management. IWRM thus could be considered “*a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems*”. (GWP/TAC)

Translation of the principles into action require consideration of 3 fundamental elements of IWRM

- an enabling environment which will set the rules the institutional roles and functions, defines the players who make use of the Management instruments.
The state is seen as the enabler and its mandate would be to formulate national policies
- enact water resources legislation.
- define /separate the regulatory/service provision functions.

Institutional roles identify participator/ coordinator at all levels and across sectors by

- anchoring the coordination at the highest level.
- creating coordinating bodies at basin level.
- devolving responsibility to lowest appropriate level.

The following practical management instruments (Tool Boxes) have been identified:

Water Resources Assessment

Data collection and assessment; EIA techniques; Risk management (floods/droughts).

Communication and information

Raise awareness; Informed stakeholder participation.

Allocation and conflict resolution

Allocation using market instruments as appropriate; Allocation using costs/benefits; Tools for conflict resolution (upstream /downstream sector/sector human/nature).

Regulatory instruments

Controls, regulations, rights, standards, utility regulation; Economic instruments - prices tariffs, subsidies incentives, fees, markets, taxes; Self regulation, product labelling.

Technology

Research & Development; Technical Assessment guidelines; Technical Choice guidelines.

Financing – Instruments.

In summary – USER PAYS, POLLUTER PAYS, SUBSIDISE GOOD TAX THE BAD

Emerging Policy Environment and Institutional Arrangements

Some ideas of policy direction is necessary to examine institutional arrangements that could support development needs, manage competing demands and address issues of pollution and sustainability in an effective manner. It is likely that a coherent policy framework would emerge with the consolidation of the activities of the newly established Water Resources Authority (NWRA) and likely based on the principles outlined earlier.

It is envisaged that convenient and effective arrangements would be set in place to deal with the ever increasing competition among the various sectors based on accepted criteria and national development needs. In addition an overarching Water Act that would provide adequate coverage in a comprehensive manner to handle such demands and regulate and enforce expeditiously has become paramount.

Clear priorities and policies are likely to emerge with the functioning of the Council and NWRA and an understanding of the resource availability and increasing imputation of economic criteria as a deciding factor. Nevertheless, historical and longstanding development commitments need to be addressed and social and other requirements including for domestic water considered. However, at this stage certain policy assumptions are possible and need to be defined so that compatible institutional arrangements could be set in motion.

There is general acceptance that for sustainable water resources management there is need to,

- Address national water resources issues holistically
- Initiate comprehensive water sector development
- Carry-out resource assessments and develop a comprehensive data base
- Develop and adopt a national policy and action plan
- Strengthen capacity of State institutions for resource management
- Focus an priority basins and river basin/watershed based planning/development
- Encourage service delivery functions to be undertaken by utilities, including private sector and with community participation.
- Set-up institutions for state, NGO, private sector interactions including partnerships
- Manage public awareness and education
- Enforce environmental standards and put in place incentive mechanisms and regulatory controls to support conservation and sustainability.

The main underlying assumption is that the State will manage the resource base and monitor its use while support services and delivery functions could be handled through public institutions private entities, NGO and community organisations.

Institutional arrangements and capacity building will inter alia be dependant on,

- Water and national goals inc: national strategy
- Water and administration policies
- Property rights and ownership
- Regulation, economic investment, awareness and education

Considering that the management of water resources will primarily remain a State activity arrangements also need to address issues related to,

- Water acquisition and storage
- Water allocation and rights
- Protection and safety of waterways including rivers, lakes, dams and reservoirs
- Provision of multi-purpose facilities
- & M of infrastructure developed
- Protection/conservation of watersheds, ground water aquifers
- Control of water pollution

The delivery of water services may be through various mechanisms i.e. Public utilities, private sector community based or NGO and relate to,

- Irrigation
- Power generation
- Domestic and industrial water supply and sanitation
- Flood mitigation and control
- Improved drainage disposal
- Navigation
- Fisheries & aquaculture
- Tourism and recreation

Therefore, assignment of functions and setting up of institutions for water resources management are conditioned by the following and the linkages as indicated in the strategic framework given in Diagram 2.

