



STRUCTURAL BARRIERS FOR FARMERS' PARTICIPATION IN DEVELOPMENT PROCESS

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ABSTRACT

Scaling up sustainable welfare of human is, no doubt, possible in development process and through mainstreaming of socio-ecological issues and alleviation of poverty within the “**global context**”.

The development process tends to changing and reforming the structures, and focuses on differential change in the fields of economy, culture and nature, however, leading to the creation of many tensions which should be recognized and controlled. Many socio-ecological uncertainties and deficiencies have posed impacts on different development strategies adopted during the past years.

Authorities believe that empowering the target beneficiaries and creating active NGOs, followed by gradual transfer of related commitments to competent people-oriented are accounted for the initial steps in structure reforming and managing improvement processes.

Investigation on participatory and farmers-based irrigation management has revealed noticeable lack of a native pattern, for which, evaluation on the reasons of success in the successful pilot as Qazvin towards removing cultural and legal obstacles and the process of extending the development program of people's participations stand and lead to "solidarity" in methodology of irrigation management transfer.

This essay highlights the following cases:

- Factors and elements of weaknesses in administration and managing structure
- Management rules and regulations involved in the area of agricultural water

Then a new scope will be presented on separation of water resources management and their utilization towards formulation of the Integrated Water Law and structural reforming of water management. It presents many applicable suggestions on method of organization, irrigation management transfer process, and promotion of productivity. At last, a new operating pattern for water supply (basin) and consumption (network) in

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hydraulic establishments is proposed under the title of Integrated Water management System «Inversed» tree-shape.

Key words: Water management, Water uses management, Inversed tree-shape model, Empowerment, People's participation

1. INTRUCTION

Huge investments are annually spent over supply and consumption of water at global scale. Such endeavors have crucial aspects in arid and semi-arid areas (as Iran) and it seems that In future, water issues remark for fundamental constraints in human society and possibly causes unwanted tensions or conflictions.

Many developing countries, have so far adopted unilateral governance in studies and implication of water and agricultural development schemes. They, usually, ignore socio-economic settings of rural communities during developmental planning. Such managerial system would eventually result in regeneration and survival of the former lord-peasant system leading to wider "nation-state" context, which nullifies people's impact on decision-making process. The consequences of this status lowers the productivity indices and generates critical challenges as: poor efficiency in modern networks' operation; pre-matured depreciation of hydraulic structures; lack of continued plan for maintenance; poor adoption of wise planting and irrigation policies; and lower farming yield per hectare under irrigation- drainage condition.

Upon the managerial view as "Re-engineering" expressed by Michel Hummer (1990), it is inevitable to emphasize on basic change and new attitudes and eradicate traditional methodologies. Under re-engineering scope, science, arts, theory and practice are interlinked to encourage beneficiaries' participation and to meet their basic requirements.

Obstacles and restrictions hampering farmers' participation can be identified through "Group Communication" and are gradually eliminated by launching integrated participation system and transferring managerial commitments. Enacting progressive codes and conducts, and merging parallel organizations would shed light on inter-relations and pave the way for multi-dimensional participation of farmers in running and maintaining hydraulic establishments.

2. METHODOLOGIES

The ongoing administrative culture and institutional set-up in water management and utilization are assumed as key variables to affect on decision-making and farmers communications. Various surveys demonstrate a strictly manager-oriented nature in governmental organizations, while in certain cases, the more "participation" intervenes, the more positive impacts are observed. Followings are success stories at global scales with impressive impacts and change in the process of service delivery and optimum running of hydraulic systems:

- Participatory Approach Program (PAP) in Philippine's National Irrigation Administration model (NIA)
- Irrigation Management Transfer (IMT) in Turkey
- Participatory Irrigation Management (PIM) in Qazvin Irrigation Management Co. (QIM) in Iran

Often, attracting consumers' attention to follow development program, is accompanied by financial mechanism and encouragement.

Emphasis on this aspect and derivation of new approaches for saving beneficiaries' cost and time in line with development of human communications and observation of cultural remarks, can greatly enhance participatory management and its objectives.

