



## **PARTICIPATORY IRRIGATION MANAGEMENT IN THE IRRIGATION NETWORKS OF TEHRAN PROVINCE**

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### **1- INTRODUCTION:**

Participatory Irrigation Management in the section of irrigation and agriculture in the wide land of Iran with water scarcity has a long history. Such as the Sheikh Bahayee scroll in Esfahan or in the previous Tehran during Saljooghiyan government and first Toghrol had a special supervision on the rivers and typical irrigations, drinking water distribution of the water stores in the city were related to some high social aspects and Water User Associations relevant to the groynes, Prunes, coal-bins and ploughshares have been existed from long time ago.

The people establishments have been created voluntarily or by demands for the purpose of better operation of water resources, land and agricultural products in the majority of areas. They have continued by political and governmental changes until now.

In the years 1961 to 1971, IRAN performance of some land reformations and ownership system changes created small pieces of land with the reduction of objectives of political and economical powers; creation of rural class respects; better system of trade and demand system in the national level; government invested directly in the field of management, water supply & distribution and by governmental subsidies without considering the role of farmers in determination of real prices of water so that farmers right now think that they are entitled to have free water and providence of that is know a duty of government.

After the victory of Islamic revolution of Iran government provided a fast development in water industry in the demand of work in a way that the resource dams which are under operation and use are more than 170 national dams in provinces and about 83 national resource dams are being built, so in this case the number of them has been increased and the irrigation networks have covered lands more than 1609 thousands hectares.

The government of Islamic revolution of Iran for removing some barriers has used of successful participatory irrigation managements from all the global countries of world and this increase has been so effective for the role of people in the matter of building water industries and irrigation network management; reduction of performance time of development designs of water resources have been considered. Speeding in the mode of

economical affairs of country and change of participatory management is necessary for construct and sign of water industry which is more than 2100 billion Rials in 4400 thousands hectares from agriculture land that this amount of money has been investigated for it.

Some steps have been taken in all over Iran for the purpose of management changes of irrigation in irrigation networks and soaking and wetting that are related to local farmers and some of these managements are different with each other which most of them are out of order and some of them their usage is so rare.

In many of considerations the shift of participatory management in the world seems, some developed countries and knowledgeable countries that are more aware in the matter of agriculture have used this participatory management such as America, Spain, Philippine so they have been succeeded to improve this matter by providing some rules in special areas and expensive facilities and they have controlled the works for the purpose of better operation also they have provided some new rate of water value, so by this action they have guaranteed the success of their design.

The process of participatory management shift has been done by voluntarily establishment of people or it has been done by the application of government , so they have been able to use this design for being performed. Some other countries that have not provided the environment for this design include Sri Lanka, Senegal, Pakistan and Colombia. In fact these countries have not considered the facilities and the right of water value, but they have set only the design models so that they have been succeeded to use the participatory management shift from other countries, after a short time they have faced with failure.

## **2- FAMILIARITY WITH IRRIGATION NETWORKS OF TEHRAN PROVINCE OPERATION CO,**

Operation company of Tehran province has three irrigation network that include:

1. Varamin irrigation network located in 30 km in the east of Tehran ( 65 % activity of firm)
2. Karaj irrigation network located in 25 km in the west of Tehran ( 25 % activity of firm)
3. Hashtgerd irrigation network located in 40 km in the west of Tehran (10 % activity of firm)

This firm uses more than 250 million cubic meters water from dams name Litan, Amirkabir, Jajrood rivers, Damavand and Hashtgerd and 40 pits of Tehran channels that this water will be delivered by more than 13100 farmers so submitting water is according to the capacity submit and after paying the right of water it will be given to the applicants.

In 1994 this firm has been registered and it has started its activity by the objective of providing and distributing right of water which is required to the farmers in the level of

seven cities ( Varamin, Pakdasht, Karaj, Hashtgerd, Robat Karim, Shahriyar and Ray city).

### 2-1- Varamin Irrigation Network

In varamin for the purpose of operation from irrigation of Varamin land irrigation network operation with the capacity of 50,000 hectares( that is able to be increased to 80,000 hectares) the irrigation channels have the length of 630 km so the needed water to farmers will be submitted in 150 places.

