

IRRIGATION POLICY, 2060

Chapter- 1

1.1 BACKGROUND

Realizing the pivotal role of irrigation in increasing agricultural production and productivity, Nepalese farmers have been traditionally investing in development and expansion of their irrigation systems. Since the beginning of planned development process in the country, His Majesty's Government has made investments and timely changes in policies, programs and project. Such past efforts have made substantial improvement in the available irrigation infrastructures, human resources and institutional built up in the public and private sectors. In the present context, irrigation sector needs to focus on making optimal use of available physical and institutional infrastructures for the expansion of irrigated area round the year. This calls for coordinated and concrete efforts of all the stakeholders in the process of planning of the utilization of water resources with due priority to the multi purpose projects in the irrigation sector.

In this context, it is imperative to effectively adopt the participatory management system and also to increase involvement and investment of the organized users at all stages of project implementation as well as to transfer the responsibility of operation, maintenance and protection to the users association. For this purpose, it seems essential to increase the roles and responsibilities of the local bodies in the course of development and management of irrigation system as per the doctrine of decentralization.

1.2 RATIONALE

The objective of increasing agricultural production and reduction of poverty through creation of rural employment opportunities, as perceived by the Agriculture Perspective Program, requires extension of irrigation services even to marginal farms. This demands promoting the conjunctive use of groundwater and surface water irrigation systems along with the initiation of new and non-conventional irrigation systems such as rain water harvesting, pond, sprinkler, drip, paddle pump and other irrigation systems.

Irrigation systems developed so far are limited to run-off the river system. Now, it is necessary to develop the storage type irrigation systems for making round the year irrigation system to encounter the problem of low flow of rivers in the winter seasons.

In this context, the Irrigation Policy, 2060 has been drafted on the basis of the achievement and experience, towards implementation of Irrigation Policy, 2049 (First Amendment, 2053), objectives of the Tenth Five Year plan and the principle incorporated in the Water Resources Strategy.

1.3 OBJECTIVES

Development of Irrigation facility will be carried out for the fulfillment of the following objectives:

- 1.3.1 To provide round the year irrigation facility to the irrigation suitable land by effective utilization of the current water resources of the country.
- 1.3.2 To develop institutional capability of Water Users for sustainable management of existing system.
- 1.3.3 To enhance the knowledge, skill and institutional working capability of technical human resources, water users and non-governmental association / organization relating to development of irrigation sector.

1.4 POLICY

The following policy will be adopted for the fulfillment of the above objectives:

- 1.4.1 His Majesty's Government will declare the Irrigated Area where the irrigation facility is available. Provision will be made for permission of His Majesty's Government, as per necessity for the use of the land to the outside use of agriculture of the Irrigated Area.
- 1.4.2 Projects shall be formulated guided by the principles of Integrated Water Resources Management to ensure water availability for all stakeholders, return of investment, investment sharing and self-insurance against natural calamities.
- 1.4.3 For expanding year round irrigation, water reservoirs, rainwater harvests and ground water resources shall be developed, conserved, promoted and utilized as supplementary sources to the seasonal rainfall.
- 1.4.4 Master plan shall be prepared for Trans-basin water transfer and management from water-surplus large river basins to the water deficit area.
- 1.4.5 The Department of Irrigation shall in co-ordination with the Water and Energy Commission, develop and manage the water reservoirs projects deemed appropriate mainly for irrigation purposes. The probable production of electricity by using these water reservoirs and other irrigation system shall be encouraged. Department of Irrigation shall encourage the governmental or private or joint venture investment for the development and management of the project as per the prevailing law.
- 1.4.6 Available ground water resources shall, be developed and utilized as like the surface water reservoirs, and arrangements shall be made for conservation, promotion and control in quality.
- 1.4.7 The policy of involving private sector in construction, operation and management of the irrigation system shall be pursued.
- 1.4.8 The irrigation system constructed by His Majesty's Government shall be transferred to the users on the basis of work plan and the possession and ownership of the land and other infrastructures belonging to transferred system shall be provided to the users as per the prevailing law.
- 1.4.9 Capability of local bodies and users association shall be strengthened to ensure their effective participation in the planning, construction and management of small and medium irrigation systems. Efforts shall be made to involve non-governmental organization in the development of new technology in such projects.
- 1.4.10 Participation of local bodies, users associations and communities shall be increased by disseminating the information regarding the project in a effective and timely manner.
- 1.4.11 The provisions of quantitative measurement in the irrigation facility shall be introduced. The effectiveness of monitoring the irrigation will be held on the basis of water quantity provided for each crop, irrigated area and increase of production.
- 1.4.12 The knowledge and skill of the manpower involved in the irrigation sector shall be continued from training and shall enhance the research capability.
- 1.4.13 The legal and institutional reform shall be made for the achievement of the objectives of this Policy as per necessity.

