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The Role of Food Marketing in Sustainable Agriculture (case study of Hungary)

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Abstract

The role of food marketing, which is an integral part of sustainable agriculture is constantly growing globally to further promote its use, we need the contribution of all essential elements, namely social, economic and environmental, starting from the level of small farms and reaching big production conglomerates. We also need to focus on principles and steps required to make the food marketing successful with the optimal use of natural resources, avoiding their exhaustion.

We need to study and understand know-how, best practices, consumer behaviour and expectations, consumer, nutritional needs taking into consideration the rapid evolution of the world we live in. We should also pay due attention to the environmental protection. And, of course, we should not forget making profit – “how a farmer can make profit using successful food marketing (in addition to all other sustainable agriculture techniques)”. We need to understand how a farmer can be proactive in marketing, what he or she should produce depending on the consumer demand and how a farmer can produce and market optimally without exhaustion of natural resources. In the search of optimal steps of growing, producing and marketing, it is essential for the farmers at every level to reach the right combination of all essential elements paying due attention to the principles of sustainable agriculture. This will eventually provide agricultural production a sustainable character and will ensure better return on investments. Data for this study have been collected from statistical bulletins, books and scientific articles.

Keywords:

Sustainable agriculture, food marketing, environment.

Introduction

The agricultural sector is one of the fields of concern to any country in the pursuit of self-sufficiency and food security as well as sustainable agriculture.

Significant developments in the agricultural sector have been taking place after the Second World War in terms of expansion of agricultural areas, development of irrigation technology and mechanization of agri-production, which have led to the improvement of economic returns in quantity and quality. The process of agricultural

production and the process of marketing are complementary and lead to transformation of a farm from a biological to an economic unit.

Nowadays, most of developed countries are trying to bring agriculture to the next level, i.e. to make it more environmentally friendly and providing opportunities for the current and future generations. To make it producing agricultural products using newagri-techniques that protect the environment, public health, human communities, and animal welfare. That is called Sustainable Agriculture, which is an integral part of Sustainable Development.(B.Mishra,2005)

The sustainable agriculture can be achieved by improving land resources use and their management. In many research focused on the use of pesticides and fertilizers applied in Hungary. They also focused on water quality, air quality and implementing sustainable practices.

Hungary is a part of the European Union so the indicators of sustainable agriculture were presented in three separate dimensions (FeketeFarkasetet al., 2007; Valkó and FeketeFarkas, 2008):

1. Environmental dimension which includes: final energy consumption of agriculture, emission of greenhouse gases in agriculture, emission of ammonia in agriculture, emission of sulphur oxides in agriculture, emission of nitrogen oxides in agriculture, emission of non-methane in agriculture, emission of non-methane volatile organic compounds in agriculture, emission of nitrous oxides in agriculture, use of inorganic nitrogen fertilizers ,use of inorganic phosphorus fertilizers, nitrogen balance per hectare, phosphorus balance per hectare, use of manure per hectare, sales of pesticides, irrigated area, water use of agriculture, biomass production of agriculture, ratio of low input farms, share of mixed crops – livestock farms, share of utilised area in agriculture, share of arable land, livestock density, grazing rate, bird index of farmland species and share of organic farming.

2.Economic dimension which includes: intermediate consumption in agriculture, gross value added, gross fixed capital formation, export of agricultural products, foreign trade balance of agricultural products, agricultural income, crop output /animal output, factor income, output of non agriculture activities, number of holdings with other profitable activities, research and development in agriculture , subsidies in percentage of entrepreneurial income, GDP of rural territories.

3.Social dimension which includes: share of farm managers with full agriculture training, share of standard output farm managers, share of standard output of female farm managers, labour force in agriculture, share of graduates in agriculture and veterinary, rate of unemployment in thinly populated areas.

