

## ORIGINAL ARTICLE

# Evaluation of the villagers involved in the Successful design, Equipment Modernization and Land Consolidation (Case study: Neka city district of Gharetaghan, North of Iran)

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### ABSTRACT

*Due to the sensitivity and importance of rice in the food supply situation with regard to paddy fields And the problems existing conditions, equipment, modernization and integration of these lands in order to create suitable grounds for increasing the productivity of water resources and Soil and existing facilities and structures that are inevitable. In this paper, we plan to evaluate different aspects of economic, socio-cultural and technological impact of the villagers involved in the success of the scheme is discussed. Analysis consists of two parts: descriptive and analytical. In the analysis of Excel and SPSS software is used. To determine the correlation between the success rates of the three dimensions of social, economic and technological cooperation projects and the economic, social and technological quality off armers in the design of the test statistics pearson. The results of the data analysis Results obtained from analysis of data the cross section shows the successful implementation of economic and technology and unsuccessful social aspect of rural perspectives in the analysis of the correlation, all social, economic and technological impact is the participation of the villagers.*

*Keywords: Land Consolidation, Neka city district of Gharetaghan*

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### INTRODUCTION

Negative effects of industrialization, employment and the satisfaction of basic needs of the growing demand for urban development strategies and industrialization in the Third World had been eliminated until the 1970 revision to the country's development strategies must be investigated, because the theories and models have been proposed along with many consequences. These consequences can include:

-Politically, economically and culturally the third world, unemployment and massive rural to urban migration, Increasing poverty and social in equalities named. Due to the consequences of such a development strategy of most countries in the developing world were Development thinkers and theorists (especially in the third world) presented new ideas to achieved development; Among the main features and attract focus on rural areas and rural people's participation in rural development programs are organized. The theoretical focus groups around rural development and public participation are integral. According to these theorists share is based rural development, self-help, while the benefits of participation in development is a factor in participation. If a large group of farmers living in rural areas in order to protect the interests of plan is implemented, Much sense for them not to follow the ways you could participate, and if they do not believe that this proposal is good for them, Even the best of rural development plans prepared by experts and all the tools and resources necessary financial and technical support is also fail. Instead, there is no doubt that the participation of villagers in rural development should be based. However, this requires that the requirements and accessories, such as participation in the selection of projects, participation in political and economic structure-social [1].

Theoretical Foundations:

Having a history of involvement with human concepts such as collaboration, cooperation, equality, solidarity and communication is essential. Sociologists, political scientists, sociologists and social psychologists, economists and laymen are all this term are used in specific ways. According to sociologists involved in the further development experts involved in the political power structure, economists and psychologists on profitable terms of cooperation based on satisfying psychological needs of ordinary people in everyday life, on the involvement of discuss [7].

Sustainable development, particularly in literature, the term participation is an important place. Terms of participation, now days become one of the key words in the dictionary has been developed [6]. Achieving comprehensive development of rural areas, without adopting the ways in which public participation is viewed as infrastructure, is not possible. Participation in organizing rural areas of human interaction with the environment in rural or geographically different levels of agricultural production is at optimum efficiency [3]. Reddy and colleagues in a study titled ((Who can participate in volunteer activities?). Suggests that individuals with social skills (ability to communicate, influence and manipulate others) are and recommendations, or ask friends, relatives and neighbors, because more people are participating in voluntary activities [5]. Agriculture is the main economic activity in most rural areas of the country. Since the ultimate objective of food security and economic welfare of the people is considered, therefore, how to evaluate and agricultural activities in the rural economy is very important. On one hand, the increasing population and limited land and other factors of production, production efficiency, reducing DHDV ground improvement technologies, the compensation does not affect performance. Human measures to increase production capacity of land degradation in many cases this has led to important production factor [9]. The study centered on the agricultural economy of the district of Gharetaghan formed in the rice field plays an important role. The importance of foods sovereignty of nations and national trend needs food as a necessity, brought in food supply and macro programming And to focus on the medium term and to achieve this important national policy makers and planners on a national and regional level is at ask. So primarily, to preserve the very important role of the region in order to promote and enhance the sustainable agriculture efforts must appoint particularly rice, In this regard, the "equipping and modernization and integration of paddy fields" has an important role. Due to population growth and increasing demand. In addition to increasing the amount of land reclamation in order to quantify the level of in order to maintain and improve the quality of production should be taken [8].