Chapter - 2

Working Policy

2.1 DEFINITIONS

Unless the subject or the context otherwise requires, in this Policy:

- a. "Project" means the irrigation project, subproject or pilot project either proposed or under construction.
- b. "System" means all infrastructures built for irrigation purpose and all units including irrigated area and this term includes the completed irrigation system which is in operation.
- c. "Main Canal" means the canal off taking directly from the intake or headwork.
- d. "Branch or Secondary Canal" means the canal off taking from the main canal.
- e. "Distributary or Sub-Secondary Canal" means the canal off taking from any of the main canal or branch or secondary canal having 100 to 500 hectares of irrigated area.
- f. "Minor or Tertiary Canal" means the canal off taking from any of the main canal or branch or secondary canal or distributary or sub- secondary canal having more than 30 hectare to 100 hectares of irrigated area.
- g. "Water Course" means the canal off taking from any of the main canal or branch or secondary canal or distributary or sub- secondary canal having more than 10 to 30 hectares of irrigated area.
- h. "Field Channel" means the canal off taking from any of the main canal or branch or secondary canal or distributary or sub- secondary canal or any water course that supplies water to each field upto the area of 10 hectares.
- i. "Major Project/System" means the project/ system having more than 1000 hectare of irrigation area in the hills and 5000 hectare in terai and inner terai.
- j. "Large Project/System" means the project/ system having 500 to 1000 hectare of irrigation area in the hills and 2000 to 5000 hectare in terai and inner terai.
- k. "Medium Project/System" means the project/ system having 25 to 500 hectare of irrigation area in the hills and 200 to 2000 hectares in terai and inner terai.
- l. "Small Project/System" means the project/ system having less than 25 hectare of irrigation area in the hills and less than 200 hectares in terai and inner terai.
- m. "Traditional Irrigation System" means the system constructed and managed by its users.
- n. "Users Operated Irrigation System" means the systems fully operated by the users association after having been constructed by the governmental or non-governmental organizations.
- o. "Users Association" means the water users association registered under the prevailing law with the objectives of construction and operation of the system and it includes users association at all the levels.
- p. "Operator" means person or group legally responsible for the construction and management of the project/system.
- q. "Local Body" means Village Development Committee/ Metropolitan / District Development Committee.
- r. "Integrated Irrigation Development" means the irrigation development programs operated in a coordinated manner for maintaining interrelationship among the projects within the particular watershed area.

2.2 STUDY, IDENTIFICATION AND SELECTION OF THE PROJECT

- 2.2.1 The project shall be selected taking into account of social justice, balanced development, environmental balance, crop diversification, professionalism and higher economic output. Beside this, feasibility for conjunctive use of surface and ground water shall be taken as the basis for the selection of projects. The concerned stakeholders shall also be coordinated in the process of project selection.
- 2.2.2 An updated list of projects of such kind as to yield multipurpose benefits in each watershed area shall taking into account of project feasibility, in order to use the water of one watershed area in another watershed area, in consonance with the Irrigation Master Plan and National Water Resource Strategy.
- 2.2.3 Large and medium projects shall be operated after studying with the help of local bodies and public communities to institutionalize the selection process of the project in accordance with the concept of integrated river basin management.
- 2.2.4 Periodic projects shall be prepared at the local level upon preparation of detailed basic database of the feasible system and existing watershed area with the involvement of the local bodies and user associations.
- 2.2.5 The users shall be directly involved from the very beginning process of the project through discussion, workshop, symposium, meeting etc.

