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Investigation of Environmental Attitude and Behavior of Farmers in Ilam Province's by Using New Ecological Paradigm (NEP) Scale

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ABSTRACT

The purpose of this study was to investigate the environmental attitude and behavior of farmers in the Ilam Province. The population of the research was 210 Farmers. Data were obtained through questionnaire surveys based on the NEP scale and administered to stakeholder in January of 2011 of Ilam Province. The main tool in this Study is questionnaire and its reliability and validity was tested based on expert's opinion and a pilot study and its Alfa level was %78. For data processing, descriptive statistics were used. Results show that the mean score of the NEP was 51.33 in the study. The results show that the odd-numbered and the even-numbered items in the study have similar tendencies.

Keywords: Environment; Attitude; NEP; Ilam Province's.

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INTRODUCTION

Environmental problems and the accelerating changes in living conditions have become a fundamental part of the world in general and metropolises in particular. Earlier, environmental problems have been considered as technical and economic problems; while in the recent decades the social dimensions of environmental problems such as public attention and people's attitudes towards environment have became one of the areas of environmental sociology and environmental psychology (Kalantary, 2007).

During the recent decades, human being has discovered lack of sustainability in developing agriculture and to improve the situation, there should be incorporated aspects of environmental protection, hence today growing concern about horrible environmental outcomes brought about by agricultural development project in national and international level; many believe that these projects should be in line with environmental protection and principles of sustainability (Fairweather & Campbell, 2003).

Establishment and expansion of protected areas is considered to be a primary strategy to counteract the extreme declines in biodiversity. However, there are often large numbers of people living in and adjacent to the areas, and being highly dependent on the natural resources in the areas for food, fuel wood (Pote *et al*., 2006), medicinal herbs (Dzerefos & Witkowski, 2001), honey and other products (Fabricius & Burger, 1997). In some aspects, it seems that biodiversity conservation and the development of local communities are kind of contrary (Maikhuri *et al*., 2000; Oltremari & Jackson, 2006).

However, local residents have evolved with their surrounding environment over several centuries and retained traditional ecological knowledge and activities facilitating biodiversity conservation (Berkes *et al*., 2000). This kind of knowledge, especially as it relates to resource use, can complement modern conservation systems and aid biological research, while supporting a more equitable and culturally sensitive method of management (Drew, 2005).

A few studies have assessed the protected area-community conflicts ad hoc and described the relationship between social context and environmental attitudes of local people and the conflicts. Recently, the attitudes and perceptions of local residents have been used to facilitate proper conservation management in protected areas (Allendorf *et al*., 2007).

Environmental socio-psychological studies conducted to evaluate the relationship between attitudes andbehavior have found that attitudes are important determinants of environmentally oriented behavior (Glasman & Albarracin, 2006). Furthermore, an individual’s social context (e.g. age, gender, education level, and race) may influence their attitudes and beliefs regarding humane environment interactions, thereby shaping their behavioral intentions in a specific condition (Dunlap *et al*., 2000).

It is widely held that environmental crises could not be resolved unless there is positive adjustments and modification is man's behavior, attitude and way of life on the earth; human being have to be persuaded that natural environment is of great value not only for the benefit of man but per see ; so it should be protected and esteemed. To realize this goal, farmers should modify their methods of production and exploitation, so it is of great significance to know the farmers' attitudes regarding the environment; this can help in working out procedures to improve farmers' attitudes. There is no clear-cut picture of Ilam province's farmers regarding their attitudes toward environmental aspects of agriculture. The main question for this study is to find out the environmental attitudes and behavior of farmers in Ilam province.

MATERIALS AND METHODS

This study was conducted in Ilam province of Iran. The population of the research was 210 Farmers. Data were obtained through questionnaire surveys administered to stakeholder in Jan of 2011. The questionnaire contained almost 50 items and consisted of two parts. The first part was designed to evaluate the demographic characteristics (gender, age, members of the household, marriage statues, place of residence and employment record), socio-economic characteristics(income, human resource, primary occupation, amount of agricultural land and

type of farming system) and educational characteristics(education level, contact with information resources and educational extension course) of the respondents. The second part of the questionnaire contained 15 statements based on the NEP scale, which were designed to measure the environmental attitudes (Dunlap *et al*., 2000). Based on the assumption that "implicit within environmentalism was a challenge to our fundamental views about nature and humans' relationship to it", Dunlap and Liere (1978) designed the New Environmental Paradigm (NEP) Scale. The NEP scale measures broad environmental concerns and attitudes that affects attitudes towards specific conditions, such as waste-reduction (Chung & Poon, 2001), landscape preferences (Yabiku *et al*., 2008), and household location choices (Peterson *et al*., 2008). Significant relationship between the NEP scale and behavioral intentions has also been found (Lopez & Cuervo- Arango, 2008). Furthermore, the NEP scale has been proved to have criterion validity, content validity, and construct validity (Dunlap *et al*., 2000; Peterson *et al*., 2008). In our study Cronbach's alpha was 0.78, which suggests that the use of the NEP scale as a single measure is basically reasonable. We translated all the 15 questions of the revised NEP scale without any other major changes. Three items were designed to address each of the five facets of an ecological worldview: recognition of limits to growth, anti-anthropocentrism belief in a delicate balance of nature, anti-exemptionalism, and recognition of the possibility of an Eco crisis. A five-point Likert scale was used in the NEP with values ranging from 1 to 5. Agreement with the odd-numbered items indicated a pro-ecological worldview. The order of the even-numbered items was reversed because disagreement represents a pro-ecological view. Possible NEP scores ranged from 15 to 75, with higher scores indicating a more pro- ecological worldview. The survey team comprised three skilled individuals, including a local guide and two experienced graduate students. Most respondents could read and complete the questionnaire in depth. However, more than half of the surveyed farmers had only completed primary school and could not read. In addition, the graduate students were also experienced in conducting surveys. They attempted to administer the questionnaire in a warm and friendly way to encourage the respondents to reflect in their true situation.