Length of irrigation networks in Varamin Network	Degree 1(km)	Degree 2(km)	Degree 3(km)	Degree 4(km)
	68	113	200	250

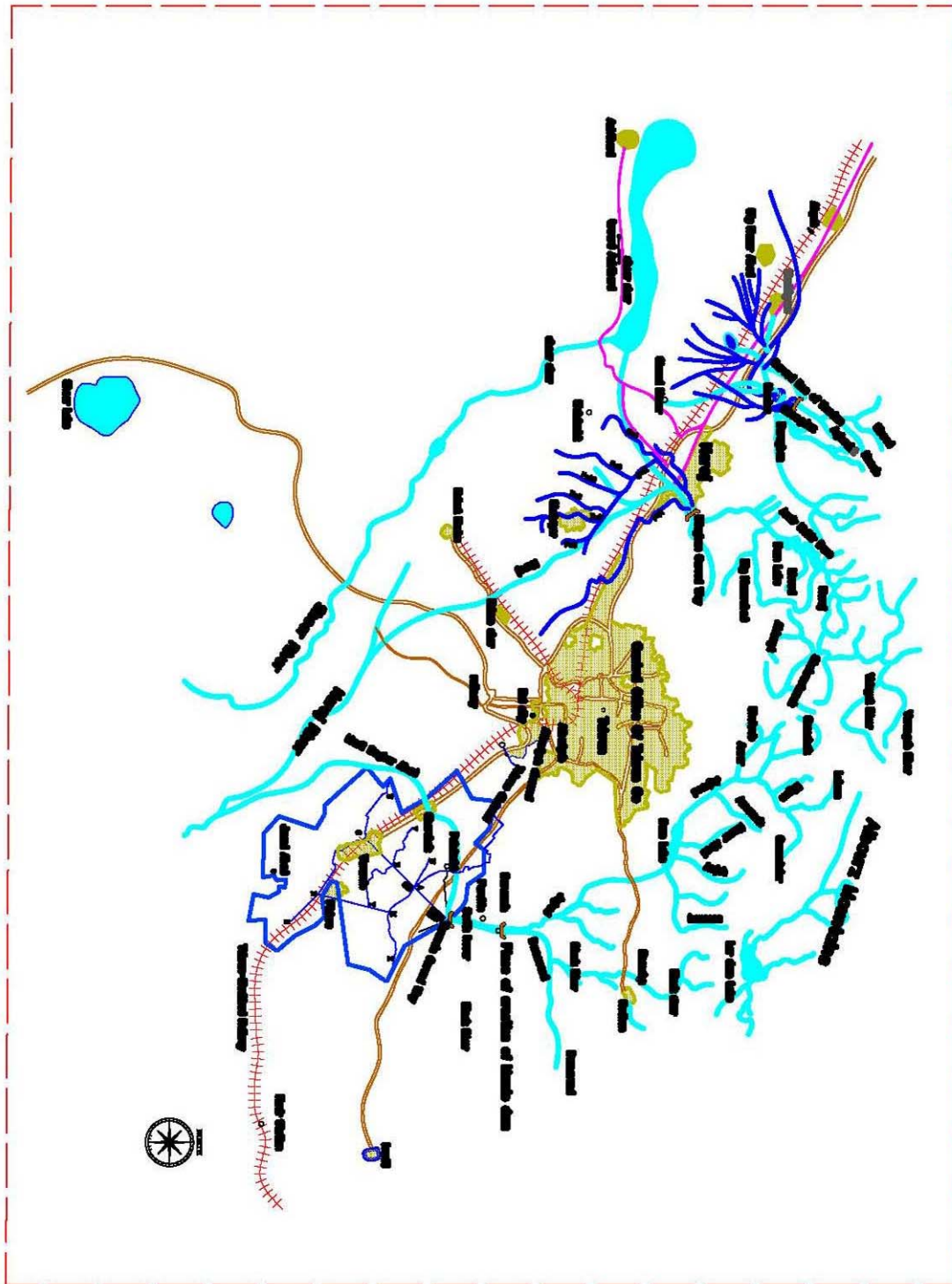
**2-2- Karaj Irrigation Network** is for the purpose of coverage of 15000 hectares of lands and gardens which is located in the area and by they have been created by the length of 109 kilometers so the needed water to the farmers will be given in 80 places.

