

## SUMMARY and RECOMMENDATIONS

The 20<sup>th</sup> century is characterized by condensed trials in utilizing the technology and innovations resulting from basic and applied records in our daily actions which called the utilization of technology in general and specifically agricultural technology which is considered per se an investment action enabling the community in realizing its specific objectives mainly increasing agricultural production. Agriculture started to have lately an obvious importance for those caring about development and food security in the light of the changes occurring as a result of increasing local demand for food deficiency of agricultural resources for matching such demand increases and the deficiency of agricultural production rates for fulfilling inhabitants' needs.

Some see that there are technical situations related to the utilization of agricultural resources having negative effects on development and agricultural production and participating in increasing the food gap which the most important of them are the widespreading and expansion of the small agricultural units pattern in the agricultural sector with its negative effects on agricultural production for the difficulty of utilizing suitable agricultural notations, efficient application for agricultural technology and innovations, the impossibility of benefiting of advantages of specialization and wide scale production, and difficulty in realizing economic savings from these small size farms, besides the difficulties facing small farmers in getting loans provided by financial agencies due to small holdings and lack of confidence which leads in turn to the difficulties of trials of those farmers in

adopting agricultural technology and innovations.

Various studies dealing with solving the problem of increasing production showed the need of availability of enough human and physical resources needed for production, beside the availability of technological information and ideas suitable for application in various fields of agricultural production with the necessity of transferring them to areas of production and minds of producers with economic methods throughout establishing suitable projects and providing many means and agencies which supply agriculture with its needed productive resources for production. There is almost agreement that the utilization of technology and innovations in agriculture and administrating projects on cooperative basis with utilization of agricultural extension programs proved its effectiveness in the agricultural development field in countries which utilized them and became a matter which is highly recommended to be applied and generalized. Based on what was previously mentioned and in the light of existing pattern of agricultural production prevailing in A.R.E., the inevitability of transferring from traditional to modernized agriculture and going on with the scientific development by introducing the suitable agricultural technology in various farming activities to develop the level of services and production, decreasing costs of agricultural production increasing land productivity and improving various agricultural production yields per feddan.

Thus, the studied projects included both biological and mechanical agricultural technology and providing then for all farmers especially small ones in all villages, whereas they were applied associating them

with agricultural researches and village banks throughout well trained agricultural extension systems in these projects and convincing farmers with using agricultural technology and innovations using various suitable extension teaching methods beside providing needed technical and human requirements specially specialized extension agents (S.M.S.) and training extension agents and following up the implementation of agricultural recommendations in the extension fields.

In spite of the newness of the technique of applying agricultural development projects which consider agricultural extension one of its major components and the increasing case in generalizing in various local communities for what could result from their application of positive results if they realized their objectives. But not enough studies were carried out to measure the effects of applying such projects whether economic or social on local communities where they were applied as a first step before generalizing them on other local communities.

**Research Problem and its Important :** Because the ultimate objectives of implementing various agricultural development projects is not only transferring agricultural technology and making it available for the utilization of farmers during the project period, but also the objectives surpass that to creating desired behavioural changes towards various matters in their life which in turn result in social and economic changes and effects guaranteeing their continuity in the utilization of scientific ways and techniques included in such projects and consequently increasing their agricultural production and improving their socio-economic

conditions which were not realized throughout studies carried out after the projects implementation periods before trying their generalization and wide spreading. So it was found important and necessary to carry on these after implementation studies as a serious trial to complete some of the major points previously referred to throughout the comparison between results and effects of implementing such projects whether educational, economic and/or social in local communities of implementation and other similar local communities not implementing such agricultural developmental projects.

This study only cared about studying some personal, economic and social variables and indicators having direct relationship with the objectives of these projects which were expected to occur throughout their implementation period and only one year after such implementation period.

**Objectives of the study :** Based on the previously mentioned problem presentation, the following major objective could be determined is presented in four partial objectives : This major objective with its four partial objectives are stated as follows : Determining differences between farmers where the studied agricultural developmental projects are implemented in their villages and other similar farmers having no implementation of such projects in their own villages related to the following four major factors representing partial objectives which are :-

1. Knowledge of agricultural innovations and technology included in the studied agricultural developmental projects and their sources.

