

# The Moral Dimension of Ecology in Teaching of Nutrition

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**Abstract:** The philosophical approach of ecology is an issue that is studied at the level of philosophy ethics principles. The moral dimension of the subject is not limited to the formulation of reflection, but to the whole of human values and good human behavior in the matter of food. The aim of the work is to explore concepts and concerns that link nutrition and ecology to the philosophical ethics with current food and how environmental education can integrate the environmental footprint of food into moral ethics.

**Keywords:** Philosophy - Ethics, Food, Environmental Footprint of Food - Teaching

## 1. Introduction

### 1. Philosophy-Ethics-Ecology

Moral in ecology is a concept that has been developed and used for more than 40 years in the social dialogue world-wide, many people are now talking about environmental ethics, but the term of moral is not modern. Ethics is used from the early ancient Greek philosophers<sup>1</sup>, later the Christian philosophers, and the contemporary philosophers, especially Kant, deal with the issues of good behavior of people within a society, and what must or should not be done. It was moral individual freedom that values operate autonomously and freely at an individual level<sup>2</sup>. But morality is not accepted as a common value by all. It goes through several stages of discussion with some considering morality as a relative (relativism) that does not accept principles universally acceptable, while others define ethics as an individual choice and responsibility of our actions<sup>3</sup>. While for Nietzsche morality is a value to the higher beings, a kind of aristocratic origin<sup>4</sup>.

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<sup>1</sup> Ηράκλειτος Ἔφη ὡς ἦθος ἀνθρώπου δαίμων (Heraclitus said that the demon for man is his ethos), Joannes Stobaeus Eclogues, I 10, 14.

<sup>2</sup> Immanuel Kant, *Kritik der praktischen Vernunft*, Ed. Meiner, Hamburg 1963, p. 186-187.

<sup>3</sup> Ibid, p. 536-539.

<sup>4</sup> Bernard Russel, *History of the Western Philosophy*, vol. III, Routledge, 2013, p. 762.

Moral however, always remains a branch of practical philosophy. As a practical sector, it could not exclude the contemporary problem of ecology in philosophical reflection. Since the 1970s and the development of environmental movements, moral has come to find its place as a field of ethical philosophy and environmental ethics. Thus environmental ethics extends the term beyond man and explores the elements of nature (animals - plants). Man by redefining his relation to the environment essentially tries to regain his position within that to inhibit a negative course that he has in fact caused by his behavior<sup>5</sup>. Within this context, man needed to broaden moral reflection and to study good human behavior also in the issue of eating. Especially for the students of food science, this reflection can develop and cultivate moral stimuli and recruits that will allow them to migrate to other eco-environmental behaviors focusing on food.

Philosophy, from a theoretical science perspective acquires a practical sense in the life of society. Perhaps with the utilitarian approach of moral correctness, since environmental protection promotes more benefits for the community than other actions which operating negatively, but without excluding the Kantian view of need; man is able to cultivate internal moral laws that lead him to do right, thus producing results that will be morally correct for him and others<sup>6</sup>. So if we integrate environmental education into Kantian ethics, we will be able to give a combined definition that says: Environmental ethics is not a separate part of the development of moral virtues. It is an effort to cultivate the exceptional abilities of the human character to choose the right act in relation to the natural environment as a combination of internal good qualities with appropriate education.

This need to cultivate values is also suggested by the definitions that have been given to environmental education from the 1970s to the present. Starting with the first definition of Environmental Education, we see that cultivating good qualities and values is the forerunner of the effort. *"Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man [sic], his culture, and his biophysical surroundings. Environmental education also entails practice in decision-making and self-formulation of a code of behavior about issues concerning environmental quality."*<sup>7</sup>. It is no exaggeration to say that with this definition we can see the application of the Aristotelian vision of inner bliss to morality, which defines the development of all positive attributes of human character directed to virtue<sup>8</sup> and ethics from a theoretical

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<sup>5</sup> Χριστίνα Σπυράκη (Christina Spyraiki), «Περιβαλλοντική Ηθική και Εκπαίδευση» (Environment-Ethics and Education), *Περιβάλλον και Υγεία*, pub. Environmental Educational Center, Neapolis, 2011, 158.