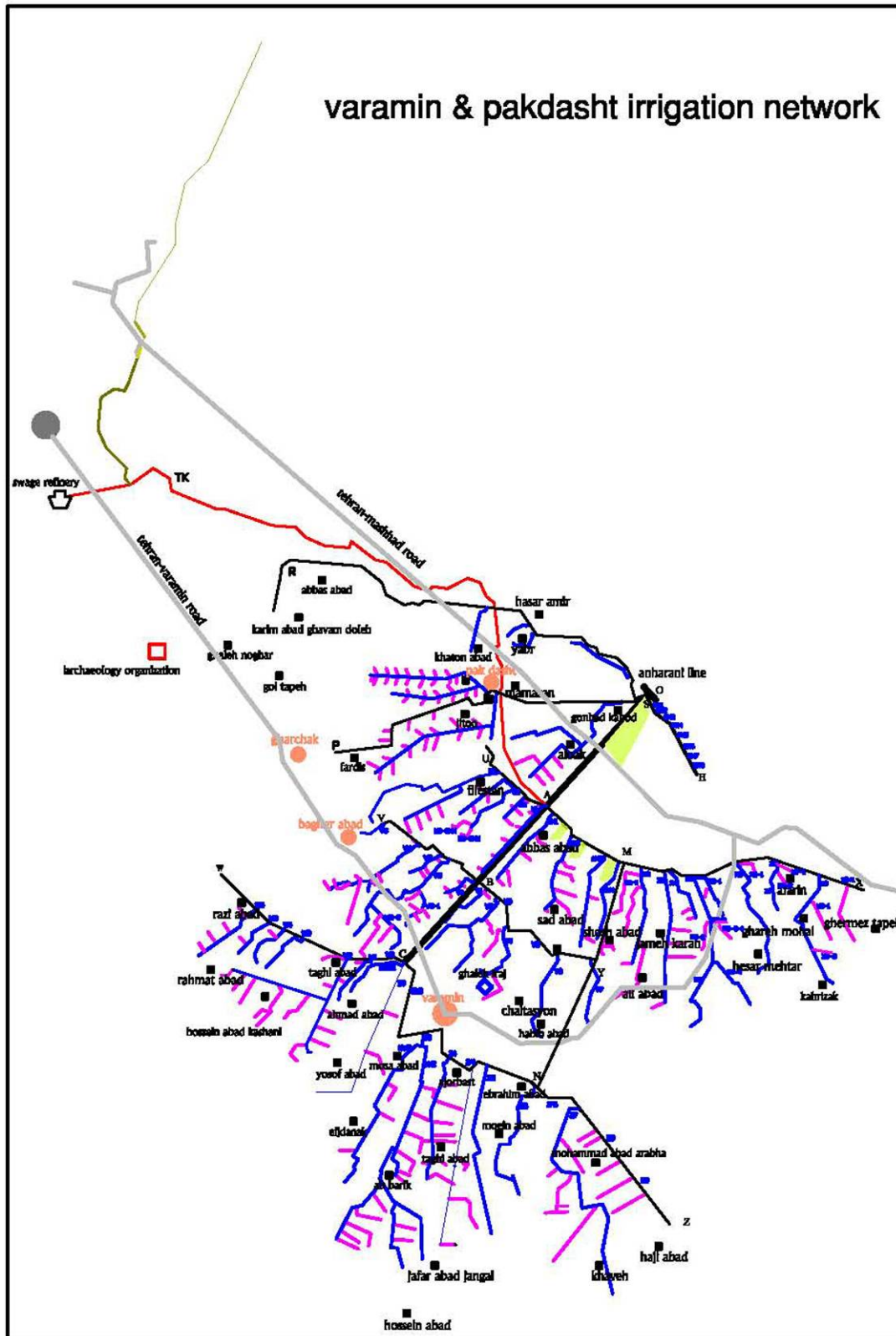
Length of irrigation networks in Karaj Network	Degree 1(km)	Degree 2(km)	Degree 3(km)	Degree 4(km)
	53	41	15	—

**2-3. Hashtgerd Irrigation Network** is for the purpose of coverage of 10,000 hectares of lands and gardens with the length of 55 km and the needed water to the farmers will be submitted in 40 places.

