

# Investigation and Evaluation of the Applicable European Environmental Policy in Rural Area from the Urban Population (Greece)

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**Abstract.** The environment is beyond any form of political, legal and human power. The protection and quality has always been one of the most important components for the improvement and development of life. In 70s began to show the first signs of environmental degradation because of pollution, the agriculturalist use of natural resources, the resulting energy crisis and the forthcoming population growth on the planet, the European Union has played and continues to play a key role in protecting and safeguarding the environment. This was achieved by a series of legislative environmental regulations (International and European level) and by funding programs and environmental protection instruments. The purpose of this paper is to explore how the perception of the urban population in Greece is implemented the Environmental Policy through the Common Agricultural Policy (CAP) in the primary sector. For this reason, conducted field research by completing questionnaires. The main insights is that urban residents have incomplete knowledge, education and information on environmental issues, which leads to favor the intensive form of cultivation and exploitation of the agricultural land in order to increase production efficiency in any cost.

**Keywords:** Sustainability / Sustainable Development, Urban population, rural resident, nature conservation.

## 1 Introduction

### 1.1 Environment

The protection and quality of the environment has always been one of the most important components for the improvement and development of life.

The term environment is used to denote the organic and inorganic nature that surrounds us. Also, the family or the society in which a person lives and has an impact on the mental and intellectual formation. It is distinguished by a natural or artificial primary and secondary (or geographic) (Urn Sun Cambridge, 1992).

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Already in the early 70s, began to appear the first signs of environmental degradation mainly due to pollution (soil, water, air), reduction of natural resources and the subsequent energy crisis. The situation then combined with continued human activity on the environment and the upcoming population growth led to the need for legislative environmental regulations both in international and in the community, the most significant of which are presented in the following Table 1 (Athanasopoulou et al., 2009; Patronos, 2000; Orfanou, 2011; Lazaridou, 2007; Pezaros, 2010; Koufopoulou, 2007; Korkovelos, 1997; Tsiforos et. al., 2014; Greek Republic - Ministry of Rural Development and Food, 2011; europa.eu.gr; climate.wwf.gr; www.econews.gr; www.minagric.gr):

**Table 1.** Legislation governing the protection of the environment.

|                                  |   |
|----------------------------------|---|
| International Law                | <ul style="list-style-type: none"> <li>➤ The Stockholm Declaration 1972</li> <li>➤ The Declaration of Rio de Janeiro in 1992</li> <li>➤ Kyoto Protocol in 1997</li> <li>➤ Johannesburg World Summit in 2002</li> <li>➤ Malmo Ministerial Declaration 2009</li> </ul>  |
| European Law                     | <ul style="list-style-type: none"> <li>➤ The Single European Act (SEA)</li> <li>➤ The Maastricht Treaty in 1992</li> <li>➤ The Treaty of Amsterdam in 1997</li> </ul>   |
| Greek Legislation                | <ul style="list-style-type: none"> <li>➤ Constitution of 1975/1986/2001 - introduction of the environment as a legal good through constitutional provisions (Article 24, paragraph 1)</li> <li>➤ Adoption of Law 360/76 "On Planning &amp; Environment"</li> <li>➤ Adoption of the Law 2742/99 "on Spatial Planning and Sustainable Development"</li> </ul> |
| Common Agricultural Policy (Cap) | <ul style="list-style-type: none"> <li>➤ Single Market</li> <li>➤ Community Preference</li> <li>➤ Financial Market</li> <li>➤ <u>Pillar I</u> regard the direct payments of the CAP</li> <li>➤ <u>Pillar II</u> rural development</li> </ul>  |

## 1.2 Purpose

Inhabitant research aims to record and evaluate the view, knowledge and awareness of urban dwellers of Larissa and Volos, in relation to the European environmental protection policy applied especially in rural areas. In addition, there is the ambition of this research to be able to contribute to the evaluation and pontification of environmental awareness regarding to common agricultural policy environmental reconditions for farming.