<sup>6</sup> Louis Guillermit, *Leçons sur la "Critique de la raison pure" de Kant*, ed. VRINS, Paris 2008, p. 60.

<sup>7</sup> I.U.C.N., (ed.), International Working Meeting on Environmental Education in the School Curriculum, Carson City - Nevada, U.S.A., June/July 1970.

<sup>8</sup> Aristotle: Nicomachean Ethics II, 1, 1003a 17-8.

reason and shifts its weight to rational action<sup>9</sup>. And later definitions for environmental education are based on the same rationale and perspective of cultivating moral values<sup>10</sup>.

## 2. Ecological crisis and man

Ecological crisis is not a primary phenomenon. The ecological crisis is a derivative of the human crisis. Humanity is not to blame for the problem of the environment and the ecological crisis but each person individually. The unknown position of the period of enlightenment that blames Christianity for changing human morality beyond the limits of the present world, with morality being clearer, less material and selfish, but also creating a major weakness, the duties of the individual to the homeland have been sufficiently defined and this is an inadequacy of the moral Christian system, in contrast to the system of ancient nations, with individuals being aware of its role in the functioning of the state<sup>11</sup>. However, it is certain that the individual responsibility is not a matter of qualitative but quantitative order. Man in the sensible world is self-sufficient and can move according to his own will.<sup>12</sup> He is trying to grow more and more integrates for himself into an economic system that attempts to exploit the environment. As a result many times, through typical market failures, there is too much environmental degradation. So man interferes with the magnitude of his action in the environment and degrades it. In this way, he creates the right conditions that will lead to a self-sustaining process in which, sometimes because of ignorance or other times due to economic necessity, it destroys or exhausts the resources on which its survival depends. As a result of this human behavior, it is

<sup>9</sup> Aristotle: *Metaphysics* E' 1, 1025b 23-4.

<sup>10</sup> Some of the most important definitions for environmental education with ethical dimension are: a) *education for specific trades and professions should include education concerning the work environment of the particular trade or profession, including information about medical standards for permissible levels of environmental pollution, noise, vibration, radiation and other factors affecting people and also about the system of measures for monitoring their enforcement. Continuing education on this aspect should also be made available*; Intergovernmental Conference on Environmental Education organized by UNESCO in co-operation with UNEP Tbilisi (USSR) 74 - 26 October 1977, ENVED/7, Chapter III, paragraphs 15-26.

b) « *Behind all the reasoning is the spectra that any attempt at continued economic growth in its current wasteful and highly in egalitarian form will not only result in very real and imminent resource scarcities, but will necessarily lead to environmental destruction and serious poverty and social hardship. The worst consequences will fall disproportionately upon those who are least able to help themselves, and whose indigenous abilities to cope with resource scarcities and environmental stress are already being eroded by forces mostly beyond their control, and whose voices in the halls of political power are either not heard at all or are extremely faint.* » O'RIORDAN, T. 1981. Environmentalism and education. *Journal of Geography in Higher Education*, vol. 5, no. 1, pp. 3-17.

c) « *As educational itineraries will throw into sharper relief the role of scientific knowledge in both the social and the natural sciences, together with the function to be fulfilled by technological know-how. As well as the place of ethical values in the making of complex decisions and the preparation of measures to solve environmental problems. In short, realistic computers and other games and simulations models should be developed in order to give learners an understanding of actual and future environmental problems.* » UNESCO (éd.), *Stratégie Internationale d'action en matière d'éducation et de formation relatives à l'environnement pour les années 1990*, U.N.E.S.C.O.-U.N.E.P. Congrès, Environnemental éducation and training, (MOCKBA 1987), Nairobi - Paris 1988.