Locally-adopted and genuine approaches act as practical principles in participation development schemes. Incorporation of local clients in re-engineering of water management and the nature and quality of services rendered by the private institutions, shall effectively mobilize development process and scaling up productivity in agriculture sector.

In order to analyze public system and the sub-cultural impacts on prevailing relations between government and people, and to collect information on institutional set-up and their terms of reference, certain field surveys and direct studies were conducted on legal instruments and existing data in water sector.

Moreover, proposing key insights and evaluating impacts and performance of policy-making and implementing centers were taken into account via unstructured observation (UO) without attention to structure of existing administrative system.

3. DEVELOPMENT AND BARRIERS PARTICIPATION

Experts recognize that in a large system for supplying, conveying, distributing and utilization of water, climatic, environmental, economic and social perspectives are greatly inter-linked. Hence it calls for scientific investigation and management of such system as a holistic entity with following two operational areas:

- a. Upstream geographical area including water basis, hydraulic structures, electrical and mechanical sectors of reservoir dams which are widely managed by absolute public management system.
- b. Downstream geographical area including water conveying tunnel regulating and deviation dams, irrigation-drainage networks and farm inlets which are either operated under public, participatory or private management systems.

It seems that inception of IMT process under such complex status is only practical through boosting participatory management of the extremely end of the networks i.e. distributor channels. Provision of socio-technical requirement will provide reliable bed for expansion of people's participation in hydraulic segments and upon willing and request of the target clients. "Management Commitment" remarks for real success of the change-oriented plans and for development of participatory interventions. This principle is considered as an impetus and effective factor in every reforming and

changing initiative. Financial planning and regulation is also recognized as another critical stage for expedition of an overall participation process. Improvement and empowerment of managerial structure of target farmers may also be realized via involvement of the work forces (IWF). This process becomes operational through creation and enhancement of NGOs followed by gradual IMT fulfillment. At present, people's participation in water utilization management and IMT process does not comply with scientific and practical criteria, leading to lack of organized short and long-term development schemes in participatory management. Moreover, ongoing measures are either short-run and fragmented in nature, and are mainly operated for coping transient problems and possible enjoyment of credits from national or international resources. Consequently, such attempts, together with other tasks towards privatization including various examinations, studies researches and guidelines, could never pave the way for development of participatory management. Perhaps, the reasons behind failure of farmers' involvement in irrigation commitment lie within the legal gaps, parallel institutions, and lack of decisive will for strengthening creativities. Aside from legal and structural inconsistencies, there exist certain key socio-cultural challenges in the way of IMT planning and new communications development.

3.1. LAW IN GOVERNMENTAL MANAGEMENT OF WATER AND INCONSISTENCIES

In 1943, a legal status for determination of governmental rights in water sector was developed by establishment of the autonomous National Irrigation Institute (approved in 1943) as the first step for organized studying and implementing of water-soil projects. Water law and its nationalization process were also realized in line with facilitation and expedition of projects execution in hydraulic systems and free occupation of related lands under networks construction, followed by legal stabilization of governmental water. Foregoing legislation and other regulations could never create a viable bed for meeting social perspectives in national water management system. Later, removal of this inconsistency failed even upon formulation of the law for equitable distribution of water (1982) and its executive code (1996). Despite the rank of I.R. Iran among the top global dam-constructing countries, it seems no outstanding progression in irrigation management system. In this regard, the law of stabilization of agricultural water change (1990) and its segments as follows, have to be well-evaluated and interpreted: i) Traditional networks – equal to 1 % of guaranteed price of agri-crops. ii) Combined networks - equal to 2% of guaranteed price of agri-crops. iii) Modern networks - equal to 3% of guaranteed price of agri-crops. Enacting certain parts of water rules and regulations has also encountered challenges in promotion of capabilities and exploitation of the resources. The operational inconsistencies in ongoing regulations have always caused dissatisfaction of the users against executive bodies including MOE, National Water Resources Management, Regional Water Corporations, and Provincial Directorates for Water Affairs, and Provincial Irrigation Utilization Companies. However, under any circumstances where socio-economic status justifies, legislation should be frequently renewed and updated. For instance, the Law for equitable distribution of water assumed as a progressive mechanism and could affect on better interaction between the farmers and public institutions specifically in general water management, whereas the same Law, and its executive codes, has gradually lost its applicability. Followings are certain legal parts left idle or faced to limited performance:

Table1. Act for equitable water distribution ratified by Iranian Islamic Consultative Parliament in 1982

Article No.	Description	Duration
I	Removal of occupations in natural rivers, streams, channels, and ponds	Unlimited
IV	Prevention and stopping the unauthorized wells	"
XII	Installation of metering devices on existing wells	-
XXI	Transfer of agri-water distribution and fee-charging to local users	-
IXXX	Controlling and monitoring on water consumption rate	Unlimited
IXXX	Shifting the responsibilities for creation and utilization of tertiary and quarternary channels	-
IXXXV	Prohibiting any change in water intake or creating new water conduits	Unlimited

Table2. Operational regulation for optimum consumption of agri-water approved by the ministerial cabinet in 1996

Article No.	Description	Enforceable in
V	Formation of appropriate utilization systems and empowering the local leadership on water issues	2 years
VII	Issuance of due certificates for optimum agri-water consumption	-
XVI	Installation of water meter for volumetric discharge of wells	2 years

Table3. The 3rd National Development Plan ratified by the Parliament in 2000

Article No.	Description	Enforceable in
106	Creation of Water Users Associations (WUAs)	5 years
107	Creation of water and soil utilization organizations	5 years
107	Issuance of Agri-water Document	Unlimited

3.2. NON-GOVERNMENT DEVELOPMENT, REGULATIONS AND CHALLENGES

Government focuses on Article 44 of National Constitution to plan for entrusting certain affairs to the people. This Article recognizes the national economy under 3 different sectors i.e., governmental, cooperative and private, with wider commitments and involvement for non-governmental sectors.

Initial legal mechanisms for organization and registration of NGOs can be assumed in the Law of Trade (1932) as the underlying structure for promotion of commercial and production affairs in ongoing private and non-governmental sectors. Along this path, certain other regulations were also devoted to development of non-governmental management and economy, in particular, strengthening agri-based corporation. with the following frameworks:

Law of Agrarian Reforms (1961),

- ◆ Law of Production,
- ◆ Cooperatives and Land Consolidation (1970),
- ◆ Rural Cooperation Authority (1971),
- ◆ Law of Agricultural Corporation (1973),
- ◆ Law of Labor and Business Association (1990) , and
- ◆ Law for Development of Cooperation Sector (1971).

The primary measure for improvement of existing water networks utilization, accounts for creation of irrigation-drainage utilization companies. The trilateral agreement (1990) between the Ministries of Energy, Agriculture and Head of MPO, led to establishment of 17 companies at provincial level (1991) which recognized allocation of 49% water shares for the two foregoing Ministries and 51% for local users and beneficiaries (that never realized). Presently, Water Resources Management Co. deserves 51% water shares whereas, the rest lies within affiliated firms linked to Ministry of Energy. Though, power of decision-making in management systems is always affected by 3 general elements i.e., "Institutional status", "Management aspects and merits" and "Economic capabilities". However, lack of well-organized and direct relation between the NGOs' management domains underlies their poor productivity. This barrier is assumed effective enough and grows as legal gap in developing countries. Consequent of this interaction is materialized in the fundamental equation as one member=one vote, whereby for many NGOs' managers, power originates from ownership scale i.e. wealth (economic power=one vote).