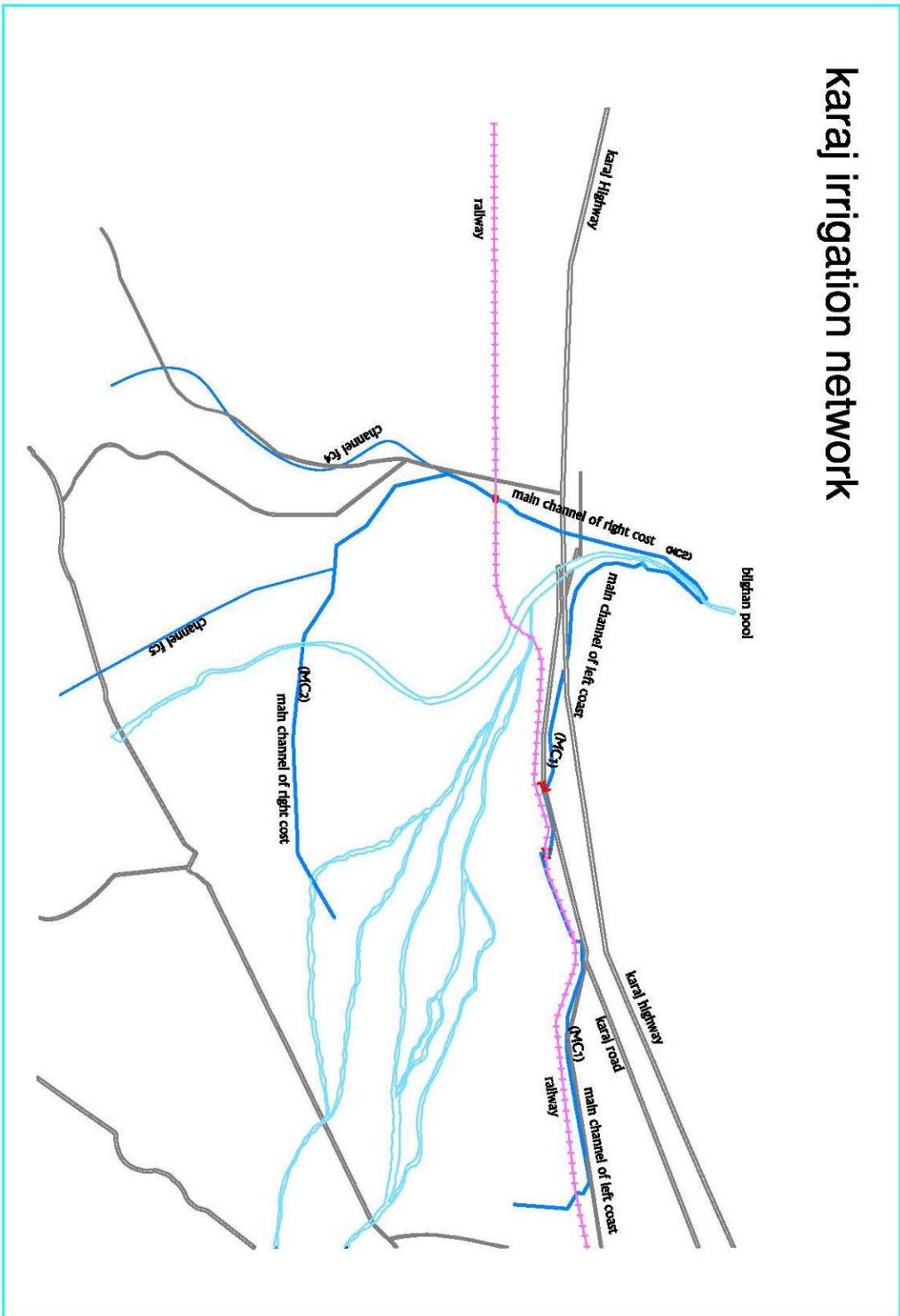
Length of irrigation networks in Hashtgerd Network	Degree 1(km)	Degree 2(km)	Degree 3(km)	Degree 4(km)
	15	25	15	80 ( traditional ways)