The operation and design experts are problems with Materials what are the farmers' lack of knowledge about the project and its positive effects. Perhaps the main solutions to eliminate these problems in agriculture, especially encourage promotion of this project is about. With this knowledge they are sending people to the rural areas and rural people familiar with these plans can this problem be solved. Experience turnout in India, China, Tibet, Korea, Sri Lanka and Bangladesh have shown The level of poverty and inequality, particularly the problem of illiteracy and unawareness of the more general Followed by lower awareness and ultimately unsuccessful applications will be more collaborative [4].

George stated that participation is more effective if the expected Better match between the needs of the people and projects exist. Seems to be the missing link between the public and public participation in water resources and soil And natural resources in general, is. With the help of public participation can be thought necessary to protect the natural resources of soil and water in rural communities to promote government programs with the needs of rural communities tied [2].

Projection equipment, modernization and integration of the three dimension of economic, social and technological. The operational definition of a concept of peasant participation in the plan, Based on the theoretical definition of what it means to be classified in the following dimensions:

- 1 - The Economic dimension
- 2 - The social dimension
- 3 - The technological dimension

In order to participate in this action are:

Villagers' involvement in the design of equipment, modernization and integration of paddy fields.

## **MATERIALS AND METHODS**

Method of analysis consists of two parts: descriptive and analytic. To analyze the collected data in analytic part both Excel and also SPSS software were used. All analytic results of this study were obtained by them.

Cochran formula is as follows:

$$n = \frac{(Nt^2 \times pq)}{(Nd^2 + t^2 pq)}$$

$$n = \frac{(2405(1.96)^2 \times 0.5 \times 0.5)}{(2405(0.06)^2 + (1.96)^2 \times 0.5 \times 0.5)} = 260$$

n- the required sample size

N- the total population (2405 families )

T2- the probability of Health Speech

(in this case because the significant level of test is 0.06%, it equals to 1/96)

p- the probability of existing attribution (the probability of conducted project successfully in paddy field)- 0/5

q- the probability of lack of existing attribution (the probability of conducted project unsuccessfully in paddy field)- 0/5

d2= sampling error with intended probable level of confidence degree- 0/06

table1: The success of the design variables

variables	Dimensions	Purpose
Type of product - increased income for farmers - crop production - land prices - product quality - increasing the efficiency of operation and increased acreage	Economic	Evaluation design, equipment modernization and integration of paddy fields
Changes in farm management - increasing farm participatory management - attracting young people into agriculture - rural unemployment - the impact of agriculture on the project - the project fit with the needs and interests of farmers and farmer satisfaction with the division of land in the project	Social and cultural	
Effective system utilization with a car - car storage facility - increasing irrigation efficiency - saving water - easy transport machinery - Machinery for ease of use and efficiency of irrigation projects	Technology	

Table 2: Public participation in the design variables table in the three

Variables	Dimension	Target
Age-Education-Understanding of the Project-Family - oriented teamwork -	social	
Employment - the average monthly household income - the property -	economic	Farmers participating in the project evaluation
The use of modern agricultural machinery - Introduction to the Project - Introduction of a new culture -	technological	

**Hypothesis:**

- The successful implementation of economic projects, equipment modernization and economic integration and participation of rural areas, there is a positive correlation.
- The successful implementation of social projects, equipment modernization and social integration and participation of rural areas, there is a positive correlation.
- The successful implementation of technology projects, equipment modernization and technological integration and participation of rural areas, there is a positive correlation.

**Location of the study area:**

the case study is Neka County which is located between 36° and 18 minutes to 36° and 50 minutes of northern latitude, and 53° and 13 minutes to 54° and 03 minutes eastern longitude from Greenwich meridian. The area of this county is 1358/8 square kilometer which delimit from west and south to Sari county, by east and north east to Behshahr county and by southeast to Semnan province. Naturally it consists of mountainous area which located in its south and plain area in north, west and east (Yadollahi, 1379). This county has one urban point consists of Neka city and 2 parts, Markazi and Hezarjerib, and also 5 districts and 127 villages with population and 5 villages without population (gubernatorial of Neka). Gharetaghan has 21587 populations. We studied 9 villages of Gharetaghan from Neka County.

Level of participation of rural people in the design dimensions:

Rural properties:

Social dimension:

At the age of respondents:

As Table 5 suggests, most of the age group 40 to 49 years Which accounted for 30% of the population. The lowest percentage of age group under 29, which shows the percentage of youth employment in agriculture is low. A total of 76/5% of farmer households aged 30 to 59 years And the lowest percentage of people younger than 30 and older than 60 years and a total of 23/5 percent are included.

