

**AGRICULTURAL TRAINING NEEDS RELATED TO SOME  
ENVIRONMENT EXTENSION ACTIVITIES AMONG EXTENSION  
WORKERS IN SOME DISTRICTS  
IN BEHEIRA GOVERNORATE**

**A Thesis**

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**In Partial Fulfillment of the  
Requirements for the Degree**

**Of**

**MASTER OF SCIENCE**

**IN**

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**BY**

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**٢٠٠٩**

## **SUMMARY**

**This research aimed primarily at agricultural training needs related to some environment extension activities among extension workers in some districts in beheira governorate**

**:Specific objectives of study included**

**Identifying the task dimensions of field extension agent related to (١)  
.environment protection**

**Determining the gaps between the present performed extension (٢)  
activities in field of environment protection and supposed performance  
.to be done by the field extension agents**

**.To identify some characteristics of field extension agent (٣**

**To identify level of environmental knowledges for field extension (٤)  
.agents**

**Determining the correlation and regression links among extension (٥)  
workers, environmental cognitive level as a subsequent variable and all  
.outstanding characteristics for them as independent variables**

**Recognizing to some environmental problems which face the among (٦)  
extension workers at research area and the suggested solution in their  
.view points**

**Through interviewing the subject field extension agents, the research  
filled 165 applications representing a sample of the subjects who were  
chosen by equation kregcie & Morgan they were 289 as for the  
.agricultural guides**

**The distribution percentage, arithmetic mean, standard deviation,  
correlations modulus, stepwise multiple regression modules were used  
.in analyzing the data in the research**

**This research contains four chapters, the first one is about the  
problems and aims of the research, the second one discusses the  
referential browsing, the third is the research approach, and the fourth  
.one is the research results and discussion**

**What follows is a brief summary of the most important results  
-:achieved in the study**

**First: results of task analysis**

**Task analysis has resulted in organizing the main and subsidiary extension activities which are related with environment protection task :according to priority on the following**

**A) Activities related with soil protection**

**Results has showed the priority of soil protection as a main activity because its implemented recurrent average was 3.2 degree, its importance average 2.6 and its difficulty average 2.5 so it has reached a total average estimated 8.3 and a standard deviation 1.08 and so it reached the first place regarding total average the subsidiary extension activities group which soil protection activity was organized as the :following**

**The activity of Making grower's commit to fertilizers average Came in the first place concerning whether recurrence average or importance average or difficulty average and the average of total degree. After that Making practical clarification for growers of how to add suitable chemical fertilizers to every crop came in the second place. Then, informing the growers about the suitable kinds and quantities of chemical fertilizers for every crop came in the third place. Making a practical clarification for growers of how to prepare and use fertilizers came in the fourth place. Convincing growers of the proper time and precautions which should be taken into account for spraying fertilizers came in the fifth place. Convincing growers of committing by the agriculture cycle and the optimum crop structure came in the sixth place. Informing growers about the importance of planting new strains resistant to pests came in the seventh place. Make growers be aware of the importance and the necessity to depend on the organic fertilizers and the agricultural residues Came in the eighth place. Finally, making a practical clarification about the integrated control of agricultural .pests came in the ninth place**

**B) Activities related with water protection**

**Results refers that water protection activity implemented recurrent average was 2.8, its importance average 2.7, and its difficult average 2.3, so it has reached a total average estimated 7.8 and so it reached the second place regarding total average. The subsidiary extension activities group which water protection activity was organized as the following**

**The activity of persuading the growers to select the suitable manners for watering (irrigation) came in the first place concerning whether recurrence average or importance average or difficulty average and the average of total degree. After that making a practical clarification to illustrate the ensuing results of different crops irrigation water overuse came in the second place. Then, making a practical clarification of how to settle land using the modern techniques came in the third place. Convincing growers of the importance of lining subsidiary irrigation canals to prevent leakage at least came in the fourth place. Informing growers about the techniques related with disinfecting canals and ditches came in the fifth place. Persuading growers not to dispose of dead animals and birds; and the empty fertilizers containers by dumping them into irrigation water came in the sixth place. Making the growers aware of using water sewage risks .in watering came in the seventh place**

### **C) Activities related with air protection against pollution**

**Research results showed that air protection against pollution implemented recurrent average was 2.05, its importance average was 2.3 and its difficulty average 2.1 so it has reached a total average estimated 6.4 and so it reached the third place regarding the total average. The subsidiary extension activities group which air protection :included was organized as the following**

**The activity Make a practical clarification of how to dispose of ice straw and manufacturing agricultural residues Came in the first place concerning whether recurrence average, importance, difficulty, and the average of total degree. After that the activity of persuading growers to adopt biogas technology came in the second place. Then, the activity of making the growers aware of harms which may result because of houses oven's Came in the third place. finally, the activity of**