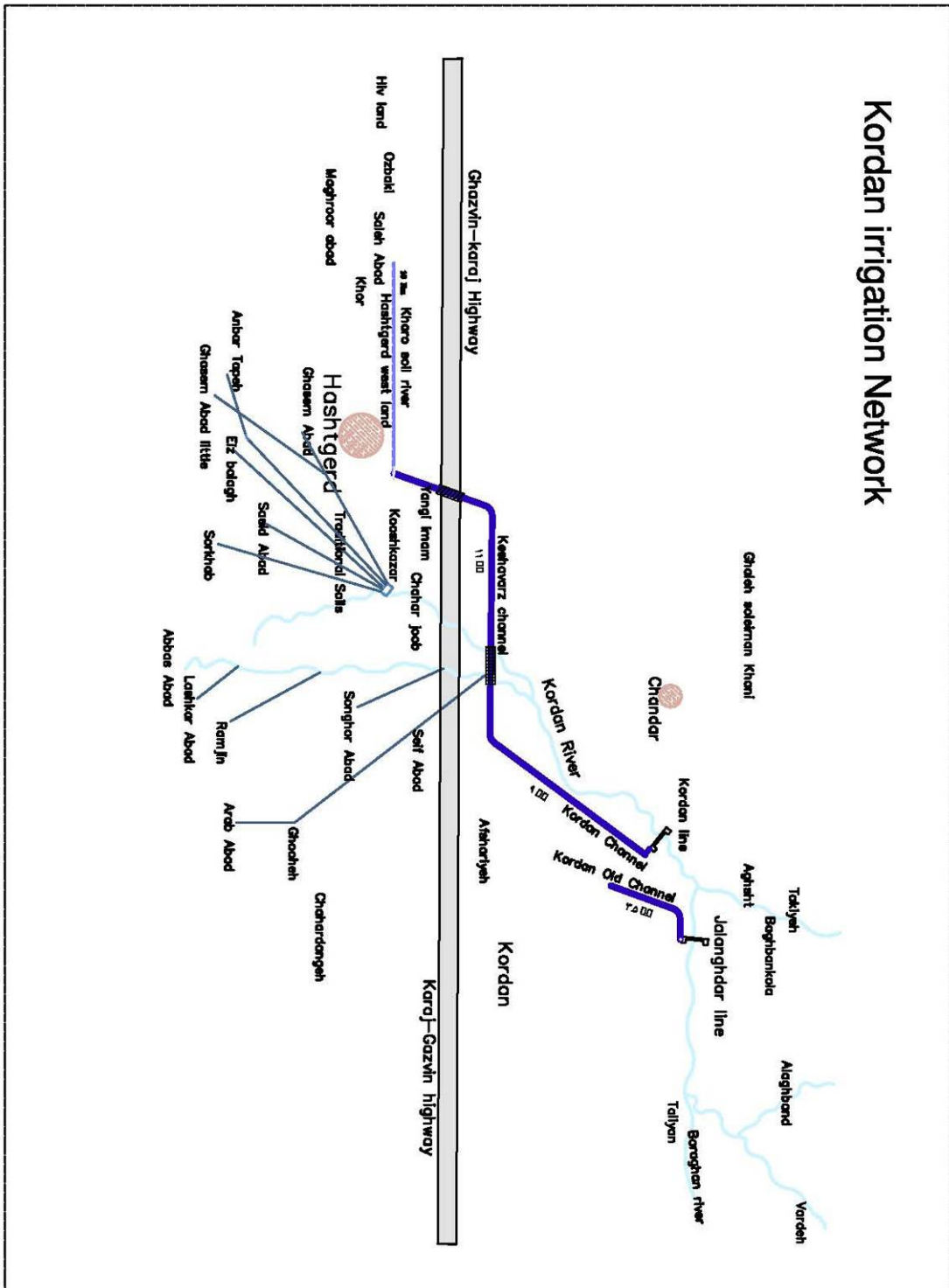
**2-4. Tehran channel ( Rei City):** Tehran irrigation channel of Varamin has the length of 30 km from Rei city, the canal water and 40 pits of Tehran channels will be sent to Varamin. And after handling and filtering by the amount of 8 m<sup>3</sup>/s of water will be sent to Varamin.