However, private firms and NGOs were, more or less, established but disappeared at certain places and periods. Today, their share in GDP is negligible with inefficient role in formation of farmers-government interactions. Followings are key reasons underlying such ineffectiveness:

Table4. Different organizations and their specifications

No.	Type of Organization	Capabilities	Risks and Deficits
1	Special corporation	+ Free competition + capital impacts	-Preference of leadership profits -Tremendous fixed and circulating capitals
2	Limited liability	+ Free competition + capital impacts	-Preference of leadership profits -Tremendous Fixed and circulating capitals
3	Agri-based corporation	+ Specialties + Govt. support	- Inappropriate background before the farmers - Demolition of registered agri-based corporations
4	Rural Cooperatives	+National participation + Govt. support	- Lack of ownership influence into management - Poor technical and executive experiences
5	Production cooperative	+National participation + Govt. support	- Lack of ownership influence into management - At least 1000 ha. Land possession compulsory
6	Water Users' Association	+Members' common benefits + Govt. support	- Lack of ownership influence into management - Only one union in every province
7	Corporate association	+ Soft regulation +Many members' interests	- New and unknown operation - Unclear legal position

In the proposed model, "Federation" accounts for the governing body over the corporate Associations at provincial level which, in turn, undergoes National Federation domain as the highest apex supervised by ILO. It is anticipated that ILO shall extend needed support and mobilization to the national federation.

3.3. DEFICITS OF THE INSTITUTIONAL STRUCTURE

Connoisseurs believe that the heavy government would obstacle the sustainable development. This is a key instruction for analysis of the related organizations and their performance in the areas of water, agriculture and environment.

During the past years, various models were experienced on the utilization of hydraulic structures e.g. reservoir or deviation dams, tunnels, conveying canals and other irrigation systems. Generating water management systems based on water catchment basin, geographical and political divisions, or entrusting the responsibility to regional or provincial water organizations, are the main public management models in water sector. These models are characterized by development of water resources while demonstrating different definitions and operations in management and consumption patterns. Regional water organizations and/ or provincial authorities have the key commitments in

government-based water management system. This arrangement in combination with national hierarchical divisions, including provinces, districts, counties and villages, and with serious impacts on social, political and economic sectors, has created a traditional and non-organized management system in water sector.

Blurred and poor structure of water and agriculture management is the central factor that hinders operation and performance of the public sectors in mobilizing beneficiaries' participation. Unfortunately, there are inter-mingled borders between management and operation of water and agriculture. On the other hand, it doesn't seem sharp distinction between water resources and their consumption, nor clear obligation yet identified for water providers and users plus lack of proportional balance realized in the areas of decision-building and decision-making.

3.4. SOCIAL AND CULTURAL CHALLENGES

Complexities and differential interactions in socio-economic and techno-engineering fields of water and agricultural management represent multi-lateral relations with positive or negative impacts. Farmers' inter-relation as well as communication of rural elites and groups with executive institutions could either promote or weaken this system. Various constraints so far detected in the process of people's participation in public and community sectors, have also been identified as other challenges. Moreover, there exist other socio-cultural bottlenecks in the various processes of NGOs development, either for local users, farming units, farming groups, farming blocks, water users' unions and/or for their apex federation.

Making proper ground for promotion of participation, inherited from conventional sub-cultures as election of local water-distributors and formulation of multi-century petitions on permanent or seasonal rivers, have all shared in consolidation of Water Users' Associations followed by Irrigation Management Transfer (IMT) to the local beneficiaries.

3.5. MISCELLANEOUS BARRIERS

Other barriers might also be considered in the development process of non-government sector including lack of transparency and synergy in public institutions, poor executive mechanism in operation, inadequate plan for reforming the system, deficit support to farmer's empowerment schemes, imbalance of funds and costs, limitation of entrusted responsibilities, and lack of needed incentives for holding new commitments.

Despite the numerous researches and studies made in the areas of utilization system and people's participation of irrigation-drainage systems, examinations are designed as centralized trend with no local and operational perspectives. Hence, unilateral resolution of governmental obstacles in decision-making processes and implementing of non-process-oriented programs were taken into account with no focus on people's participation. This means that beneficiaries are not briefed on the requirements and impacts of IMT process in future.

