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### The Effect of Training by Rice Supervisors on Income Increasing, Poverty Decreasing and Stable Development in rice plant in Guilan Province

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#### ABSTRACT

80 percent of world rice is growing in the small family farms which it is mainly cultivated to meet family living needs and 80 percent of rice growers are poor. Agricultural sector plays vital role in Iran to develop country in terms of providing food, social justice, creating new job opportunities, environment stabilization and making appropriate environment in continuous, stable and internal development of economy and it needs special. Rice supervisor experts caused to increase technical skills and information, production and income by presenting necessary training in different process of rice production, using modern methods to plant and harvest rice, appropriate using of structures. General aim of this research is to investigate training effect by rice supervisors on increasing production and then increasing agriculturists' income which lead to decrease poverty and to prevent from immigration and achieve stable development. Statistic society, in this research, consists of all of the paddy holders in Gilan province in 2009-2010 which is divided into two groups: people who have been under Rice farmers covered under the project and people who have Rice farmers not covered by the project. These two groups were compared by using t test. 150 people among them were selected by random sampling for any group. Eventually 300 questionnaires were passed out to each group and were collected and then analysed. The face and content validity of the questionnaire was estimated by obtaining opinions of twenty agricultural lecturers and experts, after the necessary modifications were made. The validity quotient of questionnaire was 85% which was attained by using spss software. The findings of the research shows that accepting rice supervisors trainings about using new findings in rice plant and harvest, production increase by under supervision people compared with not under supervision people and finally income increase has a positive and significant relationship which it is because of increasing performance. On the other hand, the rice supervisors which increase farmers technical and scientific information by training them caused the trained people have more efficiency by using innovations and new research findings than untrained people, this high performance and efficiency eventually caused income to increase. It is clear that any income increase causes relative welfare, prevents from immigration and finally creates stable production and development.

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#### INTRODUCTION

Rice is the most important food crop and a major food grain for more than a third of the world population. It is known that rice (*Oryza sativa* L.) is the world's most important food crop. More than 40% of the world's population depends on rice as the major source of calories. To feed the increasing global population, the world's annual rice production must increase from the present 528 to 760 million ton by 2020 [2]. In the North of Iran is the main rice (*Oryza sativa* L.) producing country, with approximately 650,000 ha of land under irrigated rice cultivation in 2011 [3]. Studies have shown under the framework of continuing state intervention, options for developing rice production to meet domestic requirements are not very much different. Rice production has serious issues in Iran. By review state intervention in major rice producing countries and to address the challenges in rice production and increase the productivity and growth in this sector [4].

The economy of developing countries including Iran is dependent on agricultural production. The betterment of traditional agricultural production, betterment of land usage, decrease in poverty and hunger and

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rejuvenating the rural areas play a significant role. The improvement of rural areas in order to eliminate lack of jobs, poverty, low income, low production and satisfying the needs of the population is of paramount importance. According to todaro national development is dependent on rural development for it is in rural areas that we can find the root of all problems and issues such as dogma, increasing inequality, increase of population and an increasing rarity of jobs [5].

What is accepted today about rural development is the constant development of rural areas, a development in which the needs of today's man is fulfilled without taking away their natural capabilities and endangering their future to make a life for themselves [1]. The main goal of constant development is: satisfying general needs of the populace, betterment and improvement of life for all and preservation of the ecosystem and creating a safer and better future for all.

Amongst the factors that decide how development is conducted there has been an important emphasis on education. This role has played a significant part due to the increase of provision of technical education and betterment of mental and physical skills of the rural populace. The project of "Rice supervisors" that started in Guilan province almost 4 years ago was started in order to take use of the knowledge and the expertise of agriculture experts to find better ways for farming of rice. This has helped the farmers of Guilan to take the most use out of the tools they have at their disposal and increase their production and this has led into the increase of their income and lifestyle.

This research was conducted in order to study the effects of such education provided to rice farmers in order to improve their technical and mental facilities by the experts. All has been done in order to observe the effects of such projects.

## MATERIALS AND METHODS

This research that was conducted in the year 2010-2009 as a survey and after the events. The groups who were researched consist of two groups of Gilak rice farmers, the first group were provided with professional assistance and education through the help of agriculture experts and the second group are those who had no such help. The sample volume of farmers under the supervision of experts had been chosen by mere accident. Then with the second group was chosen in the same fashion. The sampling of two groups was done in a singular region.