2. Implementation of such innovations and technology.
3. Attitudes towards some socio-economic organized systems.
4. Some personal, economic and social indicators.

**Assumptions of the study :** In the light of the prementioned presentation of the problem and objectives of this study, the following hypothesis of this study were stated :

**First :** related to the first partial objective, the following hypothesis was stated as follows, "there are differences between both farmers of the three projects implementation villages in this study and other similar farmers in other villages without such three projects implementation related to the following sex partial hypothesis covering the following points".

1. Degree of knowledge of agricultural innovations and technology included in such studied agricultural developmental projects.
2. Percentages of farmers according to their sources of information about agricultural innovations.
3. Number of sources depended on by farmers in getting solutions about such agricultural innovations.
4. Percentages of farmers according to their sources of information about agricultural innovations.
5. Number of sources depended on by farmers in getting solutions about problems facing the implementation of agricultural innovations.

6. Percentages of farmers according to their sources of information about solutions of problems facing the implementation of agricultural innovations.

**Second :** Related to the second partial objective, the following hypothesis was stated as follows "there are differences between both farmers of the three projects implementation villages in this study and other similar farmers in other villages without each three projects implementations related to the following nine partial hypothesis covering like following points":

1. Number of sources depend on getting agricultural innovations and technology.
2. Percentages of farmers according to their sources of getting agricultural innovations and technology.
3. Degree of farmers utilization of agricultural innovations and technology.
4. Percentages of farmers according to their utilization of each agricultural innovation and technology.
5. Percentages of farmers according to their reasons for using agricultural innovations and technology.
6. Degree of farmers' innovativeness.
7. Degree of farmers participation in extension fields and aggregates.
8. Degree of using agricultural mechanization in performing agricultural processes.
9. Degree of utilization of hired labour in performing agricultural processes.

**Third :** Related to the third partial objective, the following hypothesis was started "there is difference between farmers of the three projects implementation villages in this study and similar farmers in other villages without souch three projects, implementation related to the following three partial hypothesis covering the following points":

1. Farmers' attitudes towards agricultural extension.
2. Farmers attitudes towards village banks.
3. Farmers' attitudes towards agricultural cooperatives.

**Fourth :** Related to the fourth partial objectives, the following hypothesis was stated, "there is difference between farmers of the three projects implmentation villages in this study and other similar farmers in other villages without each three projects implementation related to the following fifteen hypothesis covering the following points":

1. Degree of farmers holding of agricultural mechanization.
2. Degree of holding bought agricultural mechanization during the three studied projects implementation period.
3. Degree of availability of agricultural mechanization.
4. Degree of satisfaction about cropping pattern and structure.
5. Degree of profitability of fields crops.
6. Yields per feddan of the following field crops "wheat, maize, faba bean, soya bean and cotton".
7. Percentages of farmers according to reasons of low yields of the prementioned field crops.
8. Degree of metropolitanism.
9. Degree of official participation.

10. Degree of unofficial participation.
11. Degree of education of family members.
12. Degree of getting health services by family members.
13. Degree of dwelling conditions.
14. Degree of holding new home materials and apparatus by family members.
15. Degree of family members participation in performing agricultural processes.

This study was carried out in Qualubia governorate using the techniques of control sample in realizing its present hypothesis and objectives for the existence of some villages representing the control group not affected by the three studied agricultural developmental projects. The study included the two villages where the three developmental projects started to be implemented in them alone for the concentration and complementarity of the activities of the three projects in them and continuation of their implementation for a period not less than 4 years per each beside choosing other two villages in Shebin El-Kanater district in the same governorate after being sure of not implementing any of the three studied developmental projects in any of the villages of this district which were considered as a control sample. Care was made in the choice of the control villages in their almost similarity to the two villages where the three studied agricultural developmental projects were implemented. The study depended on choosing a random sample of farmers cultivating field crops and vegetables composing more than half of the cultivated acreage in the study villages whose majority are objectified because they are small holden



holding less than 5 feddans per each of them, objected by one of the studied agricultural developmental projects.

The total number of the sample's farmers amounted to 291 farmers from the 4 villages, out of them were 149 farmers in the two projects implementation villages and other 142 farmers from the two control villages.