Negligence of training programs for empowering the associations towards programming, organizing and solution of technical and legal problems geared in water management system, and the way for interaction and perception of how to distribute responsibilities between associations and government, are assumed as other inconsistencies.

There are other uncertainties as; lack of regulatory codes for outlining needed guidelines in government sector and for its better interaction with local users; poor policy-making and transparent action-plan in formulating appropriate agreements; and inadequate coordination in development of self-running ground, would hinder the real motivations for shaping participatory management and people's mobilization towards holding new commitments. Moreover, owing to poor development of IMT initiative, changing the national or local managers and authorities has sometimes changed the scenario, or in cases, led to abruptness of transfer process, too.

4. CONCLUSION

Productivity is known as a knowledge for sound exploitation of resources, human forces, skills, technology and information, and for gaining the best outputs and "Integrated management in consumption". Good productivity and provision of prompt means for NGOs management, particularly in water distribution and for beneficiaries' affairs, would realize their satisfaction. It seems, upon proper designation and operation of an integrated management system comprising of two components i.e. network utilization management (Water Supply in the Catchment basin), and observation of water consumers' priorities, many challenges can be eradicated with remarkable leaps towards higher productivity. However, integrated management system basically regards other perspectives and features in "socio-technical management of surface and sub-surface water" which resembles a tree-like model and concentrates on water as the critical element of productivity in agriculture for maximum reduction of users' costs and times.

The IMT initiative has started with setting and development of water user's organizations followed by training qualified managers and renovation of managerial structures in basic establishments. Legislation of government and NGOs' codes and conducts, as well as gradual transfer of networks management entail due change and reform of regulations in monitoring and in executive bodies at local and national scales. certain recommendations for more clarification are as the following:

4.1. FORMULATION OF "INTEGRATED WATER LAW"

For the sake of sustainability and transparency, the task calls for adoption of comprehensive laws and regulation to form related organizations and transfer of irrigation management (IMT) in favor of the local clients. This holistic law would outline all stakeholders and their commitments towards improved proceeding of the initiative through extension of participation-focused culture and empowerment of the target beneficiaries. The law would clarify terms of reference, for the executive water authorities issues:

Table5. Topics and contents of the proposed "Integrated Water Law

Chapter I: Generals		
Section	Description	Remarks
1	Introduction	Background and justifications
2	Terminologies	Looking up the national and historical encyclopedia
Chapter II: General Regulations		
Section	Description	Remarks
1	Studies on water resources	Details and aspects
2	Water basins	General divisions and specifications
3	Artificial infiltration & recharge	Water catchment's conservation
4	Flood plains and traditional streams	Coordination with related institutions
5	Water resources conservation	Surface and sub-surface water
6	Quarries	Ways of aggregate utilization
7	River bed and banks	Description of scientific methods for location of beds and banks
8	Violation and offences	In coordination with Judicial power
9	Beneficiaries affairs	TOR and operational guidelines
10	Investment	Local and external investment
11	Codes and conducts	Live institutions, executive codes and conducts
12	Water allocation	Micro and Macro Allocations
13	Water rate	Details on total cost
Chapter III: Headquarters		
Section	Sectors	Remarks
1	Ministry of Energy	Office of the Minister
2	Dept. of Water Resources	Mission and Vision
3	Dept. of Water Use	Mission and Vision
4	Company of Water Resources Management	"
5	National Water and Sewage Company	"
6	National Irrigation-Drainage Company	"
Chapter IV: Provincial Executive Bodies		
1	Provincial water management authority	Vision and Mission
2	Provincial water and Sewage Authority	Vision and Mission
3	Provincial irrigation and drainage company	Vision and Mission
Chapter V: Development of People's Participation		
Section	Description	Remarks
1	General aspects and definitions	History, operational trend
2	WUAs mission	Bylaws, ToR
3	Central federation at provincial level	"
4	National Union of WUAs	"

4.2. REFORMATION OF WATER MANAGEMENT SYSTEM

Ratification of the "IWL", hopefully leads to duty distinction of water supply and demand divisions, which in turn, paves the way for enhanced water management system. To this end, following structure is proposed for the system concerned:

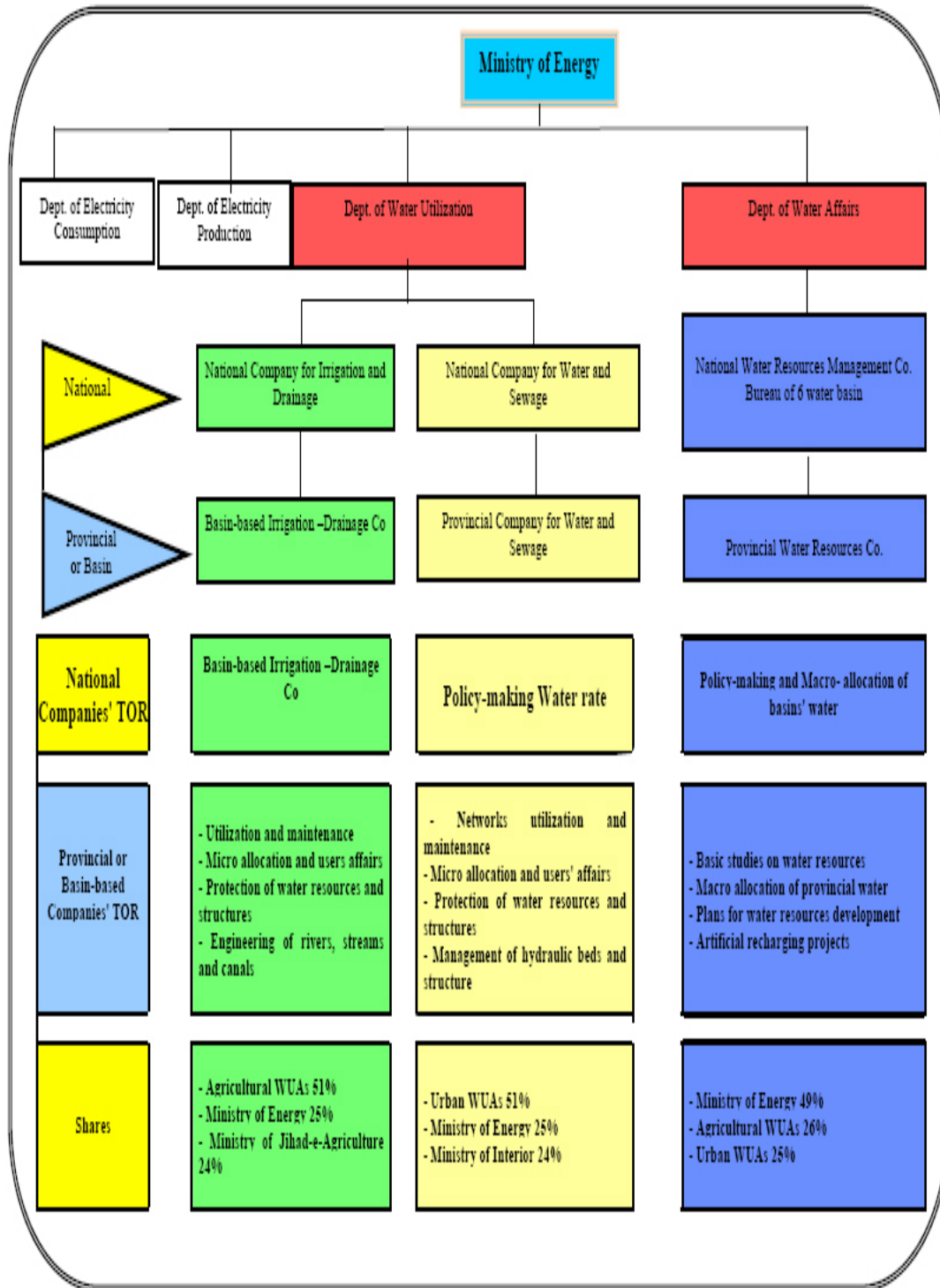


Diagram1. Proposed Water Management System

4.3. WATER RATE

At present, water rate is calculated upon percentage of agri-crops price, however, it does not match general costs for supply and distribution of agricultural water. Based on investigations, this unconformity has significantly affected the irrigation performance, which means the real and natural value of water deserves negligible impact on productivity. Hence, it is suggested to calculate the water rate on the basis of projects' operation total costs and their hydraulic structure.