<sup>11</sup> Alexis de Tocqueville, *L'Ancien régime et la Révolution*, ed. Bussièrès à Saint-Amard 2005, p. 63.

<sup>12</sup> Γεωργίου Μαρζαρίδη (Georgios Mantzarides), *Χριστιανική Ηθική (Christian Ethics)*, pub. P.Pournara, Thessaloniki 1995, p. 483.

the weakening of the self-sufficiency of society but also the mortgaging for the future of the next generations<sup>13</sup>. Through this thought we can understand, in general terms, the causes of the crisis in shaping the ethics of society and the way in which man perceives the modern way of life. We observe the brutal interference of man in the natural environment. Sometimes under extreme anthropocentrism understanding all human needs and desires are above all without any moral criteria. According to Kant, in this case, there is no ethical approach and no internal moral law that has been formed that will give him the freedom to decide and define the boundaries that separate the human being from the limits of anarchy and immorality<sup>14</sup>. In some other cases of milder anthropocentrism, all needs can be met by following some ethical and aesthetic rules<sup>15</sup>. Whatever the man is, turning nature into an object, it creates an artificial world that interferes with the environment. Beyond human-centeredness, as a moral issue, man once again acts as a quantitative dimension that makes his physical world difficult. The rapid and large increase of the world's population and the parallel expansion of economic activity in the developing world make sense to lead to extensive environmental damage which then requires mitigation measures<sup>16</sup>. Man intervening brutally in the natural flow of things creates many changes. It transforms the world into an object and it is estranged from nature and the natural environment. He focuses on the technical value of nature and the aesthetic world and lives a "mechanized life"<sup>17</sup>.

### 3. The Right to Food and the Link of the Ecological Crisis to Nutrition

From the beginning of his appearance on earth man tries to survive and secure his food from the living environment, but surpassing the moral limits, which in some cases have not even been defined and reaches extravagance. Especially foods, excessive production and often the waste of goods make the problem more intense. This meant that man not only secured his food, but reduced the food of other life forms, and often eliminated other kinds. In any case, food is an inalienable good. According to Article 25 of the Universal Declaration of Human Rights, adopted by the United Nations General Assembly on December 10, 1948, as the result of the consequences of the Second World War: "*Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services*"<sup>18</sup>. It is an inalienable right to access foods. However, this is often not enough. The rapid increase in the world's population has also led to shortcomings. Cultivated

<sup>13</sup> Michael P. Todaro- Stephen C. Smith, *Economic Development*, 10<sup>th</sup> Ed. Essex 2006, p. 485.

<sup>14</sup> Immanuel Kant, *Kritik der reinen Vernunft*, Ed. Meiner, Hamburg 1998, p. 19.

<sup>15</sup> Nash R. *The Right of the Nature: A history of environmental ethics*. Madison, University of Wisconsin Press 1989, p. 72.

<sup>16</sup> Michael P. Todaro- Stephen C. Smith, *ibid*.

<sup>17</sup> Max Weber, *The Protestant Ethic and the Spirit of Capitalism* (New York: Scribner, 1958), 181-83.

<sup>18</sup> The Universal Human Rights Declaration, Article 25-1.

land, water, and firewood in the countryside were not only a matter of scarcity but also a matter of extinction and environmental degradation. In urban areas, sewage deficiencies result in water contamination, while population density has contributed to the acute degradation of precisely those resources where local populations depend on their survival<sup>19</sup>. And yet man continues to act in his natural world, taking advantage of the impetuous development of technology, and continues to identify with its visionary goals and forgets the essence of ethical search. Today man may wish to do more<sup>20</sup>. This way man leaves his ecological footprint on the earth. Through actions to feed more and more, the ecological footprint is defined as the total area of land and sea that man uses for the food he consumes. Within this area, account must also be taken of the infrastructures it creates for food, either in the primary sector, in livestock or in the aquaculture sector<sup>21</sup>.

