

Ethical challenges in modern and profitable agriculture

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Agriculture is one of the basic human activities and, as such, is of paramount importance for the survival of the human race. It has played a pivotal role throughout the process of human civilization which had, in part, begun when people commenced to cultivate plants and to breed animals. Past experience suggests that agriculture is definitely not a simple process and should be harmonized with the nature. This paper discusses the ever-present issue whether profit-oriented agriculture is compatible with the prevailing ethical principles and moral standards. The main purpose of agriculture is to produce food. The increasing global human population, however, requires more efficient and stable agricultural production. Hunger is still a worldwide problem which can be further deteriorated by using agricultural areas for non food production purposes. The reconciliation between agricultural production and moral standards associated with the production of food and its distribution is therefore a necessity.

Key words: modern agriculture, agricultural policy, ethical responsibilities, moral standards

INTRODUCTION

Since the beginnings of human civilization, agriculture has been highly respected because people depended on it and its pitfalls were closely associated with hunger, famine, diseases and even wars. To develop an economically efficient farming system that would be stable and would produce sufficient quantities of reasonably cheap and healthy food has been a prime objective of different societies throughout time. Protection of farm land, water and air from pollution and more humane treatment of domestic animals, as well as the preservation of natural and socio-cultural resources are currently becoming indispensable topics in discussions among the most influential world politicians and major nations. However, incessant efforts to bring about higher productivity and economic efficiency levels in agricultural production on one part and constant trends to preserve the ecological balance and general well-being of animals on the other are clearly not in congruity. These rather conflicting objectives have been actually characterizing the Common Agricultural Policy (CAP) of the European Union during the last decade.

The progress of agriculture during the last 50 years has been enormous. The Green Revolution concentrated on three crops (rice, wheat and maize) and adapted cultivars for those areas of the world where they would have the greatest impact on food production. An important feature of the Green Revolution was that the research was carried out in the public domain, and that the genetically improved crop varieties were freely available to farmers without concerns for the intellectual property rights of producers (Chrispeels 2000). This increased production of food significantly reduced hunger and poverty. However, the modernization of agriculture also has had many negative consequences such as

pollution of soil, water and air, reduction of natural habitats due to the expansion of agricultural areas and erosion of the biotic diversity. Another problem associated with modern agriculture is water which represents an essential and non-substitutable resource for all living beings as well as human society.

Contemporary agriculture is not uniform. It involves conventional, integrated, traditional, organic and biodynamic systems. These are neither equally profitable nor are they equally suitable for all situations. Their influence on the environment is very different. In general, all agriculture could be damaging to the natural environment, without exception (Paarlberg 2009). Some of the agricultural systems, however, tend to respect the natural environment and living beings (e.g., natural habitats, biodiversity, wild and domestic animals) more than the others.

Agriculture represents a dynamic and fast changing system. Production technology especially in Western economies is continuously adopting new approaches. Agriculture can be considered as a never ending experiment of which consequences are frequently unpredictable. They may be negative or even tragic for living organisms including humans (e.g., the use of DDT and destruction of Amazon rain forests). Agriculture therefore has to respect the basic ethical principles. Do these principles exist and do we know them? If we know them, do we recognize them? The modern ethics appears to be in crisis. The traditional ethical principles, e.g., of Christianity, Plato and Aristotle (Burkhardt et al. 2005), are usually regarded as outmoded and therefore not suitable for the modern, fast changing society. In the literature, ethical debates and discussions frequently use completely different and sometimes even contradictory approaches. Frequently they mix moral rules with legislation. For example James Jr. (2003) suggested there are two types of ethics in agriculture - Type I is where there is no consensus as to what is ethical and Type II where there is consensus as to what is ethical but incentives exist for individuals to behave unethically. Type I

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problems are solved by making, challenging and reasoning through moral arguments whereas Type II problems are resolved by challenging the institution environment and people do not have incentives to behave unethically. Here we come to a question: Do we have any fundamental ethical principles which could be regarded as universal and accepted by the contemporary society?

In this paper, we would like to address an ethical principle which could be regarded as fundamental and probably universal: 'Life is valuable in itself. Going further we can suppose: 'Each living being is valuable in itself and has its role in the biosphere. Man is part of the biosphere and through evolution is linked to other living beings (Schneider 2001). The respect for living beings has been present since the very beginning of human civilization. People, however, have been highly selective. Some of the species were considered as undesired and were meant to be exterminated (e.g., insects-pests, snakes and scorpions). Modern society is currently striving to take a more holistic approach and protect biodiversity as a whole. However, this is not possible without taking care of the environment and effective management of waste. Higher quality standards of water and air, protection of soil from degradation, protection of biotic diversity, more efficient use of natural resources and energy, diminishing health hazards from chemicals, strict rules associated with manipulation of genetically modified substances and spelling out the conditions for boosting 'decent treatment' with domestic animals should be vital farm policy goals in any modern society. The ethical concern could eventually ensure proper institutional frameworks and a more positive attitude of people towards agriculture.

