

# A comparative Study of the Impact of Some Ways for Farmers' Attitudes Towards Certain Disparated Agricultural Innovations El- Qalubia

Agriculture has a vital share in the national development in ARE where the main activity of rural families is based upon, and 50 % of work force is hosted, in addition to providing necessary food and supplying industry with primary inputs. Agricultural extension has a main role in agricultural development and in encountering its problems by conveying farmers problems to research centers and the solutions and recommendations back to farmers to convince them and change their knowledge, skills, and attitudes using several methods and aids that vary in its effectiveness according to several variables related to its nature and the characteristics of the educational process. As extension methods used by the Egyptian extension service vary in its effect on audience behavior, especially in formation and changing of attitudes. It is important for extension staff to identify single and accumulated effect of extension methods on the formation and changing of attitudes. Most studies in Egypt were limited to some variables that have an impact on the effectiveness of some methods, and few of it measured this effectiveness through experimental design to determine the single and accumulated effect. None of these studies identified the single and accumulated effect of these methods regarding its educational content and the varied and different message included in it. Hence this study was conducted to identify the difference between the effect of extension meetings the accumulated effect of extension meetings and home visits as well as extension meetings and home visits on farmers attitudes towards each of the following agricultural innovations: BIO control in Maize, IPM in green Pea, minor nutrients for each of Cotton, Citrus and Egg Plant, Nutrients and fertilizers in tomatoes, and using farm remains treated with Molasses as fodder. This Study Aimed At: 1-Identify the change in respondent's attitudes toward the variant seven innovations studied as an impact of their exposure to the studied three combinations of extension methods. 2-Determine the differences between the impacts of the handling of the three extension methods under study on the respondents attitudes towards each of the studied agricultural innovations. 3-Determine the difference in the change degree of respondents attitudes towards the seven studied innovations as an impact of their exposure to extension meetings. 4-Determine the difference in the change degree of respondents attitudes towards the seven studied innovations as an impact of their exposure to the combination of extension meetings and field visits. 5-Determine the difference in the change degree of respondents attitudes towards the seven studied innovations as an impact of their exposure to the combination of extension meeting and home visits. The Study was conducted in Qalubia Governorate as one of the governorates producing the crops of innovations studied for their producers' attitudes which are citrus Maize, Cotton, Tomatoes and green Peas. This governorate was also selected as the coverage area of the faculty of agriculture in Moshtohor, Zagazig University and as its target area for development. Toukh district was selected from the seven districts of Qalubia as it have the largest areas of the studied crops. Three villages were selected from the 45 villages in Toukh having coops. Having a suitable distance between these villages were considered to avoid the interference between the educational effect of the study combinations. These villages were Meet Kenana, Qaha, and Qamashanda. The study was limited also to the farmers that were not exposed to the 7 studied

innovations, where three samples were drawn as semi-identical regarding age, farm area, and educational status from each of the villages amounted to 35 farmers each, in a total of 105 farmers. The study depended upon two sources of information; the first was the secondary sources to obtain information regarding the studied innovations published by some research institutes and central administrations for extension, horticulture and animal production.. These innovations were used as a subject matter to measure farmer's attitude towards it. The second source of information was the selected farmers in the study sample to obtain the primary data regarding their attitudes. The Studied innovations were selected to be varied in its characteristics from among 24 innovations after it were judged by some specialized professors in the agricultural research center and university. Innovations were classified in three categories the first group have high relative advantage, understandable and applicable observable, small scale applicability, and coping with previous ideas, attitudes and values of the community. Three innovations were Selected In this group: Bio control in maize IPM in green peas and minor nutrients in citrus. The second group had the opposite characteristics of the first group, where another three innovation were Selected: using minor nutrients in Cotton, nutrients and fertilizer in Tomatoes and using farm remains treated with Molasses as fodder. The third group contained only one innovation that have a moderate characters between the two previous groups which was using minor nutrients in eggplant. The study was designed according to the experimental design where one of the three combinations of extension methods studied were applied in one of three the selected villages in a pre-test and posttest measure. Data were collected by personal interview using a questionnaire of two parts. The first part included personal data: name, age, educational status, and farm area; proceeded by some questions to identify the respondents exposure to the 7 innovations studied. The respondent was excluded if he was exposed to one or more of these innovations. The second part of the questionnaire contained 7 scales to measure respondents attitudes toward the 7 studied innovations. These scales were developed in Likert style containing items to measure the knowledge, feeling and tendency aspects of respondent's attitudes. After the questionnaire has been developed, it was subject to judgment of some specialized professor regarding readability and clearance for understanding of: questions, indicators and items, i.e., face validity. Then it was pre-tested on a random sample of 35 farmers in Teresa village to measure the validity and reliability of attitude scales. Responses of interviewee to the attitude scale were assigned to (5-1) degree in the positive item case; and the opposite in case of negative items; while all other variables were measured using row numbers. Data of the study were collected from December 2002 till February 2003. Pearson's simple correlation Coefficient was used to measure the attitude consistency, and Cronbach's alpha was used to measure reliability coefficient in the questionnaire pre-test. Percentages, average, standard deviation were used to analyze the results statistically in addition to Friedman Test to measure the significance of differences between the change degree of respondents attitudes toward the studied innovation, and Wilcoxon Test to test the difference between each two change degrees. The main results of the study revealed that: 1. The impact of the 3 studied combinations on creating positive attitudes differed according to the subject of each of the varied innovations. This impact varied also according of the combinations, as the farmers highest positive attitude resulted from their exposure to meeting and home visits, followed by meetings and field visits; while the least impact resulted from extension meetings alone. This result indicates that the more methods used and varied the deeper their impact on creating positive attitudes towards varied innovation. 2. The average degree of respondent's attitude toward as an impact of their exposure to extension meetings the seven studied innovations varied. These averages in descending order are related to the following innovations: using minor nutrients in citrus (3.688), using bio-control in maize (3.598), using IPM in green pea (3.559), using minor nutrients in eggplant (3.519), using minor nutrients in Cotton (3.343), treat farm wastes with Molasses as fodder (3.253), and using nutrients and fertilizers in tomatoes (2.817). The differences between the average degree of change in attitudes were significant which means that there were a significant difference between the impact of extension meetings on farmers attitudes toward the seven studied innovations where this impact was high toward innovations that have higher relative advantage easy to understand and apply, observable, partitionable and copes with previous innovative ideas, attitudes and values in the community i.e., using minor nutrients in Citrus, Bio-control in maize, and