Needed data of this study was collected through personal interviews to farmers. The designed questionnaire included indicators and measurements for personal, economic and social variables of the study. A pre-test was carried out on a random sample of 20 farmers in the villages where the three agricultural developmental projects were implemented and similarity in other villages where such projects were not implemented.

After being sure of suitability of the designed questionnaire and pretesting it, data was collected during the months of February and March, 1989.

In the analysis of the data "Z" test for all variables except yields per feddan of faba bean, soya bean and cotton field crops where "T" test was used in their analysis. The critical ratio was used to study the significance and differences among percentages of some variables related to each of agricultural innovations and technology, sources depended on ingetting them and information related to them and solutions of problems facing implementation of such agricultural innovations and technology.

**Finding and Results :** The following four major results are the findings of this study :

1. Related the knoweledge of agricultural innovations and techniques and its sources: It was found that there was a significant difference in the increase in knoweledge about some agricultural innovations included in the villages there, in the studied agricultural developmental projects were implemented which were fungus cleaners used with cotton and some vegetable seeds, Okadeen mixed with been seeds, herbicides and foliers.

Related to sources on which farmers depend in getting information about agricultural innovations and technology, it was found that there was significant difference in the increase in the number of sources of such information in projects villages than control villages. It was found that the resources of information about the agricultural innovations and technology differ in their relative importance in the projects villages where the agricultural extension source comes first followed by agricultural cooperative then villages banks and finally neighbours. Also significant difference, were found in the number of sources of information about agricultural problems and innovation applications solutions where the precentages of those farmers depending on the extension agents and director of agricultural cooperative in giving them solutions of problems facing the implementation of agricultural innovations and studied techniques exceeded significantly in the projects villages than their similars in the control villages.

2. Related to Implementation of agricultural innovations and techniques, the findings revealed that these was a significant

increase in the projects villages relating to using seeds fungus cleaners with cotton and some vegetable seeds, mixing okadin with bean seeds, using herbicides and foliers. Also were significant, positive differences in farmers innovations, degree of participation in the fields and aggregates and utilization of agricultural mechanization in the agricultural processes of levelling, ridging, cultivating, harvesting and getting rid of products remainders of straws, transferring fertilizers by cars in the projects villages than the control villages. It was found also positive significant differences in the number of sources of farmers for getting agricultural innovations and technology in the projects villages than the control village because they depend on agricultural mechanization services stations. It was also found that there was positive significant differences in farmers conception about reasons of utilizing agricultural innovations and technology in projects villages than control villages represented in lowering costs of production, and efforts and increasing the agricultural production.

3. Related to farmers attitudes towards some socio-economic organizations and systems. It was found that there is positive significant difference in the increase in the degree of farmers attitudes towards agricultural extension and village bank in the projects villages than the control villages, while no difference was found in their attitude towards the agricultural cooperatives.

4. Related to some personal, economic and social indicators, the results revealed that there was positive significant increase in the degree of holding agricultural modernization, buying agricultural

mechanization during the project implementation period, degree of availability of agricultural mechanizations at time needed for renting them, degree of satisfaction about cropping pattern and structure, degree of profitability of agricultural crops, yields per feddan of wheat, maize, faba beans and cotton field crops but not for soya bean field crops due to its newness and extension general efforts for developing its production in all the project villages than the control villages. Related to reasons of low productivity for field crops, the results revealed that differences in opinions and points of views of farmers about them in both the projects' villages and control villages they were determined in a descending order by farmers of the projects villages by lack of irrigation water, not enough amounts of required productive resources and finally retardation in providing such required productive resources, while they were in a descending orders of farmers in the control villages and consisting lack of hired agricultural labour, lack of irrigation water, retardation in providing required productive resources and finally unsufficiency of such required productive resources. The results also revealed that there was significant increase in the projects villages than the control villages in the degree of farmers innovativeness, their official participation and unofficial participation, degree of family holding for home modern apparatus and equipments, while there was no significant differences among the two groups of farmers in both the projects and control villages in performing the agricultural processes of sowing, spraying fertilizers, cultivation and harvesting of wheat. Related to getting rid of products remainders, the results showed negative significant relationship because family