2.3 PROJECT IMPLEMENTATION PROCEDURE

- 2.3.1 Each institution, association or person who uses water resource or infrastructure of public irrigation or both shall obtain a license as per the prevailing law for the commercial use of water for irrigation or other agricultural purposes.
- 2.3.2 The necessary legal arrangements for water right of the system water shall be introduced.
- 2.3.3 The integrated implementation process of the projects shall be well managed in the course of development of irrigation project on the basis of interrelation of basin areas.
- 2.3.4 The procedural guidelines followed in the irrigation program based on performance shall be continued as per the policy. The technical and administrative work shall be performed on the basis of public works directives, as approved by His Majesty's Government.
- 2.3.5 Uniformity shall be applied in the implementation process of the governmental and donor agency involved in the development and expansion of the irrigation system.

2.4 WATER USERS ASSOCIATION

- 2.4.1 Users shall be organized at different levels of every project/ system right from tertiary to main the canal. These organized users shall be involved in different activities of implementation and management of the project/system.
- 2.4.2 User association shall be constituted and their capacity building program shall be conducted from the very beginning of the physical construction of the project to make more effective the transfer process of the system and management thereof to the users association.
- 2.4.3 User association shall be composed of with at least thirty three percent of the women representation as well as, there shall be representation of dalit, downtrodden and backward ethnic communities in such association.
- 2.4.4 User association shall be organized in the integrated watershed framework and at national level, for the sustainable development of irrigation in the country upon accountable participation of the users association in different level of the policy formation and implementation thereof.
- 2.4.5 The maintenance, rehabilitation and reform of the system constructed/operated by the user association and traditional irrigation system managed by farmers shall be conducted by the people participation upon their request. Users association shall be made competent for the sustainable management of such system.
- 2.4.6 The arrangement of registration and renewal of such types of users association shall be conducted from a single institution.

2.5 RESOURCE MOBILIZATION AND PEOPLE'S PARTICIPATION

- 2.5.1 Investment and direct participation of user association in every step of project implementation shall be increased and maintenance and operation of the project managed by government institution shall be gradually transferred to the users association.
- 2.5.2 The users shall transfer their land required for tertiary canals and field channels to the users association. The transferred land shall be evaluated in their participation as a part of the project implementation as per the prevailing prices and such price shall be adjusted in the amount which is to be used in the construction of the tertiary canal and field channel. The price of the land of that farmer (user) who can't take irrigation facility but his land has been used, shall get the prevailing price from the deposited amount of the users association.

Provided that the price of the tertiary canals and field channels constructed in public land shall not be adjusted.
- 2.5.3 The concerned office shall proceed for land revenue exemption and deregistration process of transferred land pursuant to section 2.5.2.
- 2.5.4 The project shall mention in the cost estimate of project construction that the investment portion of cost sharing between His Majesty's Government and users pursuant to Annex-1 in the project appraisal.

Provided that the users portion shall not be more than fifteen percent and not less than three percent of total cost of the project. Construction of tertiary canals and field channels shall not

commence until the other amount is not certain when the amount derived from the land transferred pursuant to section 2.5.2 is not sufficient as a share portion of the users association.

- 2.5.5 Assistance of users association as well as local body, governmental, non-governmental and local community association shall be taken for identification, survey, design, estimate and construction of small and medium projects as per necessary.
- 2.5.6 Government owned heavy and large equipment which can be used in the development and expansion of the irrigation system shall be provided in rent as well as the private investment shall be encouraged for the development of such service center.
- 2.5.7 User association shall be responsible to solve the local level problems and to be emerged in the course of project. Concerned authorities related to irrigation shall provide necessary help to the users association in this regard.
- 2.5.8 Necessary arrangements shall be made to generate feasible income from the land and other resources under the ownership of the irrigation project and to use such income from those resources in the maintenance of the project.
- 2.5.9 National and foreign private investment in the irrigation development shall be promoted. This arrangement shall be guided by Public Infrastructure Build, Operation and Transfer Policy, (BOT) 2057 (2000 A.D.) of His Majesty's Government and other prevailing law.
- 2.5.10 Emergency Maintenance Fund shall be established for solving the problem in irrigation sector at the time of natural calamity.
- 2.5.11 At least eighty percent of amount received by the users association pursuant to Annex-2 shall be deposited to Emergency Maintenance Fund by the users association and the remaining amount may expend for the administrative and other purposes. The procedure of expending of the amount from Emergency Maintenance Fund shall be as prescribed in the Irrigation Directives.
- 2.5.12 Department of Irrigation shall manage the Emergency Maintenance Fund pursuant to Annex-2.