AGRICULTURAL ECONOMICS, GENERAL WELFARE AND ETHICS

Conventional economic approaches versus broader societal aspects circumventing one economy have been the subject of great interest among researchers in recent years (Swinnen et al. 2000, Dorward 2001, Paarlberg 2009). Modern economic thought stresses not only the importance of economic viability of particular actor(s) in a given economy but also societal implications underlying their acts. What is the 'good' to the society? Financial and economic benefits/costs are clear and can be evaluated by numerous economic (parametric and nonparametric) models which yield various estimates (marginal values, different elasticities, etc.). However, societal aspects are often 'too vague' to be adequately accounted for by conventional economic comprehension and a bulk of quantitative tools at its disposal. What may be needed here in capturing these other (socio-ethical) effects is a shift from conventional economic understanding to some other possible ways of evaluations. It appears that the mutual interaction between Cost Benefit Analysis (CBA) underpinnings (financial, economic and social aspects of given undertaking), Institutional Economics and Philosophical Perception of the socio-economic problem concerned could partly fill this gap.

The neoclassical concept of perfect competition hinges upon the rational economic behaviour of all market

participants. The institution of market can most simply be perceived as a location where the most efficient reallocation of limited resources within one economy takes place, and where goods/services are offered (sold) by producers (suppliers) and purchased (demanded) by consumers. CBA and institutional economics, in particular, add another dimension to this approach, since they both consider feasible societal implications of given economy outcome or undertaking, while the institutional economics also takes into account various governmental programs and institutions which complement conventional economic downstream. One may not agree with the assumptions of the cost-benefit analysis and one may argue that farmers, especially small farmers, are entangled in a world-wide web of technological and economic development that they are unable to influence. One may also point to all the beneficial consequences that economic thinking and technological development have had for agriculture and for humankind in general. It is one of the tasks of agricultural ethics to analyse the assumptions of cost-benefit analysis in order to develop broader views of rationality and reasonableness for the future of agriculture and to articulate new ideals for this branch of human economic activity (Vorstenbosch 2000).

The institutional economics approach has become very popular in modern economic theory. Transaction costs reveal how markets and governmental organizations at various levels should operate. The idea of efficient public administration stems from a desired minimum transaction costs which accompany the execution of a specific economic policy goal. Institutional aspects of public policy are closely related to governing political institutions and are needed to pursue certain societal objectives. The economic governance structure is basically the valid institutional framework within which transactions are carried out. Transaction costs consist of the costs of measuring the attributes of what is being exchanged and the costs of protecting rights and policing and enforcing agreements. They are the source of social, political and economic institutions (North 1992). The social evaluation of production costs, costs of policing and enforcement is quite an ambiguous issue in institutional economics, where perfect enforcement is implicitly assumed in efficient product and factor markets. In other words, evaluation of transaction costs is severely hampered, since measuring policing and enforcement costs depend upon a particular institutional framework. The concept of transaction costs can, at its best, provide an answer as to what kind of organizational structure is preferable or how the organizations themselves should be structured.

There is a bulk of various economic analyses as to how to quantify the economic benefits gained or costs incurred in one society. These range from different parametric (econometric) models, nonparametric (linear programming, positive mathematical programming, etc.) techniques to other quantitative tools such as CBA, welfare economics tools, etc. There have been several attempts to equip scholars with analytical tools for the application of transaction costs economics to quantitative empirical market analyses (Zajac and Olsen 1993, Hobbs 1997, Staal et al. 1997, Dorward 2001, Olper 2001). While attempting to develop a methodology to

identify and estimate transaction costs and benefits, most empirical studies failed to address fully the key issue of empirical application of transaction cost economics as pertain to the welfare effects of different public policy spreading from commodity characteristics to various environmental and socio-ethical aspects. The issue of morality, however, has rarely been included.

Valid institutional setting within which policy actions are performed is a core determinant to ensure stable and democratic political systems. Swinnen et al. (2000) point at the linkage of political institution, factor and economic growth, and their influence on the performance and governance in one society, where a crucial issue is the credible commitment of government. In fact, it is not the level of democracy 'per se' that matters, but other institutional dimensions, such as values of law, bureaucratic quality and government credibility (Olper 2001). Although quite different in their contents and meaning some similarities between the two issues (democracy and morality) could be drawn from this reckoning. Are overwhelming democratic values, impartial law systems and credible government enough to defend ethical dimensions ubiquitously within a given society? One tends to speculate on the highly positive interaction between public institutions (government), democratic climate and morality, but no verifiable quantitative tests and corresponding empirical results to support such hypothesis can be provided.