Marketing is a social and administrative process through which individuals and groups get what they need and want by creating an exchange of products, services and value with others. The goal of marketing is to make the sale redundant. The other goal is to know and understand the client well that the product, service or product fits ... and sells itself. This does not mean that advertising and selling is not important. Instead, it means they are a big part of the marketing mix - a set of marketing tools that work together to make an impact on the market. We can define marketing as follows:

Satisfied and managerial through which individuals and groups get what they need and want by creating and sharing products and value with others To explain this definition, we should study the following important terms: requirements, demands products; value and satisfaction; Linkages and markets(P. Kotler et al 1999).

As defined by (OTA Food Group, 1978),,Food marketing is defined as the activities that take place within the food system between the farm gate and the consumer. This includes processing, wholesaling, retailing, food service, and transportation functions and excludes all functions performed by producers on the farm. The marketing components of the total food system are identified separately.

Obstacles to sustainable agricultural development

Firist :Natural factors

- 1– Earth
- 2– water
- 3– Air and climate
- 4– Genetic resource
- 5– Non-renewable energy

Second : Factors determining the optimal use of resources

- 1– Pests and diseases
- 2– modern techniques
- 3– Population pressure
- 4– Economic, social and political conditions

The goal of sustainable agriculture

Sustainable agriculture ensures increased profitability, improved life and quality of food. There is an increasing intention to change sustainable agriculture where agricultural practices are coordinated with the natural resources and special characteristics of ecosystems. Many practices, as alternatives to industrial agriculture, were consistent with sustainable agriculture. For example, large-scale agriculture, low input, alternative, regeneration, mass, biodynamic, biointensive or organic farming. Each of them, representing thousands of farms around the world, has contributed to our understanding of sustainable farming systems, each with a vision of "agriculture with nature". In an effort to sustain, these agricultural practices minimize the amount of pesticide residues on products, particularly pest control practices and renewable resources. Diversification, green manure, crop rotation, lid cover, is the key to building soil. Low-income agriculture refers to the use of less inputs from the farm, while broad farming combines practices such as crop rotation and green manure crops, and grass

management with the exact use of current technology. There is no single solution; farmers are required to continue farming to ensure sustainability that suits local conditions and is profitable between the ever-changing structure of the economy (I.Feher,2013)

Organic Agriculture

The date of the organic farming sector in Hungary is important and has impact over the history of agriculture in Hungary. The foundations were laid during some of the most structurally traumatic times in the largest agricultural sector in Hungary, and their presence today, albeit marginally within the national agricultural domain, is evidence of farmers who have retained right to their ecologically saved species to distinction between “institutionalized” certified organic producers and “informal” ecologically conscious producers.

The movement of contemporary organic agriculture in Hungary distinguishes between certified organic producers and producers of "informal" ecology. Both groups, which have a greater impact on small producers, play a key role in the development of local food networks that drive domestic consumption of organic products and serve as a lifeline for small organic producers. Organic farmers are the backbone of most local food initiatives, often playing a multifaceted role as a supplier, defender, manager, and facilitator (Balázs, 2012).

organic agriculture

Organic agriculture is a comprehensive production management system that promotes and promotes ecological integrity, including biodiversity, biological cycles and soil biological activity. It focuses on the use of management methods as an alternative to the use of non-agricultural inputs, taking into account regional conditions requiring systems adapted to local conditions. This is done through the use, wherever possible, of agricultural, biological and mechanical methods, rather than synthetic materials, to carry out any task within the system "(FAO / WHO Codex Alimentations Commission 1999).

Hungary is one of the countries in Central-Eastern Europe that became member of the European Union in 2004. The country has a population of about 10 million people, and the agricultural sector is important. About 65 % of the land area is suitable for agriculture, and out of this, 3/4 is arable land. Hungary offers good conditions for organic production. Organic farming in Hungary first started in the 1980s. By 1988 there were just 15 organic farms. This figure rose to 108 by 1995, 471 by 2000 and reached its peak in 2009 when there were 1660 certified organic units. The area under organic cultivation grew from 1,000 hectares in 1988 to 128,690 in 2004 and 140,292 in 2009. Since 2009 the number of operators and the total cultivated area have decreased, dropping back to the 2005 level.