2.6 SYSTEM MANAGEMENT

- 2.6.1 For the purpose of management, the irrigation system has been classified as follows,-
 - a) Operated by the users
 - i) Traditional irrigation system
 - ii) System transferred by government and non government agencies to the users association
 - b) Operated by the government
 - c) Operated in joint management by the government and the users association
 - d) Operated in joint management by the local bodies and the users association
 - e) Operated in private level
- 2.6.2 Irrigation systems rehabilitated/improved on the demand of users and operated by them shall be managed by the user association.

- 2.6.3 The responsibility of overall operation and maintenance of major and large irrigation systems operated by His Majesty's Government of the block upto 30 hectare irrigation area shall be of the users association. His Majesty's Government shall arrange operation and maintenance of the irrigation structure more than aforesaid area, in the participation the of users association.
- 2.6.4 The major and large irrigation systems under joint management of users association and His Majesty's Government, the management of tertiary canal system, which commands upto 500 hectare block, shall be transferred to the users association upon the demand of user association after upgrading their capacity.
- Provided that the medium system operated by His Majesty's Government shall be transferred upon the demand of the users association after the evolution of their management aspect.
- 2.6.5 The complete management of any irrigation system shall be transferred to main user association. In the case of partial transfer upto the water course of the system, it may be transferred separately to the users association.
- 2.6.6 The medium irrigation system where it is not possible to operate such system by the users association due to inherent technical or other difficulty with full responsibilities such system shall be operated jointly by the users association and the Department of Irrigation.
- 2.6.7 The irrigation system shall be transferred to the users association upon completion after developing their institutional and financial capability to be done for the purpose of background activities in the process of transfer from the very beginning of the project implementation.
- 2.6.8 Different level of canals and water course systems remained under joint management or operated by His Majesty's Government may be transferred to any person or non-governmental organization on the basis of agreement based on competition for the purpose of transferring responsibility of partial or full maintenance and operation of the system.
- 2.6.9 The regular management responsibility of large and medium irrigation systems constructed by His Majesty's Government and presently managed by His Majesty's Government or users association or in a joint venture shall be transferred to the local bodies. Such transfer process shall be carried out on the basis of demand, technical capability and availability of resources for its sustainable management. The Department of Irrigation shall prepare Irrigation Directives for sustainable management of such transferred irrigation systems, with the participation of all stakeholder groups.
- 2.6.10 Irrigation, electricity and drinking water projects shall be managed in proportion to the investment and output utility for the purpose of enhancing national experience in the construction and management of multipurpose projects.
- 2.6.11 The water of one watershed or sub watershed area shall be permitted to be utilized in another watershed or sub watershed area only after separating the water to irrigate the total area of the first one.
- 2.6.12 Department of Irrigation shall conduct conservation functions of the prevailing irrigation infrastructures and the declared irrigated area.

2.7 IRRIGATION SERVICE CHARGE AND OTHER INCOME SOURCE

- 2.7.1 A minimum irrigation service charge shall be fixed for each crop considering the average increase in production due to the irrigation.

- 2.7.2 User shall pay such minimum irrigation service charge to the system operator. Such service charge, if not paid in time, shall be recovered as per the prevailing law. The user who fails to pay the service charge shall be deprived of the irrigation service.
- 2.7.3 The operator may charge higher rates more than the fixed minimum irrigation service charge in consultation and agreement with the users association on the basis of the irrigated area for each crop. Such rate shall be altered with the approval of the general assembly of the users association.
- 2.7.4 The information of declared irrigated area shall be provided to the concerned institutions. Prior approval of the Ministry of Water Resources is mandatory for any new development and construction work in such an irrigated area. Activities such as ownership transfer, mortgaging and payment of land revenue in the declared irrigated area shall be conducted only after ensuring the payment of irrigation charge.
- 2.7.5 The responsibility of collection of irrigation charge in the joint managed system shall be of the users association. The authority of collection of such charge shall be determined by the legal provision. A portion of collected charges pursuant to Annex- 2 shall be retained by the users association for its management and other remaining amount shall be deposited in the revenue of His Majesty's Government and Central Maintenance Fund to be instituted in the Department of Irrigation.