- a) That water will be separate Sector.
- b) That there would be an overarching law i.e. a National Water Resources Act.
- c) That an Apex body will be constituted for management and development of Water Resources including policies and strategies. Also such an organisation will be “neutral” based i.e. examine all claims as legitimate and without any sectoral or other bias or commitment i.e. NWRA.
- d) That there would be restructuring of sub sectors, eg. Irrigation and reorganisation of agencies on the basis of the new roles for state agencies currently operating. The gradual involvement of beneficiaries in the management of systems including partial/full turnover to them, formation of farmer companies to undertake services on a commercial basis and consideration of contribution by beneficiaries to O&M and system rehabilitation has required a new role definition with respect to these agencies.

Meanwhile, privatisation and the open economy has brought in the private sector not only to handle the traditional construction role, but also now engage in investigations, studies, construction supervision and consultancy for quality control.

The role of state agencies need to revolve around the need to ensure proper quality control, safety of systems and regulate private sector involvement as appropriate.

Also the expansion of activities to not only include the infrastructure and command areas but also address issues such as watershed management, ground water utilisation, support for integrated farming etc. it may emerge that consolidation of these activities through evolution

of a single or lesser number of agencies, serving these sub sectors may be what would be efficient.

- e) That Catchment (Basin) or Watershed based organisations will be set up for integrated water management or that areas of authority will be so delineated. The service delivery functions may still follow administrative boundary limits for economic and operational reasons. Already Area Water Partnerships have been set up in some basins.
- f) That there would be property rights for water and such right would be imputed an economic value and trade ability based on situation, location and availability (water would no longer be a free public good).
- g) That decentralisation of management will be made to the optimal level of administrative convenience and efficiency while devolved regions and their own defined laws and regulations and administrative mechanisms will need to interface smoothly with national/regional needs & institutions.
- h) That considering Water Resources as a scarce commodity with limited supply resulting in a Demand management situation rather than Supply augmentation.

Already, certain policy level institutional arrangements like the National Development Council, CCCIM and SCWSS are being linked to overall strategic plans of the Water Resources Council. Similarly the well tried arrangements such as the DAC, DAC Sub-Committee and the recently constituted Agricultural Productivity Committee will play increasingly important roles in any strategic plan that would emerge from the Council (NWRA) seeking to operationalise its functions.

Water Rights

There has been considerable agitation on the issue of property rights for water, some through a lack of understanding and some through fear of a loss of authority as in the case of agencies and the politicians. On one hand we are fast proceeding towards granting "freehold" title to land alienated by the State, but on the other hand there appears to be much concern by the "bureaucracy" of transfers of water out of agriculture to other sectors. An aspect which can if required be regulated by allowing only intra sectoral transfers. Property rights will require service providers to be more responsive to demands ie. more demand driven. The power of the state (bureaucracy and politicians) over water is bound to reduce as a consequence as would the granting of free hold title for land alienated by the state.