# karaj irrigation network







### 3. POLICY OF TEHRAN PROVINCE OPERATION CO,

In the beginning years the activity of Operation company of Tehran province of the 390 farmers of villages was given directly to the administrations of firm, the applicant had divided them into 380 places according to the gates of submitting water and geographical location, each place would introduce a representative that be confirmed by Islamic council and the ministry of Agriculture construct for the purpose of gathering right of water from farmers and submitting water.

The farmers pay some money for services that water distributors do and in case if the farmers are not satisfied with their representative they will try to make another election for electing another representative for this position.

The above classification caused that the number of referrers be changed from 13100 families to 380 persons, so that some voluntarily establishment were chosen by people for collection right of water that the shift and safety point and distribution of water will be done by that and this matter would be under the satisfaction of all the farmers.

This company has provided some face to face meetings with farmers, consumers of the whole water of network and at the moment about 11 establishments of water have been provided for water and the matter of operation which they have been registered and they are active in the irrigation network managements which are degree 3 and 4. The abovementioned establishment will be done by selection of board of directors and managing director that some manpower will be employed for cleaning the gates and canals and for prevention of water robbery.

The voluntarily establishments of water will be provided in a section that the farmers have a high knowledge for this matter and this firm has concluded that at least about 22 other establishments are needed so that the networks will be controlled separately and independently, for the purpose of this matter Dr. Heidariyan is invited to facilitate and cooperate so that the firm will follow the mode of farmers activities and some considerations and evaluations will be done in this field so that the reasonable solutions on the conditions of each area should be detected and provided.

The counselor of design will perform some meetings with the managers of firm and will evaluate the mode of shifting participatory management which is needed and the following priorities will be determined to irrigation network and so much clear objectives for the purpose of creating new establishments will be provided that include:

#### **FIRST PRIORITY: AVAILABLE PEOPLE ESTABLISHMENTS WHICH ARE REGISTERED:**

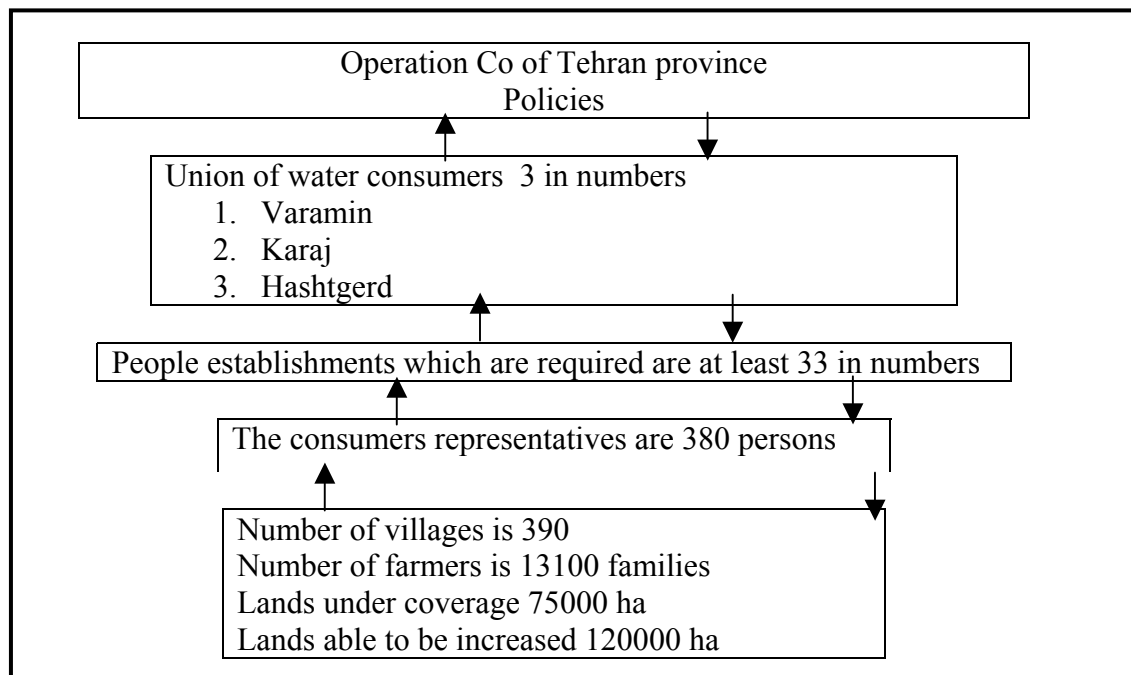
- Performance of at least 7 meetings by board of directors and the establishments will be done separately by the objective of reaching to written agreement which is necessary and the shift of participatory management and operation responsibilities and keeping the networks with degree 3 and 4 and their documentations
- Controlling the meetings notes by operation Co until finalization point.
- Providing at least one expert who is interested to this subject in part time or by the firm for the purpose of local management support as a facilitator.



**SECOND PRIORITY: ENCOURAGEMENT OF FARMERS FOR THE PURPOSE OF PEOPLE ESTABLISHMENTS VOLUNTARILY:**

- Establishment of training workshops by presence of local authorities in the necessary level by the objective of farmers familiarity with advantages and losses of participatory management shift and creation of establishments
- Consideration and adjustment of necessary agreements by participation of establishments and local responsible persons.
- Organizing and registering the establishments
- Documentation of establishments
- Performance of at least 7 meetings by presence of counselor of 12 meetings without counselor for the purpose of strong establishments
- Controlling the notes of meetings with farmers by company
- Providing at least one expert who be interested to this subject and works as part time as a facilitator from firm for he purpose of using of rules and available instructions

After registration and handling at least 33 establishment in the level of their irrigation networks will be acting under the coverage and management of 3 unions in the level of Varamin-Karaj cities and Hashgerd and this matter will have a participatory management in the matter of distribution and maintaining irrigation networks of degree 3 and 4 that are about 600 km and it will be done by supervision and policies of operation firm of Tehran province and in case the successful participatory management shift be able to submit the canals degree 1 and 2.



#### **4. PROBLEMS AND BARRIERS FOR SHIFTING THE CHANGING MANAGEMENT IN TEHRAN PROVINCE**

Participatory management shift in each area is related to the local and special conditions of each area and in case no reasonable solution be considered for this matter the success and lasting point of establishments will be faced with some problems or failures.

##### **4-1. SETTING IRRIGATION NETWORKS NEAR CAPITAL CITY**

Setting Irrigation Networks near capital city which is Tehran with the population of 8 million persons will make the distribution of agriculture water under the special political conditions such as the priority of providing drinking water of Tehran and Karaj from dams such as Litan and Amir Kabir and the share of agricultural water of dams will be determined and according to the limitation of saved capacity of provided dams which is needed for farmers there is not a certain point in no season and this matter causes that underground waters be used more than legal level and at the moment the falling of 2 meters of underground resources has provided a very great disaster. The farmers are never confident about their applied water and they have an outlook towards the establishments with some doubts and they do not show so much interests in this field.