**Making the growers be aware of how to collect rubbish instead of throwing it in front of houses to make good use of economically by .converting it into organic fertilizer Came in the fourth place**

### **Second: Gap analysis Results**

**Gap analysis results showed that the extension activities regarding the agricultural guide's task and which refers that there's a training gap between the present implementation level and the desirable level which is organized as the following**

#### **A) Gap analysis for the main extension activities for keeping environment**

**gap analysis results resulted that there is no difference regarding training requirements for the extension workers comparing with task analysis results has shown that the extension activity concerning soil protection came in the first place which represents the most important gaps between the desirable level and the actual for the queried guides as 57.1% of the queried are unable to implement this activity totally in an adequate time. The activity related with water protection came in the second place as 61.7% of the queried are unable to implement this activity fully in an adequate time. Finally air protection activity came in the third place as 53.3% of the queried are unable to implement this .activity fully**

#### **B) Gap analysis for the extension activities for environment protection task**

##### **Soil protection - \**

**Results show that the subsidiary extension activities related with soil protection as a main activity which shows that Making grower's commit to fertilizers average came in the first place by the percentage of 76% of the queried guides which confirms the existence of a training gap. Making practical clarification for growers of how to add suitable chemical fertilizers to every crop came in the second place by the percentage of 75.6% of the queried guides which refers to gap existence and can be treated by training. Informing the growers about the suitable kinds and quantities of chemical fertilizers for every crop came in the third place by the percentage of 75.5% which refers to gap**

existence too. Making a practical clarification for growers of how to prepare and use fertilizers came in the fourth place by the percentage of 75.3%. Convincing growers of the proper time and precautions which should be taken into account for spraying fertilizers, Convincing growers of committing by the agriculture cycle and the optimum crop structure, Informing growers about the importance of planting new strains resistant to pests, make growers aware of the importance and the necessity to depend on the organic fertilizers and the agricultural residues, Making a practical clarification about the integrated control of agricultural pests, follow those activities by the .percentage of 75.1%, 74.9%, 74.8%, 74.5%, 73.9%

#### **Water protection - ۲**

The results reflects that the subsidiary extension activities related with water protection as essential activity which shows that the activity of persuading the growers to select the suitable manners for watering (irrigation) came in the first place by the percentage of 62.6% of the queried guides. This confirms that there is a training gap. The activity of making a practical clarification to illustrate the ensuing results of different crops irrigation water overuse came in the second place by percentage of 61.9% of the queried guides. This confirms that there is a training gap but could be treated by training. The activity of making the practical clarification of how to settle land using the modern techniques came the third place by the percentage of 61.8% of the queried guides. This confirms that there is a training gap, too then following activities convincing growers of the importance of lining subsidiary irrigation canals to prevent leakage at least, Informing growers about the techniques related with disinfecting canals and ditches, Persuading growers not to dispose of dead animals and birds; and the empty fertilizers containers by dumping them into irrigation water and Making the growers be aware of using water sewage risks in watering came in the same order by the percentage of 61.7%, 61.6%, .61.5%, and 60.8%

#### **Air Protection - ۳**

The results shows that the subsidiary extension activities regarding air protection as essential activity which shows that the activity of making

a practical clarification of how to dispose of ice straw and manufacturing agricultural residues came in the first place by the percentage of 53.9% of the queried guides. Which confirms that there is a training gap? The activity of persuading growers to adopt biogas technology came second by the percentage of 53.5% of the queried guides. This confirms that there is a training gap which could be treated by training. The activity of Making the growers be aware of harms which may result because of houses oven's came in the third place by the percentage of 52.9% of the queried guides. Finally, The activity of making the growers aware of how to collect rubbish instead of throwing it in front of houses to make good use of economically by converting it into organic fertilizer came in the fourth place by the .percentage of 52.8% of the queried guides

### **Third: The general outstanding characteristics for the queried agricultural guides**

The majority of the extension workers fall in the large age group (48-59year) is 53.94 %. While 66.6% of the extension workers have medium study level, 85.45% of them have guides of rural nurture, 70.30% of them have medium job experience and 78.18% of them have low training level. 76.6% of the extension workers have great benefits from training topics while 51.6% of them have a medium need for training and 84.85% of them have low contact level with growers .regarding environment protection