Today man is producing more in order to feed more. To achieve this, conventional farming in agriculture must be exploited in every means. In the 1950s and 1960s the extensive use of chemical fertilizer and pesticide preparations began. As a result, diseases damaging health was increased, because of plentiful food. The conflict between the rights of food the rights of public health are equal, so food is no longer his medicine. On the other hand, large crops require huge amounts of water. But concentrating the water flow ensures someone destroying some other. Then needs brings again moral values to the forefront. The cultivation of the land seeks green forms and water consumption is achieved through the improvement and extension of irrigation networks and a change in the use of these methods. However, until man has succeeded in achieving the new forms of cultivation, the corresponding cost has to be paid. Pollution from pesticides and fertilizers, degradation of soil productivity and desertification, depletion of the groundwater, degradation of the countryside and the occurrence of food crises are only a few of the problems<sup>22</sup>.

## 2. Methodology

### 4. Methodological Approaches - teaching the Environmental Footprint of Food

Describing the moral relationship of ecology and its connection to food, we can better understand the logic of a methodological approach to teaching environmental education to nutritionists and dietitians in particular, without this methodological model being limited to the specific occupational or scientific team.

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<sup>19</sup> Michael P. Todaro- Stephen C. Smith, *ibid.*, p. 488.

<sup>20</sup> Γεωργίου Ι. Ματζαριδής (Georgios Matzarides), *Εισαγωγή στην ηθική (Introduction to Ethic)*, Thessaloniki 1995, pub. P. Pournara, p. 90-91.

<sup>21</sup> Lillemor Lewan, *Ecological Footprints and Biocapacity*, Swedish Environmental Protection Agency, Stockholm, 2000 p. 18-19.

<sup>22</sup> The World Bank, World Development Report 2008, Agriculture for Development, Making Agricultural System More Environmental sustainable, p. 180-188.

Typically, the methodological approaches applied to environmental education depend on the theme of the program. Therefore, the logic of the subject, ethics-ecology-nutrition, has multidisciplinary content and promotes interdisciplinary, since beyond the nutrition it involves with other sciences (philosophy, sociology, biology, bioethics etc.). This allows and encourages student participation in creative action, reflection, ability to talk, cultivation of creative thinking, but mainly the process of learning and acting<sup>23</sup>. Therefore, in order for the methodological model to work, a suggestion is to teach structure in four axes: 1) Information-Awareness, 2) Behavior - Stress Values, 3) Skills, 4) Participation.

### a) Information

In order solve environmental problems, the task force has gained more and more experiential experiences. The environmental footprint of food, affect of the food footprint and environment. The main information topics are: 1. Agriculture and food production: The most complex relationship to the environment with positive and negative impacts since agricultural activity encompasses a series of biophysical and space-related processes<sup>24</sup> (The intensive cultivation, the use of chemical fertilizers and pesticides, and the water wastage). 2. Livestock farming: Globally, livestock farming intensifies the pollution problem (gas emissions, local nitrogen and phosphorus surpluses, groundwater pollution). We must not ignore the fact that livestock waste is pathogenic, while the extensive use of antibiotics has mutated and enhanced the defense of their microorganisms in the environment<sup>25</sup>. 3. The food industry: Food is no longer just the productive sector, food is now a commercial and industrial product. An increased interest on issues as nutrition, food safety, ecology, animal welfare and the environmental sustainability, have an impact on the evolution of demand for food products. Consumers are now regarded as the primary driving force in the global food market. Demand for the different types of high value added agricultural food products, affects business strategy<sup>26</sup>, and has altered food from a basic need, to a product of commercial exploitation of a consumer society. 4. Transport and distribution of food to the consumer: Food transport requires the use of resources. Shipping for example, creates threats to the environment both on inland waterways and in the ocean. These problems arise from five major sources: (1) routine discharges of oil bilges and leachates from

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<sup>23</sup> Claus Leitzmann, "Nutrition ecology: the contribution of vegetarian diets", *The American Journal of Clinical Nutrition*, Volume 78, Issue 3, (2003), p. 657S–659S .