##### **4-2. SEPARATION OF DESCENDING (SNOW AND RAIN) DURING YEARS**

The dried climate conditions and half-dried and average climates with the average of 210 millimeters of water per year is ruled to Tehran province. The majority of rains during winter and spring on the high areas of dams such as Amir Kabir and Litan will be occurred and this matter has caused that the dams be immediately full of water during spring and when the snows are being melted and some floodwaters will be happened till the level of 150 cubic meter per second and from the second month of spring till the mid of autumn the rains and atmospheric descending will not occur and during some dried years such as 1998-2000 no water will be allocated for agriculture and according to the last managements that have been provided for this matter by completing the dam of Martyrs Ghomi(Mamlo) these floodwaters will be saved by two times and from other side after handing the refineries in Tehran their hog-wash will provide a section of farmers water need permanently during year.

##### **4-3. FAILURE OF PAST EXPERIENCES OF FARMERS IN THE MATTER OF ASSISTANCE**

The farmers have provided some assistance establishments by encouragement of governments in recent years in the matter of agriculture, but many of these establishments have been cancelled due to some lying promises and such as the equality level of share and vote in elections and some of them have been inactive. According to the unsuccessful experiences which have occurred in the past the encouragement of farmers for providing establishments has been faced with some problems and it has an activity with by two times of previous times.

#### **4-4. THE LACK OF SUPPORTIVE RULES**

In the current rules the limitation of authorities and commissions of establishments and legal solutions need a support that it has not been determined and or it won't be performed and this matter will bring a negative point in the mind of farmers.

#### **4-5. RIGHT OF WATER RULES AND DISTRIBUTION OF WATER BASED ON JUSTICE**

In the rules that were provided in before creation of irrigation networks the agricultural lands have the right of water and many of down area lands that have been submitted after the years of network creation do not have the right of water. So in this case there is so much arguments between these two groups and at the moment this firm, does not distribute water based on justice and nor on the right of farmers and it distribute water in a way that there is no so much satisfaction of operation and farmers.

#### **4-6. DIFFERENT TACT IN GOVERNORSHIPS POLICIES**

The location of irrigation networks in at least 8 governorships face with different tact in the field of activity and local and tribal arguments which will provide some special problems form management shift in the cities of Tehran province.

#### **4-7. LACK OF REASONABLE MODEL EXISTENCE**

At the moment there is no a reasonable and successful model for the purpose of attracting people participation in the participatory management section.

#### **4-8. LACK OF NEED FEELINGS BY FARMERS TO AUTO-FUNCTIONAL ESTABLISHMENTS**

Until now the establishments have not been provided according to the application of government nor according to the feeling of farmers needs and this matter has caused that farmers have more expectations from government and they believe that government can provide this matter in the demand of work by removing responsibilities and shifting amendment expenditures and keeping to farmers by people participatory management.

#### **4-9. LACK OF DETERMINATION OF RAPID POINT OF ESTABLISHMENTS**

According to the necessity and emphasize of people participation the rapid point of establishments is not clear and unfortunately there is not coordination between Agriculture Jihad Ministry and Power Ministry and some other administrations.

#### **4-10. REAL VALUE OF WATER**

Determining the level of water value has been done from long time ago and it would be supported such as a demand of work of governmental loss and the farmers still expect to have free water from government.

#### **4-11. FAST GROWTH OF HOUSING TISSUE**

The fast growth of housing tissue around Tehran and added value of farmers in case if be changed to housing, industrial and trade causes that farmers to give up the lands which are located around Tehran and to earn some advantages and they face with the matter of establishments in a very superficial way.

#### **4-12. LACK OF DETERMINATION OF FACILITIES, ENCOURAGEMENT AND CHANNEL DAMAGES LEVEL**

The level of providing facilities and financial encouragements and or developmental supports in the matter of keeping and operating has not been considered and according to the damage point of canals such as Karaj with more than 40 years, the farmers see themselves against expensive expenditures of amendments and keeping and with not encouraging support and they do not show any encouragement for providing establishments themselves.

#### **4-13. SAFE-POINT AND PAYING LOSS MULCT**

Due to fast growth of cities and the increase of vehicles falls and people and human losses and financial losses in the canals and according to the compulsive point of paying loss mulct to the persons who have been left and or the high expenditures of hand-railing and safety point around the channels, the farmers ignore accepting the channels management.

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