RESULTS AND DISCUSSION

Approximately 94% of the respondents were male. Participants ranged in age from 23to79 years (Median 43) with working experience in agriculture ranging from 4 to 70 years (Median 25).Approximately 32% of the respondents were illiterate, 37.2% farmers had six person families. 75 percent of the farming field was private. Primary occupation of the farmers was agriculture. The human resource of 43.3 percent of exploitations was family members. Approximately 40% of farmers did not have prior training regarding environment.

The percentage distributions for responses to each of the 15 items are shown in Table 1. As in past studies, overall there is a tendency for respondents to endorse pro-ecological beliefs, as pluralities and often majorities (sometimes large ones) do so on every item. This is especially true for seeing the balance of nature as being threatened by human activities but is much less true for accepting the idea that there are limits to growth. There is also considerable variation in the proportions being "unsure" about the various statements, as over 20% are unsure about items 14 (anti exemptionalism) and 11 (regarding limits) and 12 (regarding anti-anthropocentrism). Item 10, which related to eco crisis, received the lowest mean score, followed by items 8(regarding balance) and 2 (regarding anti-anthropocentrism). However, item 7, which was also related to the rejection of anthropocentrism, received the highest mean score (Table1).

Table1: Mean percentage distributions and reliability analysis for the responses to the New Ecological Paradigm (NEP) scale items.

Statements	SA	MA	U	MD	SD	Mean
We are approaching the limit of the number of people the earth can support	17.1	43.2	15.8	11.6	2.7	3.6
Humans have the right to modify the natural environment to suit their needs	5.3	34.8	7.6	39.4	12.9	2.8
When humans interfere with nature, it often produces disastrous consequences	14.0	59.7	14.7	10.1	1.6	3.7
Humans are severely abusing the environment	18.8	57.8	10.9	10.2	2.3	3.8
Human ingenuity will ensure that we do NOT make the earth unlivable	31.8	54.3	9.3	2.3	2.4	3.8
The earth has plenty of natural resources if we just learn how to develop them	19.2	66.2	10.0	2.0	2.6	4.0
Plants and animals have as much right as humans to exist	35.6	55.3	3.8	4.5	0.8	4.2
The balance of nature is strong enough to with the impacts of modern industrial	5.3	18.9	12.1	51.5	12.1	2.5
Despite our special abilities, humans are still subject to the laws of nature	8.0	58.1	20.9	11.6	0.8	3.6
The so-called ecological crisis facing humankind has been greatly exaggerated	2.3	13.6	16.7	47.0	20.5	2.3
The earth is like a spaceship with very limited room and resources	7.6	45.8	26.7	15.3	4.6	3.3
Humans were meant to rule over the rest of nature	3.8	34.4	22.1	29.8	9.9	2.9
The balance of nature is very delicate and easily upset	14.3	54.0	12.7	15.9	3.2	3.6
Humans will learn enough about how nature works to be able to control it	1.5	49.6	36.6	11.5	0.8	3.3
If things continue on their present course, we will soon experience a major ecological catastrophe	22.4	47.8	19.4	9.7	.7	3.8

SA, strongly agree; MA, mildly agree; U, unsure; MD, mildly disagree; and SD, strongly disagree

In reviewing the findings, generally the participants had a limited understanding of environment and lacked knowledge about the concepts involved.

Discussion

The mean score of the NEP was 51.33 in our study, which is almost the same as that of 51.74 in a study conducted in the Teton Valley of Idaho and Wyoming (U.S.A.) by Peterson *et al*., (2008). If the respondents endorse a pro-ecological worldview, the majority should agree with the odd-numbered items and disagree with the even-numbered ones (Dunlap *et al*., 2000). However, we found that the odd-numbered and the even-numbered items in our study have similar tendencies. Compared with the pro-ecological items, it was more difficult to identify anti-ecological items. This could be much worse than a situation in which the respondents disagree with pro-ecological items. This is because, if an individual does not believe their attitude is harmful to the environment, they may continue to adversely impact the environment, and may have a negative impact on their family and friends. Considering the

relationship between environmental attitudes and behavior (Glasman & Albarracin, 2006), such an individual may also jeopardize nature or encourage harmful behavior without realizing it. In our study farmers, whose average NEP scores were lowest, had never received the university education. Therefore, we recommend promoting pro-ecological worldview through environmental education. In education programs anti-ecological items, especially anti-exemptionalism, should be emphasized.

The results show that scores were positively related to age and negatively related to education level. Older and lower- educated respondents were more inclined to have conflicted potentials, and more disgruntled with protected area management. It was also found that respondents with higher education were more likely to have positive conservation attitudes (Kideghesho *et al*., 2007). Therefore, developing environmental education programs is considered to be one of the effective tools to prevent and ameliorate crisis (Gore *et al*., 2006; Spencer *et al*., 2007). Educating local people about the potential benefits associated with a protected area, their responsibilities as the area users, and skills could be a way to foster two-way dialogue between local people and the protected area (Lewis, 1996).

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