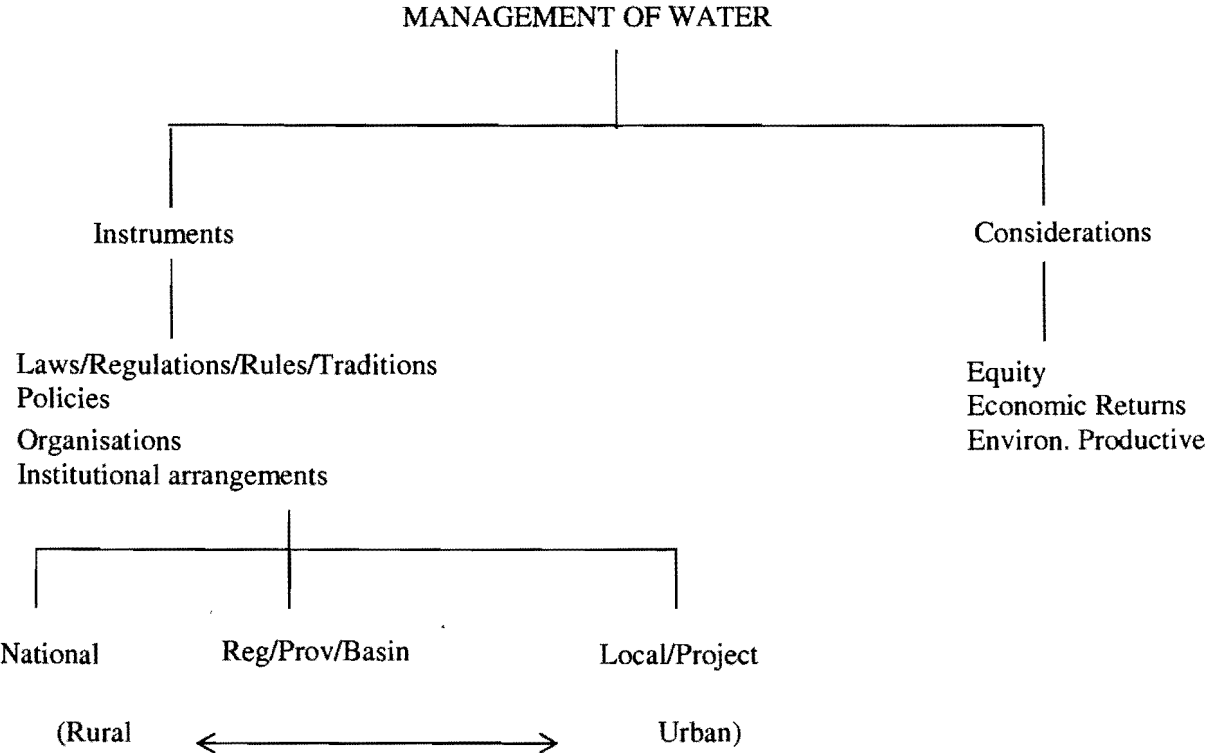
Rights are primarily meant for creating desirable incentive structures (Coward 1985) However, as noted by Nirmal Sengupta "Negotiation with an under informed Bureaucracy" the greater obstacle to effective negotiations between farmers and bureaucracy is that the latter has a warped sense of "rights". They are perceived in terms of regulations and disincentives, quick to respond to the negative and reluctant to attend to the positive. Laws and Acts are quickly designed, facilitating processes are not discussed. Finally, it is concluded that water is public property and that the bureaucracy is fully informed of what is good and bad about water. Participation is talked about but farmers expected to follow what the bureaucracy desires them to do. Negotiations in this setting have little effect, as a prerequisite is that both parties are willing learners. It is not that matters should be left entirely to local control. A single authority can facilitate systematic allocation. The need is to find an appropriate balance between government

coordination and incentives for local management. There is thus a need to confront this issue and come to terms with what are suitable property rights for water, whether it will be appropriative rights (first in time first in right) or proportional stream flow rights which have less transaction costs and more suited to the irrigated agriculture which is the main user of developed water in this country has to be considered.

Issues related to governance of natural resources have close links to poverty whose reduction is paramount in any program to improve environmental management & improved resource use. Anti-corruption measures are important as corruption plays a major role in misuse of natural resources and enforcement of regulations. Policy/law and regulations need to ensure effective participation of the poor, expanding their asset base and improving tenurial regimes. Women play a major role in management of natural resources especially water and strengthening their resource rights is therefore also a vital area of reform.