4.4. INTEGRATED WATER MANAGEMENT (IWM)

Integrated Water Management is closely involved in water supply under natural conditions, and in its distribution through technical codes and socio-cultural structures. Obviously, under such status, manifold utilization system and its negative impacts, tend to suppress any improvement management and creativity. Therefore, it is rational to appeal for replacement of the manifold and dispersive management by an integrated management system on all water establishments. To this end, the following inversed tree-shaped model is proposed to run for a 2-year trial in pilot regions:

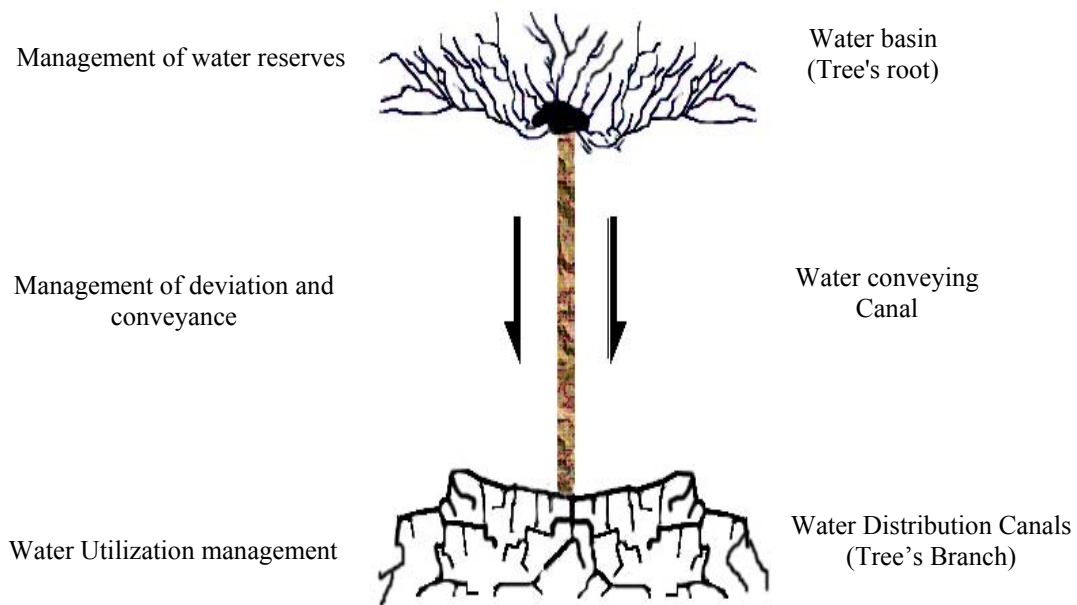


Diagram2. Integrated Water Management Inversed tree-shaped model (I)

To make this model operational, we can mobilize the existing irrigation-drainage companies or create companies for water establishments operation. This model comprises of management for utilization, supervision of all segments (basin and network) under integrated manner.

These companies would bear vision and mission in water supply (basin) as the model roots, and in utilization sector (network) as the branches of the inversed tree-shaped model. As far as institutional chart is concerned, utilization management will enjoy

autonomous operation and recognition by other managerial structures as regional or provincial organizations for water resources management with no direct intervention in it. Consequently, the foregoing model, if becomes operational, shall lead to the following achievements:

- Policy-making and macro-allocation of basin's water: (absolutely) by government;
- Integrated planning and management on the system: (just) by utilizing companies;
- Launching utilization management and improvement of water management: (only) by Water Users' Associations.

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