The organic market – wholesale and retail structure Today :organic products in Hungary have just a small market share. About 85% of total production is exported. Most of it leaves the country as raw materials or as low added-value produce. Most of the produce

goes to the EU, principally Germany, Austria, the Netherlands and, outside of the EU, to Switzerland. At the same time, the majority of the (modest) organic assortments in Hungarian food stores are processed imports. Some estimates suggest that 90% of domestic organic consumption is made up of imports.

Objective of organic

The main objective of organic agriculture is:

- produce food in a manner that does not harm the environment by avoiding agricultural chemicals such as fertilizers, pesticides, hormones, veterinary drugs, preservatives and other processed materials.
- Organic agriculture also avoids some modern applications of genetic engineering, such as genetically modified products.

Factors to promote organic farming:

- 1- Increase consumer interest in safe food, increasing demand.
- 2- The higher material return of organic products on traditional products, encouraging producers to expand organic production.
- 3- Eliminate factors that negatively affect the environment, thus preserving the environment.
- 4- Increase the share of domestic and international markets of organic products.
- 5- Increase the number of inspection and certification offices to monitor production, processing and marketing processes.
- 6- Issuing organic standards for organic agriculture according to the nature of each country in accordance with the international organic farming laws.
- 7- Increase the confidence of foreign and domestic consumers in organic production through the presence of a government entity that follows the production process and gives a sign that it is an organic product.

Marketing Hungarian organic and local products

The production of organic food has far less burden on the environment than that of conventional food; of The most important indicators are:

- 1- To consuming healthy, chemicals-free products improve the health condition of the population., so it is essential that awareness is raised in the consumer society emphasizing the responsibility in the choice
- 2- To prevent abuse it is essential - to sanction misleading 'bio, organic product' labels, - to give precise information to shoppers at markets
- 3- Confirm that what conditions have to be fulfilled to have the right of using 'organic' label, - to control imported organic products more strictly - to make

note of using GMO on the label of the product even if it is at the level of animal forage.

- 4– The distribution of local and organic products can be improved by measures which help the producer and the buyer to find each other and shorten the chains of commerce, and so they increase food safety.
- 5– The farmers agreed that Hungary should remain GMO-free in the future.

Hungary market trajectory

The roots of the organic agricultural sector in Hungary sprouted in the early 1980s and began with a loosely associated club of ecologically conscious, small scale gardeners, environmentalists, and natural medicine advocates who shared interest in chemical free agriculture and family health As shown in the figure below: (Willer et. al 2013)