2.7 MAINTENANCE AND SYSTEM OPERATION

- 2.7.1 The construction, expansion, rehabilitation and reform works of the project shall be done on the basis of irrigation area with distribution of water in a proportionate way.
- 2.7.2 Users associations shall be responsible for repair, operation and regular maintenance of the transferred irrigation system.
- 2.7.3 Department of Irrigation may provide technical and consultative assistance upon demand on the basis of the gravity of the problem.
- 2.7.4 In the case of severe damage caused by unexpected events, His Majesty's Government may provide assistance to the extent of rehabilitation if it appears that the situation is out of control of the users.
- 2.7.5 The maintenance of the jointly managed system shall be carried out as mentioned in the agreement.
- 2.7.6 The user association may collect necessary extra service charge in case the maintenance, repair and operation could not be done from the amount as prescribed in Annex-2.

PERSON, GROUP OR NON-GOVERNMENTAL ASSOCIATION / INSTITUTION

- 2.7.7 A person or institution who constructs or operates projects through private investment may develop the project and levy the service charge upon obtaining the license.
- 2.7.8 His Majesty's Government guarantees full autonomy to the system operated by the local farmers in a tradition manner.

2.10 LIABILITY AND RESPONSIBILITY

- 2.10.1 His Majesty's Government shall invest in the project only after having formal agreement with the users association by clearly defining the functions, duties and rights of the Department of Irrigation and the users association by adopting a transparent method in relation to construction, operation and management of the project.
- 2.10.2 Users association may claim for compensation in cases where one faces losses due to non- fulfillment of the responsibility by His Majesty's Government under the agreement.
- 2.10.3 In cases where the users association fails to perform its function within the time frame as prescribed in the agreement, His Majesty's Government may withhold the deposited amount by the users association upon holding the investment and notice of such decision shall be given to the users association.
- 2.10.4 The responsibility of development of major, large and medium projects suitable from the technical, economical, social and environmental aspects shall be of the Department of Irrigation. According to decentralization doctrine, development of small projects shall be managed by the users associations and local bodies. The training program shall be conducted for upgrading the capacity of local bodies to gradually increase the role of local bodies for the development of irrigation sector.
- Provided, however, that the Department of Irrigation shall implement and operate even less than 25 hectare of non conventional and ground water irrigation project.

2.11 ENVIRONMENT PROTECTION AND WATER SUPPLY

- 2.11.1 The project/ system shall be completed by minimizing the negative effects on the environment in the course of construction of the project/system. Necessary public awareness campaign shall be increased at the governmental, non-governmental and local level in this regard.
- 2.11.2 The environmental effect evaluation or preliminary environment examination shall be conducted as per necessary under the prevailing law through public hearing in connection with the negative impact on the environment from the project.
- 2.11.3 In the course of using water for irrigation from any river/rivulet only the remaining water shall be utilized for irrigation purpose upon leaving minimum water in the same river/rivulet after determining so that it will not have negatively effects on the local biodiversity.
- 2.11.4 Monitoring, study and research work in the water quality shall be conducted and water in irrigation shall be conserved effectively without negative impact in the environment.
- 2.11.5 The protection works of irrigation infrastructures within the irrigation area from river cutting, flood, landslides etc. shall be included in the maintenance cost of the project.

2.12 DEVELOPMENT OF TECHNOLOGY AND TECHNICAL MANPOWER

- 2.12.1 Available source, infrastructure and technology shall be properly used and for the purpose of the pond, sprinkler, drip, paddle pump like modern systems shall be developed and expanded through conjunctive utilization of the ground water and surface water for the expansion of irrigation service in the marginal agricultural land.

- 2.12.2 The experience and skill in the field of irrigation development shall be included in the formal education system and assistance shall be provided for the institutional development of training, research and capacity building in the governmental, community and private sector.
- 2.12.3 All kinds of projects shall be implemented by providing special importance to the new technology and capacity building.
- 2.12.4 The Department of Irrigation shall prepare data base and publish the same every year to bring uniformity in contribution, implementation process and determination of working procedure in the context that various institutions are involved in the development activities of the irrigation sector.
- 2.12.5 Appropriate budget and manpower shall be arranged upon identification of necessity of training, research, evaluation and monitoring from the level of feasibility study of the project.