<sup>24</sup> Carol Morris- Michael Winter, "Integrated farming systems: the third way for European agriculture?", *Land Use Policy*, Vol. 16 (1999), pp. 193-205.

<sup>25</sup> Aleksy Galka, "Using a cleaner production preventive strategy for the reduction of the negative environmental impacts of Agricultural production using cattle husbandry as a case study", *Journal of Cleaner Production*, vol. 12 (2004), p. 513.

<sup>26</sup> "Competition for natural resources", *The future of food and agriculture Trends and challenges*, Food and Agriculture Organization of the United Nations Rome, 2017, p. 46-49.

shipping, (2) the disposal of non-biodegradable solid waste in the ocean, (3) accidental spillage of oil, toxic or other cargo or fuel at ports and during the journey, and emissions from the sources of supply of the vessels, (4) the construction and management of ports and inland canals, (5) exotic species transported on vessels<sup>27</sup>. Consequently, the transfer tends to exacerbate an existing problem as it attempts to solve another. Finally 5. The biggest moral problem remains the loss and waste of food, a global problem, in the public debate and the global political agenda. According to current estimates, around one third of food produced for consumption is wasted or lost globally, which entails economic and environmental costs. The problem of food waste affects every link in the food supply chain and measures should therefore be targeted throughout the chain and aim at potential benefits for all involved. Emphasis has to be placed on prevention, as the benefits of avoiding waste are overriding those of dealing with it at a later stage<sup>28</sup>.

### **b) Behavior - Attitudes and values**

The basic principle of awareness-raising involves integrating ethical values about the environment and their transformation from theory to practice. The goal is to achieve sustainability in the development of society. In addition, the term sustainability reflects the need for a careful balance between economic development and environmental protection. By defining what sustainability is, we can simply say that it usually refers to meeting the needs of the present generation without jeopardizing the needs of future generations<sup>29</sup>. The process of change must be done through the spiritual stimulation of learners and the promotion of free expression.

Nutritionists are well aware of nutritional and technological issues. But by asking them questions about the environment, they will have to go into a new logic. This logic can be achieved through questions that direct thought and imagination into value structures of environmental education. The instructor in a group trying to create the bases for moral values must not impose but evoke, which can easily be done through questions. Thus, opinions will be freely expressed in order to record, discuss and analyze possible interdependencies<sup>30</sup>. Controversy and dialogue between students will develop internal structures and bring forward proposals for responsible management of natural resources combined with better quality of life. In this way trainees will develop a sense of economic growth without moral isolation<sup>31</sup>. It is a fact that modern

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<sup>27</sup> Joy Hecht, *The Environmental Effects of Freight, Organization for Economic Co-operation and Development*, Paris 1997, p. 11-29.

<sup>28</sup> K. Storup, K. Mattfolk, D. Voinea, B. Jakobsen, M. Bain, M. E. Reverté i Casas, P. Oliveira, *Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain*, European Court of Auditors (special edition) no. 34, 2016, p. 6-7.

<sup>29</sup> Michael P. Todaro- Stephen C. Smith, *ibid.*, p. 486.

<sup>30</sup> *Ibid.*, p. 20.