Table 3: Distribution of respondents by age:

Unwillingness to participate	Willingness to participate	Percent	Frequency	
2	18	7/7	20	20 to 29 years
0	64	24/6	64	30 to 39 years
5	73	30	78	40 to 49 years
9	48	21/9	57	50 to 59 years
13	28	15/8	41	60 and more than 60
29	231	100	260	total

Field research findings

#### Education:

Among the sample farmers supervisors, 12/3 Percent Illiterate/ 31% of primary education, 5/18% of school education, 12/3 percent at the secondary level, 18/1 of a high school diploma and 7/7% higher than the high school diploma.As Table 6 shows that the majority of farmers in the 31/2% had primary education, the farmers regarding literacy levels are relatively low.Of the total sample of households heads 87/7 percent of them are literate, while the illiteracy rate of 82 percent in the city of Neka in the district of NagornoTghan 79/3 patients.

Table 4: Distribution of educational status of respondents:

Unwillingness to participate	Willingness to participate	Percent	Frequency	Education
9	23	12/3	32	Illiterate
8	73	31/2	81	Primary education
3	45	18/5	48	Guidanceeducation
4	28	12/3	32	High School
3	44	18/1	47	Diploma
2	18	7/7	20	Higher diploma
29	231	100	260	Sum

Field research findings

#### Understanding of the project:

The farmers of 6/17 percent had no knowledge of the scheme and 24/61 percent had full knowledge of the plan. Most farmers with 48/46 % of the average of the plan.

Table 5: Distribution of the types of projects

Unwillingness to participate	Willingness to participate	Percent	Frequency	Understanding Project
9	7	6/17	16	Lack of knowledge
5	49	20/76	54	Understanding Low
15	111	48/46	126	Moderate knowledge
0	64	24/61	64	Knowledge
29	231	100	260	

Field research findings

#### Number of households:

Number of heads of households in the sample according to Table 8,8/1 of 2 people, 29/2 of 3, 32/3 of 4, 20/8% of 5 people, 1/1 percent of the number 6 and 8/5 per cent of the population of more than 6 people are. The majority of operators with 32/3 Percent of beneficiaries with the lowest number 4 and 1/1 is 6 percent of the population.

Table 6: Distribution of respondents according to family size:

Unwillingness to participate	Willingness to participate	Percent	Frequency	Number of households
4	28	8/1	32	2 people
10	71	29/2	81	3 people
5	43	32/3	48	4 people
3	29	20/8	32	5 people
4	43	1/1	47	6 people
3	17	8/5	20	More than 6 people
29	231	100	260	total

Field research findings

**Disposition collective work:**

The total sample size was responsible for the majority of farmers with 59/23 percent

Table 7: Distribution of respondents' attitudes to teamwork Tend to have a high level of teamwork and the 16/54 percent less tendency to have mass.

Unwillingness to participate	Willingness to participate	Percent	Frequency	Type of Operation
5	149	59/23	154	High
5	58	24/23	63	Medium
19	24	16/54	43	Low
29	231	100	260	total

Field research findings

**Economic dimension:**

**Employment:**

The majority of rural people with 84/23% farmers, and the least with 1/15 percent are farmers.

Table 8: Distribution of respondents' employment

Unwillingness to participate	Willingness to participate	Percent	Frequency	Type of employment
11	208	84/23	219	Agriculture
1	2	1/15	3	Livestock
8	12	7/7	20	Agriculture Livestock
9	9	6/92	18	Etc
29	231	100	260	

Field research findings

The average monthly household income from farming:

To investigate the effects of the plan on equipping and modernizing agriculture and increasing household incomes of paddy fields; Monthly income before and after implementation of the project was questioned. The results in Table 9 indicate that the majority of them 42/7% of your income before project Minimum income of 400 dollars and 150 dollars, which is the 12/3% of this amount has been mentioned. However, after the implementation of farmers' income has risen about 45 percent so that they have achieved an income of about 400 dollars And the number of beneficiaries has reduced the amount of USD 150 thousand to 8/5 per cent, the number of people who were earning over 400 thousand dollars in the design of the 2/3 percent increase.

Table (9): operating income from agriculture

Unwillingness to participate	Willingness to participate	Next to project		Before of project		Monthly income from agriculture
		Frequency	Percent	Frequency	Percent	
8	14	22	8/5	32	12/3	150 thousand
7	37	43	16/5	46	17/7	200 thousand
8	65	73	28	69	26/5	300 thousand
5	110	116	44/7	111	42/7	400 thousand
1	5	6	2/3	2	0/8	More than 400 thousand
29	231	260	100	260	100	total

Field research findings

**Of ownership:**

As Table 10 shows, the majority of users, i.e. about 33% of the sample size is between 1 and 2 hectares and a total of about 32 percent have less than one hectare of cultivated land. Notably, with plans to integrate into non-arable land into arable land, increasing land area is. But due to channeling and roads between farms land acreage is low value. Thus, changes in farm ownership has not been created.