## 2 Urban and Rural Environment

The urban environment is identified both population and spatially with the city and its functions. It is densely populated urban areas served numerous human activities, is a major market for the promotion of agricultural products, opportunities for major employment opportunities and work in a variety of commercial properties and the end is standard life, work, consumption and socio - economic organization (Satterthwaite, 2003; Kokkosis, 1994).

On the other hand, rural environment supports the survival of human populations. Earth, water and forests are the primary resources of agricultural production which are necessary for the preservation of human life and prosperity. The use of these resources should be maintained at a constant balance to be able to support the sustainable development of the world, but also to avoid or at least reduce environmental degradation and losses in agricultural productivity. Moreover, the rural environment offers production areas of agricultural products and establishment of small rural crafts, business premises secondary and tertiary sectors such as industrial areas, stores and relaxation space, recreational, ecological and environmental balance breeding and conservation (Moysidis & Ntyken, 1999; OECD, 1994).

The science of agriculture is the basis upon which civilization was built. By agriculture refer to the cultivation of land for the production of useful products and the breeding of domestic animals for the production of mainly meat and leather, yarn or as pack animals in the farm work is eminently biological nature. Handles living plant and animal organisms, who attribute if and by ensuring in every case the right environment. "Georgia is a factory without a roof" as features had said Professor Gold Evelpidis (Papageorgiou, 2010).

Agriculture has an interdependent relationship with the environment, which in turn directly affects both the quantity and quality of production. This strong dependence of agriculture on the environment creates an uncertainty in production (qualitative and quantitative) and the quantities offered products on the market, due to the influence of unforeseen factors. This uncertainty also has the ability to influence prices upwards or downwards. Moreover, the environmental factor limiting the production capacity of each region by excluding certain types of production. This depends on some environmental parameters such as soil texture, style water table, irrigation potential, atmospheric moisture, frost, winds, temperature, etc. that help better develop production. Finally, affects the pocket of the producer when he makes effective adaptation of the environment to the betterment of the necessary conditions for plant and animal organisms (such as greenhouses, frost protection, modern farms) (Papageorgiou, 2010).

Over the years, have adopted and adapted several types of agriculture to meet the needs of people each season, the main of which are listed below (www.syngenta.com; www.Wikipedia.gr; Evaggelou et al; Maurogiannopoulos, 2005):

- ✓ Traditional Agriculture
- ✓ Intensive agriculture
- ✓ Sustainable Intensive Farming
- ✓ Intensive Controlled Agriculture – Greenhouses

- ✓ Precision Agriculture
- ✓ Biological and Ecological Agriculture

Important role in the growth and development of agriculture have played and continue to play the farmers, who fall into two categories (high & low importance) according to their beliefs, their traditions, their environmentally friendly behaviors, economic benefits and prestige offers the work of the farmer and the enjoyment and independence of work. Below in Table 2 are outlined the eight types of farmers, who are divided into two categories, high and low importance (Schmitzberger, 2005).

**Table 2.** Farmers Categories

|                                |  |
|--------------------------------|--|
| Division 1.<br>High Importance | <ul style="list-style-type: none"> <li>➤ Traditionalist</li> <li>➤ Yield Optimiser</li> <li>➤ Innovative</li> <li>➤ The Support Optimizer</li> </ul>         |
| Division 2.<br>Low Importance  | <ul style="list-style-type: none"> <li>➤ The part - time farmer</li> <li>➤ The forced Farmer</li> <li>➤ The Idealist</li> <li>➤ The social farmer</li> </ul> |

### 3 Evaluation of Environmental Policy

The environmental policy includes two main conditions: the environment and politics. It deals with the responsibilities and obligations towards environmental issues such as air pollution, water, soil, protection and management of the rural environment, conservation of biodiversity, protection of natural resources and endangered species and toward people who monitor and implement national and European legislation and while conducting ongoing research to implement new practices more environmentally friendly (Urn Sun Cambridge, 1992).

The evaluation of environmental policy is an administrative process for the collection, processing and dissemination of information on environmental and other impacts of projects and policies. Assists, the difficult task of making decisions and the selection of alternatives for the construction and operation of infrastructure. For this reason, it is governed by three basic principles: *the Precautionary Principle, the Precautionary Principle and the Principle of "Polluter Pays"* (www.europa.eu.gr; Siouti, 2003; Papandreou et al., 1999).