<sup>31</sup> Γεωργίου Ματζαρίδη (G. Matzarides), *Εισαγωγή...* (Introduction...), *ibid.*, p. 90.

ecological ethics and a proposal for environmental education support the development of responsibility distanced itself from activism or the logic of technology, in the direction of morality as the driving force of human decisions and actions<sup>32</sup>. The biggest problem for the civilized man, about food, was the lost bet for a nutrition education policy. The hunger and lack of food that existed until the beginning of the 20th century focused on the effort of storing food for the fear of "thin cows". This has caused excessive food abundance and increased supply. Combined with the promotion and development of the food industry, the modern consumer is in difficulty. Many times the struggle between nutrition and consumer change is unequal<sup>33</sup>. Thus, from the search for the moral right of food, man had to discover a new moral value that was the rational management of food. This could not be done automatically but through the development of new practices that will familiarize him with these changes.

### c) Development of skills

Changing attitudes and values require a cultivation of new skills. Skill development can not only be achieved through formal education. By referring to formal education, we refer to the various stages of educational activity and its types (primary, secondary, post-secondary, general and specialized) and generally any program that will provide theoretical training. Through pedagogical practices the students will know and be able to transfer what they have learned. Non-formal education is provided in an organized educational context outside the formal education system and can lead to the acquisition of nationally recognized certificates. It includes the initial vocational education, the continuing vocational education and the general adult education<sup>34</sup>. In all these non-formal education structures, environmental programs become more valuable, since students' interest is greater and more substantial. It comes from the desire to know and improve skills rather than the formal obligation.

It is not only important to transport, but rather to transmit, and therefore to lead. It is therefore necessary for the instructor to have the belief or perception of what is right and what is wrong. According to Kant, man composes the universal law of inheritance, but this as an idea cannot be considered as established. In order for man to develop moral skills, man must go to these sources, since every person must know about what is right and wrong<sup>35</sup>. Such sources are the Bible, and the other holy books, and all the voices that cultivate moral consciousness, whether it is accepted as the voice of God or as a gift of God. Another source of guidance is the very behaviors of people, "*the important others*", parents, friends, members of the church,

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<sup>32</sup> Χριστίνα Σπυράκη (C. Spiraki), *ibid*, p. 170.

<sup>33</sup> Reymont Aron, *Penser la liberté, panser la démocratie*, Edition Gallimard 2005, p. 35.

<sup>34</sup> Coombs, P. H. (1968). *The World Educational Crisis: A Systems Analysis*. New York: Oxford, University Press, p. 9.

<sup>35</sup> Louis Guillermit, *ibid.*, p. 60-61.



unions and associations. So a game or a dramatization of the subject should be combined with actions to promote the source of problems and environmental ethics, an endoscopy and a redefinition of human relationships with nature<sup>36</sup>. Moreover, the dynamics of morality consists in the relationship between what the students do, how they behave, and how they ultimately apply what we call "moral ethics"<sup>37</sup>. It's what Mark Twain just said: "Always do right. This will gratify some people and astonish the rest."<sup>38</sup>. It is different to talk about ethics in ecology and different to having ethical principles and practices in personal environmental behavior. Teaching can create a strong ethical culture that will influence the actions and actions of the members of a group<sup>39</sup>.

#### d) Participation

Since the ecological crisis is linked to the whole of the personal life and social person as an anthropological derivative, only man himself can cope correctly. The ecological crisis and especially the environmental footprint of food require a person to see the phenomenon as a moral crisis that they are going through and must personally act<sup>40</sup>. Participation in the environmental education means, "Changing attitudes", basically changing the way of thinking. The group takes measures that will be considered as standards, transparent and accessible to all. It is considered, given that these standards are respected by all<sup>41</sup>. Team spirit, on the other hand, is the basis for observing ethical rules. When the instructor is working in the right direction, the results will highlight the moral ethics strategy. Otherwise the added value in the project will be small and the students will reduce their participation<sup>42</sup>. In addition, according to the International Conference on the Natural Environment, participation in environmental education includes the basis for the principle of sustainability: "Sustainability education is a lifelong learning process that leads to the creation of informed and active citizens, have the skills of creative problem solving, have scientific and social literacy and devotion to be able to engage in individual and collective responsible actions that will help ensuring a future with economic prosperity and environmental soundness". The radical change in attitude and attitude redefines the relation of man to the natural environment<sup>43</sup>. Substantial participation through teaching, attempts to cultivate personal ethos and the way man views the need for food. Personal ethos develops with

<sup>36</sup> R. Wayne Mondy, Joseph J. Martocchio, *Human Resource Management 14<sup>th</sup> ed* Pearson Education Limited 2016, p. 46.