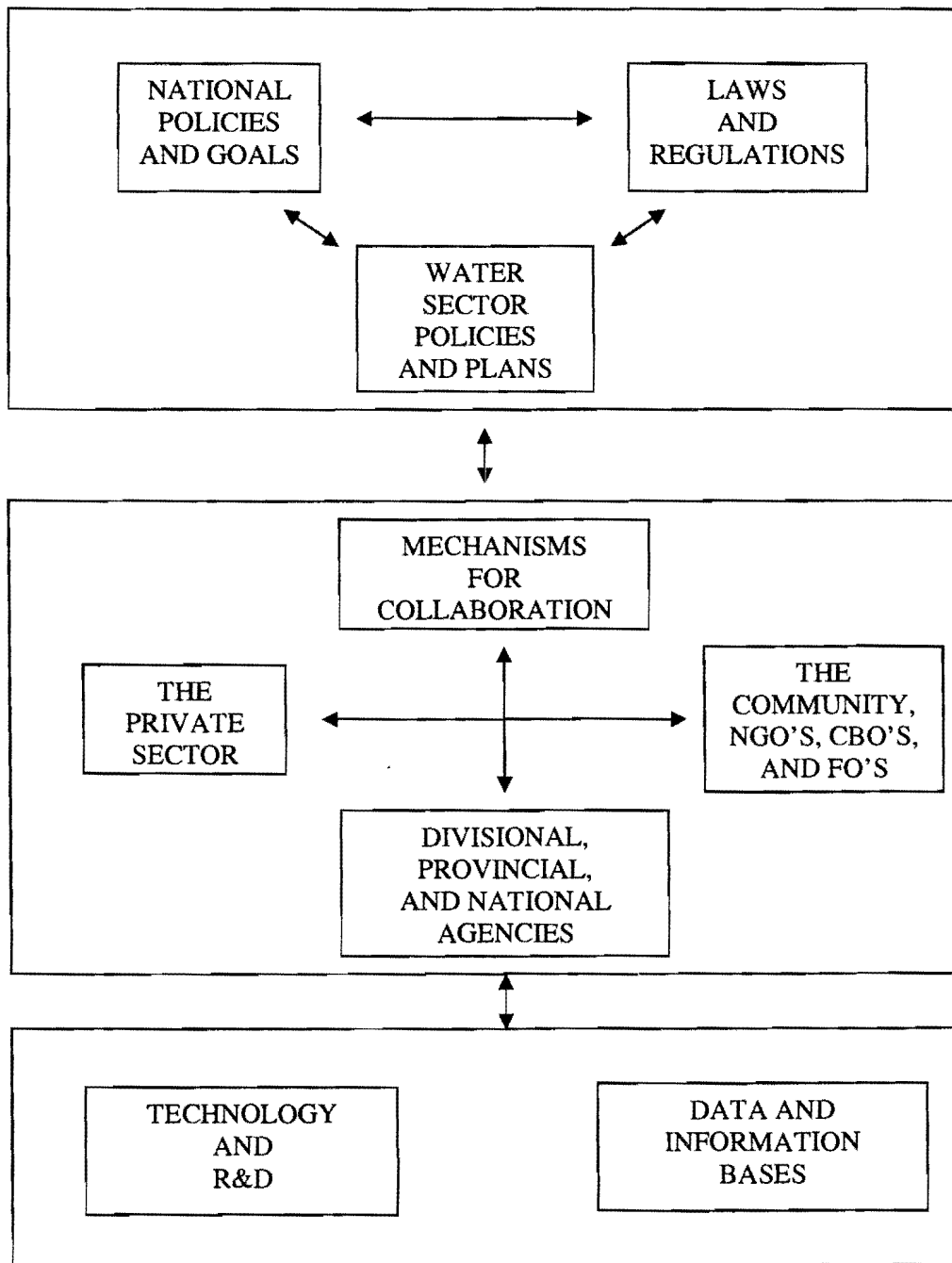
Diagram 1.

Institutional Reforms in the Water Sector



- Eg. National : CCCIM, SCWSS
 Regional : DCC, DAC, DAC Sub Committee
 Basin : MASL – Water Panel
 Local/Project : PMC, “Kanna” Meeting

Diagram 2



THE
POLICY
AND
LEGAL
BASIS

THE
ACTORS

THE
INFORMA
TION
AND
TECHNO
LOGICAL
BASIS