Additionally, have created and implemented six standards of environmental evaluation systems for better management of environmental protection: the ISO 14000, the International Standard ISO 14001, the EMAS Management System standard BS 7750, the CERES system and the system of Responsible Care (Machairas, 2003; Woodside et al., 1998; Giama, 2001; Jackson, 1997).

## 4 Materials & Methodology

The survey was conducted in May and June 2014 in the cities of Larissa and Volos and was field research. The cities of Larissa and Volos were selected to conduct this survey as representative areas of Greece due to the clear contrast between urban and rural areas. Also, the population of both cities is the same. Data collection was done by using written questionnaires and individual completion time supplementing them did not exceed 10 to 15 minutes. Respondents knew from the beginning purpose of the research and they were quite receptive to completing the questionnaires.

The questionnaires were anonymous, which made the investigation easier and the form contained in the first (1st) place six questions (6) demographics (such as age, sex, income, education level) and second (2nd) of nine questions (9) closed type where invited to express their views on the rural environment and more specifically on the protection measures, obligations and responsibilities of farmers, its biodiversity, the impact of chemicals used (fertilizers, herbicides, pesticides), production etc .. Each question should be rated based on higher Likert scale from -4 to 4, and (including numbers and other intermediates of the scale), where the characteristics stated -4: disagree ; 0: neither agree nor disagree and 4: I agree completely. The total sample size was 100 people - questionnaires (50 in the region of Larissa and 50 in the region of Volos) (Galanis, 2012).

After collecting the questionnaires we had our categorization and analysis of data. Typically, in our survey participated hundred (100) people, of which 47% were male and 53% were women. Then, for better analysis of statistical results distinguish the categories for age and education - educational level of respondents.

## 5 Data Analysis Methods

By using the SPSS software program we made in the analysis of our data. We used the method of factor analysis (factor analysis - FA). The main role of exploratory analysis Factors (exploratory factor analysis - EFA) is yet to investigate a possible underlying formation of interrelated variables without imposing any specific structure of the results. This method allows us to determine the factorial structure or model for a series of variables (Bandalos, 1996). The extraction method was the principal component analysis (principal component analysis - PCA) based on rotation varimax. We decided to use the principal component analysis method (principal component analysis - PCA) because our aim was mainly to see what knows the urban world to the environment in general and especially for the rural environment, whether it agrees with the protective measures to be taken, how to behave environment but if somehow involved in protection (Conway et al., 2003; Yaremko et al., 1986).

Additionally, to evaluate the adequacy and quality of exploratory analysis Factors (exploratory factor analysis - EFA) as a solution, we consider successively two criteria:

- A) The data refer to the amount of the variance, which represents each variable.
- B) The item Kayser - Meyer - Olkin (KMO)

For the initial variables, Common Factor Variations (communalities) is the percentage of each variation calculated for all the factors that have been exported. Based the Kaiser HF (1974), we have to admit that the element  $KMO > 0.70$  is an important threshold of sampling adequacy.

Finally, the model chosen and regular regression (ordinal regression model) to estimate the relationship between environmental consciousness and awareness and various factors that may affect it. The general form of the function is  $\text{link}(y_{ij}) = \ln(-\ln(1-y))$ , while the form of the model is the following (Norusis, 2004; Minetos & Polyzos, 2010):

$$\ln(\theta_j) = \alpha_j - \beta_n X_n$$

where:

j: the number of categories minus 1

$\alpha$ : constant parameter regression

$\beta$ : the coefficients of the regression

X: the independent variables

## 6 Results

The aim of factor analysis is to achieve more easily interpretative solution and explain the correlations between observed variables. We parted our sample into three categories (FACT1, FACT2, FACT3) scale environmental awareness based on the data we collect (questionnaires). We can see that the first (1st) group FACT1 (table 3 - Rotated Component Matrix), including questions 2, 3 and 6 of the questionnaire (table 4), loads of variables is positive which means that a positive correlation between them. These three variables relate to people who believe in an agriculture that should not have any environmentally friendly dimension and protection, and its role is clearly productive. In the second (2nd) group FACT2, including questions 4, 5, 7 and 8 of the questionnaire, presented high and positive components together. This means that this special group of people is in favor of intensive forms of cultivation and exploitation of agricultural land, where the protection measures and environmentally management are unnecessary and "luxury". Finally, the third (3rd) group FACT3, including questions 1 and 9 of the questionnaire also shows high loadings on variables related to the positive financial results of production, which should be of concern to farmers farm farmland.

Finally, based on the significance observe that the education level of people involved in completing the questionnaires was instrumental in the results since it is statistically significant ( $<0.05$ ) between them for the four categories of education (Edu1, Edu2, Edu3, Edu4) selected. Instead, we see that the ages of the individuals did not affect significantly the results with significance greater than 0.05 (for Age1 {0.1} and Age2 {0.1}). Finally, the three factors FACT1, FACT, 2 and FACT3 statistically significant ( $<0.05$ ) and come to the same conclusion regarding the missing information and knowledge of citizens who reside in urban centers on the protection and management of both environmental and especially the rural environment.

**Table 3.** Rotated Component Matrix

| Rotated Component Matrix                            |       |                                     |             |             |
|---|-------|-------------------------------------|-------------|-------------|
|   |       | Component                           |             |             |
|   |       | 1                                   | 2           | 3           |
| FACT1   | VAR02 | 0.738515089                         |             |             |
|   | VAR03 | 0.71595599                          |             |             |
|   | VAR06 | 0.681913574                         |             |             |
| FACT2   | VAR04 |                                     | 0.710609655 |             |
|   | VAR05 |                                     | 0.647369956 |             |
|   | VAR07 |                                     | 0.559093712 |             |
|   | VAR08 |                                     | 0.5129839   |             |
| FACT3   | VAR01 |                                     |             | 0.803427913 |
|   | VAR09 |                                     | 0.456970509 | 0.6095057   |
| Extraction Method: Principal Component Analysis.    |       |                                     |             |             |
| Rotation Method: Varimax with Kaiser Normalization. |       |                                     |             |             |
| a   |       | Rotation converged in 7 iterations. |             |             |

**Table 4.** Questionnaire

| QUESTIONS |       |  |
|-----------|-------|--|
| 1.        | VAR01 | The design production and financial management is the most essential elements for a successful farm.                               |
| 2.        | VAR02 | There is no reason to protect rare species which may visit farms.  |
| 3.        | VAR03 | Farmers have the right to manage their farm as they believe is better.   |
| 4.        | VAR04 | Farmers have responsibility to produce sufficient food, rather than to protect the environment.                                    |
| 5.        | VAR05 | Today the quality characteristics of agricultural land are better than a few years ago.  |
| 6.        | VAR06 | If it is possible, laborers must be replaced by machinery and new technologies.  |
| 7.        | VAR07 | The protection of the rural environment is primarily addressed to hobbyist's farmers or farmers who live in poor and barren areas. |
| 8.        | VAR08 | The achieving of high producer is the proof of good producer.  |
| 9.        | VAR09 | Financial sustainability should be the indicator for what happens on a farm.   |

## 7 Discussion

In this work was given an overview of the environment and the role it plays in people's lives and they in turn can disrupt the balance. The effects of the environmental problems affecting their quality of life and create social inequalities. These problems are more values crisis and adjustment problems of human behavior and less technologically. The change of values can give the motivation for action and meaningful change in society based on the principles of social justice for prosperity. Consequently, it is necessary lifestyle changes and remodeling behavior, emphasizing the creation of an evaluation code to ensure the interest of all life forms and creates environmental ethos.

The complexity of the environment can and are sure to cause conflicts to be a creative management of conditions which will ensure both the integrity of ecosystems and the welfare of people. The New Common Agricultural Policy will be more ecologically aware and more sensitive to environmental issues (Bureau et.al., 2008; Haskins, 2010).

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