Materials and the resources used to gather the said givens and information were library books and questionnaires. The questionnaire included research questions. Research questions are a part devoted to personal attributes (sex, education, age etc) which are evaluated based alphabetically, based on level and distance and are used to analyse the frequency index and frequency percentage, trend, average, Standard deviation and variations and the other part consists of matters correlating to the main research variables (Partaking in promotional courses, amount of income, amount of productivity etc). The T test was used to compare and contrast these two groups and the average that was received was analysed. The results were thoroughly analysed by the windows spss 18 software. In order to calculate the scientific knowledge the knowledge test was used which contained questions concerning what was taught in the promotional courses conducted by supervisors. In this method the correct answer received a mark of 2, an average answer received a mark of 1 and a wrong answer received a zero and the marks were tallied for each person and then they were used to evaluate the amount of knowledge in the said field in each individual. The said test was provided to both groups. In order to improve the faults of the test an extensive draft of it was provided to the experts and professors of agriculture of Gilan province so that based on their advices the test might be improved. In order to determine the validity factor; 30 questionnaires were handed out outside of the research group. After the tests were gathered the results were entered into a computer and with the use of spss software and Kronbach alpha method, the validity factor of the test was shown as 0.85.

## RESULT AND DISCUSSION

95.2 percent paddy men and 3.2 percent are women. The average age of farmers in both groups 53.21 year, Minimum age 24 years and maximum age is 71 years. Average of rice cultivation in the 36.96 years with a standard deviation of 14.65 years.

The results show that the most common age Rice farmers covered under the project by %43.7 in patients aged 48 to 59 years and the lowest rate 3.9 percent are aged 36 to 47 years. And the most frequent Rice farmers not covered by the project age 36% yield when 48 to 59 years and minimum frequency %12 at the time of return is 36 to 47 years (Table 1).

The results show that the highest frequency of Rice farmers education covered by %40.8 of associate degree and Diploma and Diploma above lowest with 9.2 percent of undergraduates are Highest level of education as well as frequency other growers cover the %30 of associate degree Diploma and Diploma above lowest frequency with %6 of students are reading and writing (Table 2).

**Table 1:** Distribution Abundance Rice farmers by age.

Rice farmers covered under the project			Rice farmers not covered by the project			age
cumulative	percent	frequency	cumulative	percent	frequency	
17.2	16.5	17	21.0	21.0	21	23-35
21.2	3.9	4	33.0	12.0	12	36-47
66.7	43.7	45	69.0	36.0	36	48-59
100	32.0	33	100	31.0	31	60-71
	3.9	4			0	Missing
	100	103		100.0		Sum

**Table 2:** Frequency of Contact by education level.

Rice farmers covered under the project			Rice farmers not covered by the project			Education level
cumulative	percent	frequency	cumulative	percent	frequency	
35.4	34.0	35	17.0	17.0	17	illiterate
-	-	-	23.0	6.0	6	Primary and secondary
51.5	15.5	16	43.0	20.0	20	Elementary
54.5	2.9	3	46.0	3.0	3	Primary and secondary
97.0	40.8	42	76.0	30.0	30	Diploma and Diploma above
100	2.9	3	100	24.0	24	undergraduate
	3.9	4			-	Missing
	103	100		100	100	Sum

**Table 3:** Frequency distribution of Rice farmer's field by Type.

Rice farmers covered under the project			Rice farmers not covered by the project			Farm ownership
Cumulative	percent	frequency	cumulative	percent	frequency	
95.1	95.1	98	79.0	79.0	79	Personal
-	-	-	82.0	3.0	3	Rent
-	-	-	87.0	5.0	5	Splitting
100	4.9	5	100	13.0	13	Personal - Rent
	100	103		100	100	Sum

The results of this study indicate that the most frequent type of property Rice farmers covered Under the project with 95.1 percent of personal property and the lowest rate 4.9 percent to own property - rent is the most common type of property Rice farmers not covered by the project by the 79.0 percent personal property and the minimum frequency 3.0 percent of the property is rented (Table 3).

**Table 4:** Distribution of rice based cropping history.

Rice farmers covered under the project			Rice farmers not Covered by the project			Culture history
Cumulative	percent	frequency	cumulative	percent	frequency	
17.5	17.5	18	23.0	23.0	23	5-18
42.7	25.1	26	58.0	35.0	35	19-31
69.9	27.2	28	84.0	26.0	26	32-44
100	30.1	31	100	16.0	16	45-57
	100	103		100	100	Sum

The results of this study show that the frequency of cropping paddy covered 27.2 percent efficiency when 32 to 44 years and minimum frequency 17.5 percent efficiency when 5 to 18 years are the most frequent type of property Rice farmers covered under the project% 0.35 yield when 19 to 31 years and minimum frequency %0.16 efficiency is 45 to 57 years (Table 4).