The results showed that the most extension ways used by the extension workers 85.5% in contacting with growers regarding maintaining environment are in the field visits. 50.91% of the extension workers have low contact level with rural organization concerning maintaining environment but 29.09% of them have, sometimes, low contact level with local unit. While 35.15% of them have, sometimes, low contact level with the healthy unit, 24.24% of them have, sometimes, low contact level with veterinary unit, and 51.46% & 51.16% & 54.55% of them have made a medium use of the local unit, the healthy unit and .the veterinary unit

Recycling the agricultural residues was one of the most local unit topics in which it is interested a lot while immunization against

diseases is the most environmental topics in which the healthy unit is interested a lot. Immunizing the livestock and birds is the most environmental topics in which the veterinary unit is interested a lot. The results have also showed that 56.97% of the extension workers, sometimes, confront information sources related with environment protection. 52.73% of them have low benefit from information sources related with environment protection while 60% of them are of medium ability to use the extension ways and means to deliver the agricultural recommendations and ideas among growers. 66.67% of them have quite job content degrees and 53.33% fall in the negative group .towards maintaining environment

**Fourth: The environmental cognitive level for the extension workers**

The research results have illustrated the majority of the extension workers who are one of the two groups (low and medium) cognitive levels in the field of decreasing environment pollution are 53.9%

They also indicated that one of the most important legal legislations related with environment protection from pollution in the extension workers' viewpoints 20% is not to burn agricultural residues and .recycling them to make fertilizers and feed instead

**Fifth: The correlation and regression links between the extension workers' environmental cognitive level and deliberate independent variables**

The research results have clarified that there is a significant correlation link at a possibility 0.05 between each of the extension workers' environmental cognitive level and the educational level for them as an independent variable because the simple correlation coefficient is 0.162. Accordingly, the research hypothesis is accepted .while the zero hypotheses are rejected

The research results have clarified that there is a correlation link at a possibility 0.01 between each of the queried agricultural guides, environmental cognitive level and their trends degree towards environment protection as an independent variable as the simple correlation coefficient valued 0.229. Accordingly, the research .hypothesis is accepted while the zero hypotheses are rejected

**It was illustrated that there is no correlation link between the queried agricultural guides, environmental cognitive level and the following independent variables; age, the rural nurture, job experience period, training in the field of environment protection, contacting with growers regarding environment protection, contacting with the rural organizations regarding to environment protection, the extension workers' information sources related with environment protection, the ability to use the extension ways and means , and job content as the correlation coefficient valued (-0.093, 0.095, -0.114, 0.103, 0.138, 0.084, -0.145, 0.059, 0.125) Successively, so the research hypothesis is rejected while the zero one is accepted for everyone of the last .independent variables**

**It was clarified that there are only two variables responsible for the variance at the extension workers' environmental cognitive level, according to the various regression analysis results between the extension workers' environmental cognitive level and the deliberate independent variables. Those two variables are the educational variable and trend degree towards protecting the environment; they explain and depict 14% of the variance at the queried agricultural .guides, environmental cognitive level degrees**

**Six: some of the environmental problems which confront the extension workers in the research area and the suggested solutions for them in their viewpoints**

**The most important suggested solutions which 25.5% of the extension workers indicated that the overuse some growers, using chemical fertilizers which is represented in using and applying the bio control .program**

**Organic fertilizers usage is one of the most important suggestions of the 25.5% queried agricultural guides referred to this to solve the .overuse problem of chemical fertilizers**

**of the extension workers indicated that finding specified places % ١٥.٢ for collecting residues and waste is one of the queried agricultural guides, suggestion to solve the problem of dumping waste, fertilizers**

containers, and the other pollutant materials is canals and banks while about 15.2% of the total number of the extension workers indicated that the correct disposal of these residues is to burn and bury them

About 29.1% of the extension workers have indicated that regarding rice straw and a good use of fertilizers piles are of the queried,s most important suggestion to the problem of burning it spread

About 43.6% of the extension workers have regarding agricultural residues by making fertilizer piles and feed the queried,s most important suggestion of disposal of agricultural feed

About 18.8% of the extension workers have indicated that enacting laws and imposing financial fines are of the queried,s most important suggestions regarding the agricultural land leveling question and mud in manufacturing red bricks while about 18.8% of the total number of the extension workers has acknowledged that non agricultural land leveling and finding other suitable substitutes like using clay

About 18.8% of the extension workers have indicated that the queried,s most important suggestion towards the problem of the low levels of main infrastructures and facilities in village like sewage, water, and electricity

About 23% of the extension workers have referred to prepare special places for the right disposal of dead animals is the most significant suggestion to the problem of the growers' disposal of dead animal spread by throwing them in canals and banks

But about 21.2% of the total number of them has suggested setting up guide seminars with growers for guide awareness with aim of maintaining canals and banks water from pollution and the damages resulting from this