So, what is absolute good when translated into modern economic thought? Economic efficiency, Pareto optimums (welfare economics), perfectly competitive factor and product markets are clearly high on the agenda when determining economic optimum/welfare in one society. However, there are no conceptual underpinnings that would forge a bridge between economic and social optimum. Economic vigour in agriculture is relatively easy to evaluate, while societal costs and benefits are far more complex and (still) impossible to concisely estimate. There is quite a vivacious debate going on as to how to capture the effects of feasible negative externalities arising from agriculture (i.e., pollution, decline of biodiversity, stress for animals, social distress caused by market competition, etc.), and to weight these harmful effects with positive returns from agriculture (Primack 1995, Ivančič et al. 2003, Rozman et al. 2009). The big question arises as to whether this perception is valid for all living beings and life in general. Using solely conventional economic understanding and its more or less fancy methods - the answer must clearly be negative.

Modern agriculture is very similar to modern industry. It is market oriented and based on economic reckoning. While the market economy has formidable advantages, it also simultaneously has certain drawbacks. Market signals in general induce a continuous rise in commercialization of agricultural production. However, a market-oriented approach does not itself provide a suitable lever for resolving possible negative externalities arising from it. Greater farm specialization and highly capitalized agriculture could contribute several side-effects which are in conflict with common market benefits. They range from adverse effects on the quality of soil, groundwater supplies, air and wildlife,

health standards, well-being of domestic animals, to the deterioration of biological diversity common to all living beings. How far can, for instance, a certain country go with its environmental policy and corresponding legislation to protect its flora and fauna, water quality, to effectively manage its waste and, last but not least, to invigorate public awareness of very plausible health risks from chemicals and genetically modified organisms (GMO)? Or should instead simply be set a coherent institutional framework to prevent and punish possible abuses of 'bio-goods' and environmentally friendly agricultural production, so that consumers' thrust towards quality and healthy food would not be in any way put at a risk? Moral standards associated with this policy dilemma could reveal a completely new dimension behind the idea of modern farming as perceived in Western world nowadays.

Modern agriculture has to be cost saving and acceptable to the society which is still relatively liberal regarding the preservation of environment and mistreatment of domestic animals. According to the general public opinion, 'good' (economically efficient and competitive) farmers are those who apply the newest technology and produce cheap and healthy food, and are therefore successful from the economic standpoint solely. As such, European agriculture could be considered as highly developed, competitive and market oriented. The European Union (EU) member states are also required to apply agro-environmental measures through their territories in order to diminish the negative pressures of farming on the environment and quality of life in urban areas. This would in particular apply to water quality, soil, biodiversity and, to a lesser extent, to a general well-being of animals bred.

A control of certain sprang up externalities should be set up and coordinated by governments if individual entrepreneurs fail to do so. This could most effectively be accomplished through establishing an appropriate institutional framework (e.g., stringent tax policy regime) which would evaluate the environment and quality of life in urban areas as 'a good to the society'. In this light, the European Commission has already made a decade ago substantial steps forward in trying to restore consumer confidence in explicitly pointing at that 'if it is to be viable, agriculture should be sustainable economically, environmentally and socially, and its production methods should reflect the concerns of consumers. Policy makers must put food safety, quality and diversity on the agenda' (European Commission 2001). All these facts just add to the importance of ethics and its bearing on modern and profitable agriculture, and some small efforts exerted occasionally on the part of farm policy makers to reconcile profit-oriented agriculture with prevailing ethical principles. This new approach should not be regarded as 'a mission impossible' but would undeniably require a moral conscience being present within each person in each society.

ETHICAL RESPONSIBILITIES OF DEVELOPED COUNTRIES

Western countries have always been considered as examples or models for the developing part of the world. During the first 60 years of the 20th century, the majority of the most influential creators of agricultural policies in so called third world countries had been educated in developed countries such as Europe, North America, Australia and New Zealand. The knowledge and experience of the developed world began to spread around the globe. In poorer countries, there were essentially two agricultural production systems: (a) in large farms, usually owned by expatriated companies or state, which usually followed the newest scientific and technological discoveries (new cultivation methods, new equipment, new cultivars and new breeds of animals), and (b) in small traditional family subsistence farms based on traditional production methods and manual labour. Now, at the beginning of the 21st century, the situation is still very similar. In developing countries, especially in some parts of Asia and Africa, the majority of farmers is poor, illiterate and continue using traditional and/or inefficient equipment and technology. People responsible for the development of agriculture, many of whom have been highly educated in the West, are often frustrated on their return home and frequently leave the agricultural sector for better paid jobs with less responsibility such as politics or private business. Local farmers cannot compete with fully mechanized agricultural companies, or with subsidized farmers from developed countries.