#### *Hot Topics Classes - promoting rice observers to subjects covered:*

1 - Timely planting and harvesting 2 - The amount of seeding in nursery 3 - The introduction of improved varieties 4 - How to use fertilizer 5 - The use of chemical fertilizers 6 - How to use chemical pesticides 7 - The use of chemical pesticides 8 - Importance of Soil Testing 9 - how to cut waste, planting, harvesting

**Table 5.** distribution Rice farmers based on the test scores of technical knowledge

Rice farmers covered under the project			Rice farmers not covered by the project			Technical knowledge
cumulative	percent	frequency	Cumulative	percent	frequency	
-	-	-	6.0	6.0	6	1-21
-	-	-	33.0	27.0	27	22-39
33.0	34	34	88.0	55.0	55	40-57
100	69	69	100.0	12.0	12	58-75
	100	103		100	100	Sum

**Table 6:** Comparison of Average yield (tons per acre) of covered and non-covered rice observers.

Average performance	
4.67	Rice farmers covered under the project
3.14	Rice farmers Not covered by the project

**Table 7:** Average annual income of farmers in the subjects covered and non-covered rice observers.

Average Income	
13916666	Rice farmers covered under the project
4683333	Rice farmers Not covered by the project

The results of this study indicate that the most common test technical knowledge Rice farmers covered under the project 69 percent efficiency when 58 to 75 years and a minimum frequency of 34% in the yield of 40 to 57 years is the most common test technical knowledge Rice farmers not covered by the project by the 0.55% in the yield of 40 57 years and the lowest rate of return of 6% in the first 21 years is (Table 5).

#### Analytic statistics results:

##### Part one: correlation between variables:

1-the results of Pierson's correlation volume showed that in correlation between education (the number of sessions conducted for people working under the supervisors) and improvement of functionality in a profound and positive way to the extent of 99%. That means with only 1% chance of failure the increase of the number of sessions for the farmers who partake in such projects will result in better functionality (Table 8).

**Table 8:** Results of correlation test between education and increasing performance using Pearson.

Significant level	correlation coefficient
0.004	0.362

2-the results of the Pierson's correlation volume showed that there is a 95% positive relation between education and the increase of financial yield for farmers who partake in such projects. (The number of sessions conducted for people working under the supervisors). In other words with only 5% chance of failure the more sessions conducted in order to further educate the farmers will result in the improvement of their financial success and that is because these farmers are taught the most efficient method of farming and they spend less on raw materials for each acre of land (Table 9).

**Table 9:** Results of correlation test between education and income increase rice farmers using Pearson.

Significant level	correlation coefficient
0.00	0.309

3- The results of Pierson's correlation volume showed that in correlation between education (the number of sessions conducted for people working under the supervisors) and the improvement of technical skills, exists a 99% certainty of improvement in a positive and profound way. That means with only 1% chance of failure the increase of the number of sessions for the farmers who partake in such projects will result in the improvement of farmers when they take use of technical skills and machinery in a modern fashion (Table 10).

**Table 10:** Test the correlation between education and technical skills, academic rice farmers using Pearson.

Significant level	correlation coefficient
0.00	0.753

##### Part two: analysis of the variables based on the dependant variable with the use of T test:

1-the results of the T test showed that there is a profound 95% difference between the increase of functionality of farmers who work under experts and those who do not. In other words; with 5% chance of being wrong the farmers who did partake in improvement projects conducted by the experts perform better in general than those who did not (Table 11).

**Table 11:** Results of hypothesis testing using t-test.

Standard deviation	T	Significant level	Average performance	
1.72	2.457	0.01	4.67	Rice farmers covered under the project
2.22	2.457	0.01	3.14	Rice farmers Not covered by the project

2-the results of the t test showed that there is a profound 95% decrease in production (Increase Income) of those farmers who did work under the supervision of the experts than those who did not. In other words with only 5% chance of being wrong the farmers who did work under the supervision of experts had a significant increase in their yield more than those who had no supervision of any kind (Table 12).

3- the results of the t test shows that there is a 99% significant difference between technical and scientific knowledge of those Rice farmers Not covered who trained under the supervision of experts and those who did not. In other words, with a percentage error of academic abilities Rice farmers have benefited from training supervisors Rice farmers is greater than that of the training have been based (Table 13).

**Table 12:** Results of hypothesis testing using t-test.

Standard deviation	T	Significant level	Average Income	
21825894.92	2.65	0.01	13916666	Rice farmers covered under the project
4921714.031	2.65	0.01	4683333	Rice farmers Not covered by the project

**Table 13:** Results of hypothesis testing using t-test.

Standard deviation	t	Significant level	Average	
11.206	9.96	0.00	66.16	Rice farmers covered under the project
10.688	9.96	0.00	38.22	Rice farmers Not covered by the project

#### Conclusion:

The results of the research show the inevitable effect of education on development process. Providing efficient and helpful education that covers the needs of farmers can improve the betterment of their technical skill and general knowledge and increase the chances of having a profound improvement in the process of development. Thus those experts in charge of rice production should provide field assistance and professional advice for conduction of such projects and they could take use of counselling and teaching services in order to educate farmers in matters of better farming and play a greater role in the development process. Based on the amount of enthusiasm showed by farmers who wish to learn these new techniques in order to fulfil their needs there appears to be a certain need of education on such levels. Thus it is imperative that with long term planning we embark on a road to the betterment of quality of our work force.

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