Table 10: Distribution of paddy fields owned by farmers

Unwillingness to participate	Willingness to participate	Percent	Frequency	The property
7	16	8/8	23	0/2 to 0/5 ha
5	8	5	13	0/5 to 0/7 ha
6	41	18/1	47	0/7 to 1 ha
5	81	33/1	86	2 to 3 ha
3	43	17/7	46	0/2 to 0/5 ha
3	42	17/3	45	More than 3 acres
29	231	100	260	total

Field research findings

**Technology:**

The use of modern agricultural machinery:

Among 260 subjects 86/9 percent moderate and 3/87% of the low range of new farm machinery use.

Table 11: Distribution of respondents on the use of modern agricultural machinery

Unwillingness to participate	Willingness to participate	Percent	Frequency	The use of modern agricultural machinery
5	19	9/23	24	High
18	208	86/9	226	Medium
6	4	3/87	10	Low
29	231	100	260	total

Field research findings

Introduction to the Project:

As Table 12 shows, the majority of the studied sample, i.e. about 49/6 of high grade and 18/1 of a low level of familiarity with the operational plan.

Table 12: Distribution of respondents' familiarity with the Project

Unwillingness to participate	Willingness to participate	Percent	Frequency	Introduction to the Project
8	121	49/6	129	High
6	78	32/3	84	Medium
15	32	18/1	47	Low
29	231	100	260	total

Field research findings

**Introduction of new cultivation methods:**

As Table 13 shows, the majority of the studied sample, i.e. about 44/62% of high grade and 19/23% of the low level of familiarity with the ways of the new culture.

Table 13: Distribution of respondents' familiarity with the ways of the new culture

Unwillingness to participate	Willingness to participate	Percent	Frequency	Introduction of new farming practices
5	111	44/62	116	High
7	87	36/15	94	Medium
17	33	19/23	50	Low
29	231	100	260	total

Field research findings

Evaluation of economic indicators of project success from the perspective of farmers:

Table 14: Distribution of respondents relative to economic indicators

total	Farmers in the community assessment (percent effective)					index	Row
	Very high	high	medium	low	very low		
100	19/6	48/8	22/3	8/1	1/2	The type of project	1
100	22/3	41/9	25/8	8/1	1/9	Increase farmers' income	2
100	20/4	46/9	23/8	8/1	0/8	Crop production	3
100	25	47/3	18/8	7/3	1/6	Land prices	4
100	20	47/7	22/3	8/8	1/2	Quality of product	5
100	20	45/8	27/7	5/8	0/7	Beneficiaries efficiency	6
100	23/8	38/9	25/4	9/6	2/3	Increased acreage	7

Since the maximum score for each item is 5 times the sum of the maximum score for each indicator is 35. The total score for each respondent to index and classify them into low, medium and high, Table (15) Distribution and Frequency distributions of all respondents, the respondents seem to realize is formed.

Table 15: Distribution of respondents by economic indicators

Frequency Percent	frequency	Response to economic indicators
10	26	Low
22/3	58	Medium
67/7	176	High
100	260	total

According to Table 15, 67/7% of respondents were satisfied with the design of economic indicators and only 10 percent of beneficiaries were dissatisfied. It is indicated that the Vision project economically successful farmers.

#### Evaluate the success of the project in terms of technology, the farmers' point of view:

Table 16: The relative distribution of farmers' responses to the technology index

total	Farmers in the community assessment (percent effective)					index	Row
	Very high	high	medium	low	very low		
100	25	47/4	18/8	7/3	1/5	Increasing irrigation efficiency	1
100	31/5	42/3	17/3	6/2	2/7	Saving water	2
100	25/4	45/8	21/5	6/5	0/8	Nzan efficient operation of the machine.	3
100	9/2	40	31/2	15	4/6	Facility maintenance machine.	4
100	32/3	40/8	21/2	5/3	0/4	Easy Transfer Machine	5
100	31/5	43/1	20/4	3/8	1/2	Irrigation facilities	6
100	27/7	45	21/2	4/6	1/5	Efficient use of machinery.	7

Table 17: Distribution of respondents Technology Indicators:

Frequency Percent	frequency	responses to technology indicators
10/8	28	Low
30	78	Medium
59/2	154	High
100	260	total

According to Table 17, 59/2 percent of respondents were satisfied with the design and technology of only eight tenths percent were dissatisfied. The project has been successful in terms of technology, from the viewpoint of users.