Another problem of developing countries is the gradual reduction of farming areas due to climatic changes, soil degradation, urbanism, construction of railways and roads, uncontrolled expansion of pastures and cultivation of plants for other purposes such as biofuel, biogas, etc. Production of plants used in the biofuel industry requires large areas which can be easily cultivated by heavy machinery. These areas are frequently hired and gradually owned by rich private companies. One of these consequences is expensive food. Local people, even in remote areas, cannot live without money. They need it for clothing, medicaments, school fees, transport, etc. Frequently the only solution is to work as casual labourers with very low wages and very limited rights, frequently with no health insurance. Thompson (2008) and Gomiero et al. (2010) examined the ethics of biofuels which have been advocated as a promising source of cheap and sustainable energy and pointed out there is conflict between biofuels production and global food security particularly in developing countries and warned that large scale conversion of crops, grassland to cellulosic ethanol production or plantations of palm oil or sugar cane may have detrimental social and ecological consequences.

Intensive livestock production/farming in both developed and developing countries will increase both environmental concerns and ethical solutions (Ilea 2009). Production is estimated to double by 2050 increasing environmental pollution and glasshouse gas emissions. About 56 billion land animals are reared and killed worldwide every year for human consumption and 70% agricultural land is used for livestock production, mainly in Europe and North

America, Asia and Latin America leading to large emissions of methane.

The development programs frequently neglect traditional or indigenous knowledge which was acquired through long-term observations of natural phenomena and practical experience with nature, and was transferred from generation to generation. As this knowledge has been developing and accumulating through centuries, it is highly valuable for modern science and practice (Singh et al. 2008, Sileshi et al. 2009, Martin et al. 2010).

Developed countries are ethically highly responsible for the difficult situation in developing countries. Their moral responsibility involves: promotion of peace, freedom, democracy and equality across the world, care for the environment (the pollution is closely associated with public health and climatic changes), care for the preservation of biotic diversity, care for the preservation of local (indigenous) knowledge, prevention of disease, pest and weed spread (e.g., through control of seed exports and imports), subsidization of agriculture in developed countries (subsidization of rich farmers and land owners is contradicting basic ethical principles - agriculture based on manual work cannot compete with subsidized and fully mechanized agriculture), scientific research policy (e.g., research supporting biofuel production should not be a priority until there is hunger in the world), education (investment in agricultural education in developing countries), banking and investments (e.g., in food processing industry in developing countries), health care (eradication of malaria), etc.

The basic principle of humanity reminds us to protect those who are weak. Rich countries should share their wealth with those which are poor. Humanitarian actions are highly appreciated but they do not solve the problems in a long run. Certain schemes for increasing food production in chronically poor parts of the world have failed to relieve hunger for those that live there. Critics argue, however, that the world has never lacked enough food but rather the moral will to distribute it equitably (Burkhardt et al. 2005). Here we come back to the same fundamental ethical principle mentioned earlier: Life is valuable in itself. It has to be protected. Increase of productivity and profit should not be the main goals of the human activity. Increased productivity is a primary goal not for ethical reasons, but because of its relationship to profit, and profit is not itself a moral goal. Making money is a *practical* goal, although money or profit can be obtained ethically or unethically and can be used to serve either ethical or unethical goals (Cuomo 2003). Regarding the protection of environment and biotic diversity the developed world cannot be considered as a good example to other countries. It is very similar regarding the treatment of animals. For millennia, the Western intellectual tradition gave little moral consideration to animal welfare. It saw animals largely as means to human ends (Pascalev 2006). During the last three decades, however, there have been some positive movements and the treatment of animals now tends to be more humane. Ethical issues in animal production arise only in context of resource use or environmental pollution.

CONCLUSION

The main purpose of agriculture is (and should be) to produce food. The increasing global human population, however, requires more efficient and stable agricultural production. The rising conflict between modern and profitable agriculture on the one hand, and ethical responsibility on the other, could be rooted in the expansion of pure economic logics in farming (highest possible profits sought), as agriculture is one of the biggest polluters of the environment and threat to the biotic harmony and diversity, reflecting general human indifference and in many cases even disrespect for living beings. How can we protect nature if we take into account only the 'resources' it provides? (Larrere and Larrere 2007). Is it feasible to have highly profitable agricultural production and at the same time preserve the environment, biotic diversity, general well-being of animals reared and consequently maintain high quality health standards of the population living in both rural and urban areas? For the sake of a wide-range of different reasons, a policy dilemma needs to be addressed and resolved soon enough in any civilized society.

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