<sup>37</sup> «Ὁ γὰρ μὴ ποιῶν καὶ διδάσκων ἀναξίόπιστος ἐστὶν εἰς ἰσχυρίαν» (who teaches and does not apply is unreliable in good learning), P.G. 30, 497.6.

<sup>38</sup> Ikujiro Nonaka and Hirotaka Takeuchi, "The Wise Leader", *Harvard Business Review* 89 (May 2011): 58-67.

<sup>39</sup> R. Wayne Mondy, Joseph J. Martocchio, *ibid.*, p. 48.

<sup>40</sup> Γεωργίου Ματζαρίδη (G. Matzaridis), *Χριστιανική Ηθική (Christian Ethic)*, *ibid.*, p. 487.

<sup>41</sup> *ibid.*

<sup>42</sup> Young Trevor L., *Successful Project Management*, pub. Kogan Page 2000, p. 30-31.

<sup>43</sup> Γεωργίου Ματζαρίδη (G. Matzarides), *Εισαγωγή...* (Introduction...), *ibid.*, p. 145.

the active participation in the responsible management of natural resources contributing to human nutrition. Thus, it is perceived how much value is the diffusion of responsibility and solidarity, mutual aid, collective assent to the individual's interest in the food issue<sup>44</sup>.

### 3. Conclusions

In conclusion, we can say that:

- Food is part of environmental education as it is directly linked to all the actions of human activity.
- Man as "in the image and likeness" of God takes the power to dominate the creation. This peculiarity requires a lasting path that has to go in relation to a property and a command.
- The purpose of the educational process is to move from theory to practice and in this case to a concurrence of moral value.

### References

- [1]. Aristotle: Nicomachean Ethics, 1, 1003a 17-8.
- [2]. Aristotle: Metaphysics, E' 1025b 23-4.
- [3]. Joannes Stobaeus Eclogues, I 10, 14
- [4]. Vasilios the Grate, P.G. 30, 497.6.
- [5]. The Universal Human Rights Declaration, Article 25.
- [6]. I.U.C.N, (ed.), International Working Meeting on Environmental Education in the School Curriculum, Carson City - Nevada, U.S.A., June/July 1970.
- [7]. Intergovernmental Conference on Environmental Education organized by UNESCO in co-operation with UNEP Tbilisi (USSR), 74 - 26 October 1977.
- [8]. The World Bank, World Development Report 2008, Agriculture for Development.
- [9]. "Competition for natural resources", The future of food and agriculture Trends and challenges, Food and Agriculture Organization of the United Nations Rome, 2017.
- [10]. **Βασίλειου Καλλιακμάνη, (Vasilios Kaliakmanis)** «Από το ευ ζην στον ευ θνήσκειν, διλήμματα μπροστά στην εξατομίκευση του θανάτου» ("From Happiness to Belief, Dilemmas in the Face of Personalization of Death"), *Στους Ρυθμούς της Καρδιάς (The Rhythms of the Heart)*, pub. Greek Institution of Cardiology, no. 27, Vol. 269 (May- June 2018): 34.

<sup>44</sup> Βασίλειου Καλλιακμάνη, (Vasilios Kaliakmanis) «Από το ευ ζην στον ευ θνήσκειν, διλήμματα μπροστά στην εξατομίκευση του θανάτου» ("From Happiness to Belief, Dilemmas in the Face of Personalization of Death"), *Στους Ρυθμούς της Καρδιάς (The Rhythms of the Heart)*, pub. Greek Institution of Cardiology, no. 27, Vol. 269 (May- June 2018): 34.