Evaluate the success of the project in terms of socio - cultural view of farmers:

It is noteworthy that farmers in the community assessment table in terms of social and cultural indicators, variables changed farm management, participatory management, and increasing rural unemployment. Maximum score of 5 for very little consideration has been given in this table, the frequency of respondents (18) is formed.

total	Farmers in the community assessment (percent effective)					index	Row
	Very high	high	medium	low	very low		
100	18/5	30/8	36/8	10/4	3/5	Changes in farm management	1
100	19/2	44/7	26/5	8/8	0/8	Increased participation in farm management	2
100	2/7	17/3	28/1	30/4	21/5	Attract youth to agriculture	3
100	28/8	23/8	24/3	16/9	6/2	Rural unemployment	4
100	13/5	35	30	13/1	8/4	The influence of farmers in the project	5
100	16/2	37/7	29/2	11/5	5/4	Project fit with the needs and interests of farmers	6
100	5/4	15	34/2	32/7	12/7	Farmer satisfaction with the division of land	7

Table 19: Distribution of respondents to the social and cultural factors:

Frequency	Percent	frequency	Response to social and cultural indicators
52/7		137	Low
24/2		63	Medium
23/1		60	High
100		260	total

According to Table 19, 52/7 percent of respondents were dissatisfied with social and cultural projects, and only 23/1 percent were satisfied with The implementation of the social and cultural viewpoints of farmers has failed.

Characteristics of the relationship between economic, social and technological villagers and the extent of their participation in the project:

Table 20: Significance level of participation of villagers in the project in terms of economic indicators:

Rate calculated from the viewpoints of farmers (sig)	index
0/000	Occupation
0/030	The average monthly household income
0/000	The property

According to Table 20 summarizes the parameters of reality under a significance level of less than 0/05, the effective participation of rural economic characteristics.

Table 21: Pearson correlation coefficient (x2) project successful partnership between villagers and rural economic characteristics:

Level of significance	the test	Name of the test
0/010	0/897	Pearson

Based on the results obtained, the characteristics of rural economy and the positive contribution they Plan (0/897), there is the economic characteristics of effective participation of the villagers.

Table 22: Significance level of participation of villagers in the project in terms of social indicators:

Rate calculated from the viewpoints of farmers (sig)	index
0/038	Age
0/012	Education
0/020	The identification of designs
0/041	Family
0/005	Approach to teamwork

According to Table 22 summarizes the parameters of reality under a significance level of less than 0/05, i.e., the social participation of villagers have been effective.

Table 23: Pearson correlation coefficient (x2) project successful partnership between farmers and the rural community characteristics:

Level of significance	the test	Name of the test
0/000	0/741	Pearson

Based on the results obtained between the villagers and the extent of their participation in the social correlation Plan (0/741), there is Social features of the villagers in their participation to be effective.

Table 24: Significance level of villagers' participation in the implementation of technological index:

Rate calculated from the viewpoints of farmers (sig)	index
0/003	The use of modern agricultural machinery
0/000	Introduction to the Project
0/007	Introduction of new farming practices

Table 25: Pearson correlation coefficient (x2) successful partnership project between the villagers and the villager's technological features:

Level of significance	the test	Name of the test
0/021	0/875	Pearson

Based on the results obtained between the villagers and the technological properties of their participation positively Plan (0/875), there is Technological features of the villagers in their participation to be effective.

## CONCLUSION

Projection equipment, modernization and integration of paddy fields, a phenomenon affecting the sustainable development of agriculture, especially in the two northern provinces (Gilan and Mazandaran), has attracted a lot of attention to. The layout of the various aspects of economic, social, cultural, and technological impact on rural and agricultural development takes place, each of these dimensions is studied. In this study, we have evaluated the implementation of all aspects of economic, social - cultural and technological impact of the villagers involved in the project to be considered successful. The results obtained from analysis of data on cross sections Indicates successful implementation of economic and social dimensions of technology failure is studied from the viewpoint of villagers in rural areas. Also, the results obtained from the analysis of the correlation between all social, economic and technological cooperation of the villagers, they are effective.

According to the survey, the villagers were unhappy with the design of the social dimension. Consent of the villagers for community projects, courses and training - is an essential extension of their knowledge in this area will improve. The following guidelines are provided to achieve the consent of:

- Speed up plans to regulate
- Activation of Agricultural Extension and Education
- Use of farmers' opinions about the project after its implementation.

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