IPM in green pea comparing to the innovations that have the opposite characteristics i.e., using minor nutrients in cotton, treating farm wastes with Molasses as fodder, and using nutrients and fertilizers in tomatoes.<sup>3</sup> The average degree of respondents' attitudes toward the seven studied innovations as an impact of their exposure to the combination of extension meetings and field visits varied. These averages in descending order are related to the following innovations: using minor nutrients in Citrons (4.214), using IPM in green pea (4.108), Bio-control in maize (4.091), using minor nutrients in egg plant (4.091), using minor nutrients in cotton (3.933), treating farm wastes with Molasses for fodder (3.865), using nutrients and fertilizers in tomatoes (3.284). The differences between the average degree of change in attitudes were significant, which means that there were a significant difference between the impact of the combination of extension meeting and field visits on farmers attitudes toward the seven studied innovations where this impact was high toward innovations that have higher relative advantage, easy to understand and apply, observable, partitionable and copes with previous innovative ideas, attitudes, and values in the community.<sup>4</sup> The average degree of respondent's attitudes toward the seven studies innovations as an impact of their exposure to the combination of extension meetings and home visits varied. These averages in descending order are related to the following innovations: using minor nutrients in citrus (4.388), Bio-control in maize (4.267), using minor nutrients in egg plant (4.252), IPM in green pea (4.119), treating farm wastes with Molasses as fodder (3.986), using minor nutrients in cotton (3.969), and using nutrients and fertilizers in tomatoes (3.608). The different between the average degree of change in attitudes were significant, which means that there were a significant difference between the impact of the combination of extension meetings and field visits on farmers attitudes toward the seven studied innovations where this impact was high toward innovations that have higher relative advantage, easy to understand and apply; observable, partitionable and cope with pervious ideas; attitudes and values in the community.<sup>5</sup> The differences in handling the three extension methods under study have significant impact on the respondents attitudes towards five innovations including using bio-control in maize, using minor nutrients in cotton, using minor- nutrients in citrus, using minor- nutrients in eggplants, and the by- product treated with modified as to be feeds, while the impact was insignificant towards using bio-control in green peas and using minor — nutrients and fertilizers in tomatoes. These results draw the attention of:

1. Extension program planners in the Central Administration of Agricultural Extension Services, Central Administration for Horticulture and Central Administration for Animal Production and Cotton Research Institute when targeting to form or change farmers attitudes toward variant innovations to start with such innovations that are understandable, applicable, observable, partitionable, have high relative advantage, and copes with current attitudes and values. The best combinations of methods they can use are in descending order: meetings and home visits, meetings and field visits, and meeting alone.
2. Officials in research institutions of agricultural extension to include in their research agenda studies to identify the impact of extension methods that were not tackled by this study on changing farmers tendency, attitudes and values toward innovation that have varied characteristics.