- [11]. Γεωργίου **I. Ματζαρίδη (Georgios Mantzaridis)**, *Εισαγωγή στην ηθική (Introduction on Ethic)*, pub. P.Pournaras (1995).
- [12]. -, Χριστιανική Ηθική (Christian Ethic), pub. P.Pournaras 1995.
- [13]. **Χριστίνα Σπυράκη (Christina Spyraiki)**, «Περιβαλλοντική Ηθική και Εκπαίδευση» (Environment-Ethics and Education), *Περιβάλλον και Υγεία*, pub. Environmental Educational Center, Neapolis, 2011.
- [14]. **Reymont Aron**, *Penser la liberté, panser la démocratie*, Edition Gallimard 2005.
- [15]. **Coombs, P. H.** (1968). *The World Educational Crisis: A Systems Analysis*. New York: Oxford, University Press.
- [16]. **Aleksy Galka**, “Using a cleaner production preventive strategy for the reduction of the negative environmental impacts of Agricultural production using cattle husbandry as a case study”, *Journal of Cleaner Production*, vol. 12 (2004), p. 513
- [17]. **Louis Guillermit**, *Leçons sur la "Critique de la raison pure" de Kant*, ed. VRINS, Paris 2008.
- [18]. **Joy Hecht**, *The Environmental Effects of Freight, Organization for Economic Co-operation and Development*, Paris 1997.
- [19]. **Immanuel Kant**, *Kritik der praktischen Vernunft*, Ed. Meiner, Hamburg 1963.
- [20]. -, *Kritik der reinen Vernunft*, Ed. Meiner, Hamburg 1998.
- [21]. **Ikujiro Nonaka, Hirotaka Takeuchi**, “The Wise Leader”, *Harvard Business Review* 89 (May 2011): 58-67
- [22]. **Nash Roderick Frazier**. *The Right of the Nature: A history of environmental ethics*. Madison, University of Wisconsin Press 1989.
- [23]. **Bernard Russel**, *History of the Western Philosophy, vol. III*, Routledge 2013.
- [24]. **H. R. Hungerford / R. B. Peyton / R. J. Wilke**, «Goals for curriculum development in environmental education», *Journal of Environmental Education*, vol. 2, no 3, 1980.
- [25]. **Claus Leitzmann**, “Nutrition ecology: the contribution of vegetarian diets”, *The American Journal of Clinical Nutrition*, Volume 78, Issue 3, (2003), p. 657S–659S
- [26]. **Lillemor Lewan**, *Ecological Footprints and Biocapacity*, Swedish Environmental Protection Agency, Stockholm, 2000.
- [27]. **O’Riordan T.**, *Environmentalism*, Pion Ltd., London 1976.
- [28]. **Michael P. Todaro- Stephen C. Smith**, *Economic Development*, 10<sup>th</sup> Ed. Essex 2006.
- [29]. **K. Storup, K. Mattfolk, D. Voinea, B. Jakobsen, M. Bain, M. E. Reverté i Casas, P. Oliveira**, *Combating Food Waste: an opportunity for the EU to improve the resource-efficiency of the food supply chain*, European Court of Auditors (special edition) no. 34, 2016.

[30]. **Alexis de Tocqueville**, *L'Ancien régime et la Révolution*, impression Bussières à Saint-Amard 2005.

[31]. **Young Trevor L.**, *Successful Project Management*, pub. Kogan Page 2000.

[32]. **R. Wayne Mondy, Joseph J. Martocchio**, *Human Resource Management*, 14<sup>th</sup> ed., Pearson Education Ltd. 2016.

[33]. **Max Weber**, *The Protestant Ethic and the Spirit of Capitalism* (New York: Scribner, 1958), 181-83, and *Economy and Society* (Berkeley: University of California, 1978), 1402-03.