2.13 CO-ORDINATION WITH OTHER INSTUTION

- 2.13.1 The ownership, obligation, liability and responsibility of the consumption of tree and other material property in the area of irrigation infrastructure shall be as per the prevailing law.
- 2.13.2 The involvement of local non-government sector in the field of research, study and training shall be encouraged for sustainable development and assistance shall also be provided in the institutional development of the private sector.
- 2.13.3 The facts and figures of the capacity of the water flows of the river neck shall be updated with co-ordination and collaboration of the Department of Hydrology and Metrology for the purpose of national, regional and district level of feasible irrigation development.
- 2.13.4 The district, regional and central offices of the Department of Irrigation and Department of Agricultural shall be functionally tied up and coordinated in the process of implementation, follow up and evaluation from the level of identification and selection of the project to irrigate the irrigation and agricultural development programs.
- 2.13.5 Each irrigation division or sub-division shall manage to affiliate the priority package program implemented by Department of Agricultural in a case where the system can provide irrigation service round the year by the active users.

2.14 EVALUTION AND MONITORING

- 2.14.1 Central Irrigation Monitoring and Evaluation Committee comprising representative of Federation of National Water Users Association shall be formed to perform necessary monitoring and evaluation work for sustainable and reliable service of irrigation. Regional and local level users association shall represent in such users association in the course of evaluation and monitoring in that level.
- 2.14.2 Geographical and managerial information system shall be updated in every level of implementation of irrigation program and the process of strengthening institutional aspect of the monitoring and evaluation system shall also be perpetuated in this regard.
- 2.14.3 The monitoring of service provided by the irrigation system shall be measured on the basis of quantity of water, crop intensity, increase of production, financial status of the users association and physical changes within the command area.

2.15 MISELLANEOUS

- 2.15.1 Proper measures shall be taken for the protection of ground water resources for the purpose of optimal use of that resource. Institutional reform program shall be conducted as prescribed by the water resources strategy in this regard.
- 2.15.2 Special subsidy shall be provided on tariff for electricity used in ground water and lift irrigation systems.
- 2.15.3 A system shall be started to award best performing users association from each development regions every year.
- 2.15.4 An Irrigation Development Fund shall be established and operated for the self-sustainability of the development and expansion of irrigation service in the country.
- 2.15.5 A documentation center under the Department of Irrigation shall be established for the well management of all updated information related to irrigation and that shall be translated into modern information system. For this purpose all the Divisions, Sub-Divisions, Field Offices shall cause to update water use status of district and basin there under every year. The Department of Irrigation shall publish "The Irrigation status in Nepal" every year upon evaluating such function.
- 2.15.6 Transfer of technology and development of internal manpower shall be given priority and the project of involving less participation of foreign consultant shall be given priority.
- 2.15.7 Import duty shall be exempted while users associations import heavy machinery for the construction and management of canal, main course and field channel.
- 2.15.8 This Policy shall be updated with in five years of its commencement as per necessary.

Annex –1

Table of contribution portion by the users in the projects

Average Irrigated Area of the User	Percentage of Investment in Head works	Percentage of Investment in Main Canal	Percentage of Investment in Branch Canal	Percentage of Investment in Tertiary Canal
0.5 hector or less	0	0	0	10
0.5 hector to less than 1.0 hector	0	0	5	10
1.0 hector to less than 5.0 hector	1	3	7	12
5.0 hector and more than 5.0 hector	3	5	10	15

Note: Users association shall bear all cost for infrastructures below the Tertiary Canal.

Annex -2

Arrangement of Sharing of Collected Irrigation Service Charges from User farmers

Level of Participation in the operation of the system	Sharing of Irrigation Service Charges Collected from Users (in Percentage)		
	Central Maintenance Fund, Department of Irrigation	National Treasury of His Majesty's Government	To be retained by the water users association
1. Water course and there under operated by the users association and above than water course managed by His Majesty's Government.	40	40	20
2. Tertiary and there under operated by the users association and above than tertiary managed by His Majesty's Government.	30	30	40
3. Secondary canal and there under operated by the users association and above than secondary canal managed by His Majesty's Government.	20	20	60
4. All canals below than main canal managed by the users association and other canals managed by His Majesty's Government.	10	10	80
5. All the structures including main canal other than head works managed by the user association.	5	5	90
6. In case of complete transfer of the project.	0	5	95