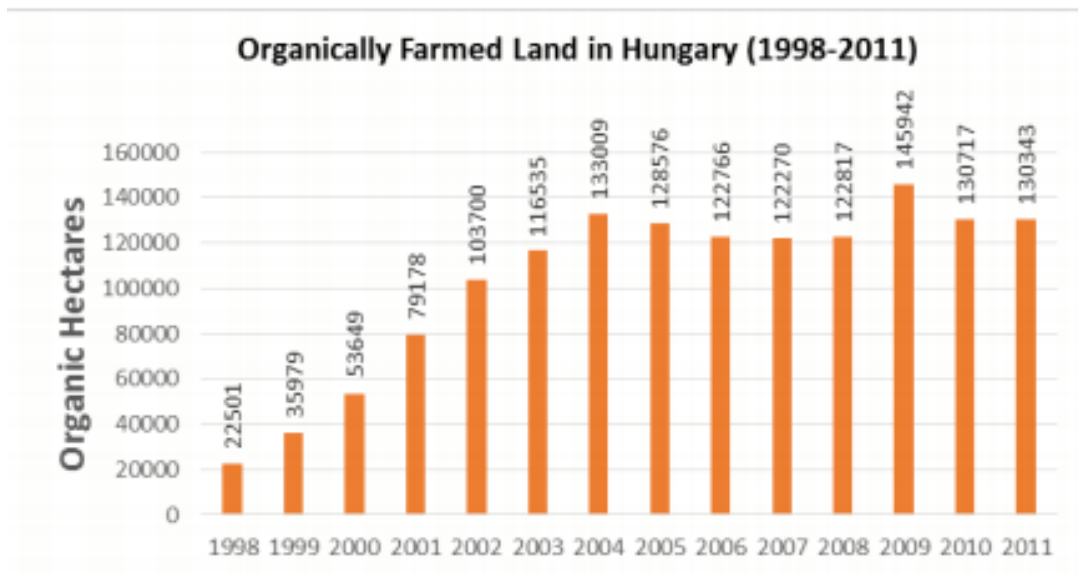


Fig1 Organically farmed Land in Hungary (1998-2011)

Source: (Willer et. al 2013)

Organically Farmed Land in Hungary

The land area of Hungary is used for organic farming compared to the world level

Land Area Under Organic Management					
Country	Hectares	Country	Hectares	Country	Hectares
Australia	10,500,000	Ukraine	164,449	Netherlands	38,000
Argentina	3,192,000	Finland	147,943	Greece	31,118
Italy	1,230,000	Mexico	143,154	Ireland	30,070
USA	950,000	Uganda	122,000	Colombia	30,000
UK	679,631	Hungary	105,000	Norway	26,673
Uruguay	678,481	Switzerland	102,999	Belgium	22,410
Germany	632,165	Peru	84,908	Estland	20,141
Spain	485,079	Portugal	70,857	Latvia	20,000
Canada	430,600	New Zealand	63,438	Bolivia	19,634
France	419,750	Paraguay	61,566	Romania	18,690

Figure 2: Land area under organic Management

Source : (Solti 2012)

organic agriculture in Hungary was birthed by pioneer enthusiasts in the 1980s, supported by the positive outlook of prospecting growers during its decade long growth period from 1995-2005, and has been kept alive by the dedicated during the stagnation which has persisted The following table shows the land area allocated to the organic (Solti 2012)

Organically farmed land in Carpathian Basin Countries: 2004-2011										
Country	Year and organically farmed hectares								Changes 2004-2011	
	2004	2005	2006	2007	2008	2009	2010	2011	hectares gained	% increase
Serbia	542	n/a	740	830	4494	8661	8661	8635	8093	1493.2
Croatia	2853	3124	6145	7561	10010	14194	23352	n/a	20499	718.5
Slovakia	53801	90296	120417	117906	140755	145490	174471	166700	112899	209.8
Romania	73800	92770	107578	131401	140132	168288	182706	229946	156146	211.6
Austria	344916	479216	477472	481636	491825	518757	543605	536877	191961	55.7
Slovenia	23032	23499	26831	29322	29838	29388	30696	32149	9117	39.6
Ukraine	240000	241980	242034	249872	269984	270193	270226	270320	30320	12.6
Hungary	133009	128576	122766	122270	122817	145942	132626	130343	-2666	-2.0

Figure 3: Organically farmed land in Carpathian Basin Countries :2004-2011

Source: (Solti 2012)

There are many reasons about the inability of the Hungarian government to produce and commercialize organic agriculture in European countries the most important which are(Strenchock. 2012)

- 1– Continuing marginalization of Hungarian organically produced fresh and processed products within the EU market.
- 2– Reliance on exporting for sales, vulnerability and inherent weakness within the raw-commodity, low value added export market
- 3– Lack of capability of the domestic organic processing industry
- 4– Saturation of foreign organic imports in the most popular domestic food retail

- chains, low recognition of Hungarian organics in the domestic market
- 5– Difficulty in meeting the price, supply regularity, volume and aesthetic standards to access retail space in conventional chains
 - 6– Lack of consumer understanding of the difference between organic and conventional products
 - 7– Weak representation in the political sphere, ineffective policy interventions
 - 8– Disproportionate reliance on direct sales markets and demand in urban locations
for sales

Why sustainable agriculture with Organic Agriculture:

1. Organic agriculture preserves the environment and reduces water pollution with chemicals and pesticides.
2. Limit the use of non-renewable energy sources and manufactured materials, thereby reducing global warming and absorbing soil carbon.
3. Make the soil a living medium where animals and useful organisms grow.
4. Contribute to the enrichment of wildlife and increase the number of natural enemies and predators useful
5. Enhancing the soil texture and soil structure by following crop cycles, increasing organic matter and stimulating breeding of animals, plants and soil microorganisms.
6. Providing healthy food free of antibiotics, chemicals and pesticides.
7. Reduce risks to farmers caused by the use of toxic substances.
8. Develop the countryside and make it harmonious with nature and better assimilation of the labor force.

Basic standards for organic agriculture

are presented below

1. to produce food of high nutritional quality in sufficient quantities
2. to interact in a constructive and life-enhancing way with natural systems and cycles
3. to encourage and enhance biological cycles within the farming system, involving microorganisms, soil flora and fauna and plants and animals
4. to maintain and increase long term fertility of soils
5. to promote the healthy use and proper care of water, water resources and all life therein
6. to help in the conservation of soil and water

7. to use, as far as possible, renewable resources in locally organized agricultural systems
8. to work, as far as possible, within a closed system with regard to organic matter nutrient elements to work, as far as possible, with materials and substances which can be reused or recycled, either on the farm or elsewhere.
9. to give all livestock conditions of life which allow them to perform the basic aspects of their innate behaviour
10. to minimize all forms of pollution that may result from agricultural practise
11. to maintain the genetic diversity of the agricultural system and its surroundings, including the protection of plant (IFOAM, 1996)

Benefits of organic agriculture

it is clear then that the practice of organic agriculture, rather than confining itself to technical issues of agronomy, livestock management and the farm business, is intended to deliver much wider benefits to:

- a. the agricultural system
- b. the environment
- c. society
- d. the economy
- e. institutions

In the table below, the benefits of organic agriculture at the agricultural, environmental and fisheries levels and at the level of international organizations and institutions will be clarified:

Parameter	Potential benefits
Agriculture	Increased diversity, long term soil fertility, high food quality, reduced pest/disease, self-reliant production system, stable production
Environment	Reduced pollution, reduced dependence on non-renewable resources, negligible soil erosion, wildlife protection, resilient agroecosystem, compatibility of production with environment
Social conditions	Improved health, better education, stronger community, reduced rural migration, gender equality, increased employment, good quality work
Economic conditions	Stronger local economy, self-reliant economy, income security, increased returns, reduced cash investment, low risk
Organizational/ institutional	Cohesiveness, stability, democratic organizations, enhanced capacity

Figure 4: The benefit of the organic Agriculture

Source : (IFOAM, 1996):

Environmental concerns

1. soil erosion low productivity, salinity, water holding capacity,
2. sediment damage reservoir siltation, increased navigation channel siltation,
3. floods, increase costs of road maintenance, habitat degradation
4. over irrigation depletion of groundwater, water logging, salinisation
5. agrochemical damage worker health, water contamination, weed choking, cost of mending damage
6. soil compaction soil productivity
7. deforestation soil erosion etc., crop damage from high wind, loss of genetic diversity
8. wetlands drainage decreased water purification service, genetic diversity loss
9. air pollution odour, smoke, worker safety

Every farm needs a marketing plan of some kind. Marketing can take many forms, ranging from passive marketing in the commodity chain to marketing a retail product directly to consumers.

The marketing method you choose will have a profound impact on the price of your product. Doing some market research is essential to understanding your market, Competition, consumer trends, display potential sales volume and prices. Direct markets such as organic markets free from genetically modified organisms and other "green" markets are generating greater returns but require further marketing by the producer. Direct marketing is not for everyone (ATTRA.2003).

Conclusion

As people become more aware of the diversity of their choices of food products in light of the commitment of some countries, institutions and foundations of sustainable agricultural development and its importance in the environment, social and economic to finally reflect healthily on agricultural products and marketing the best agricultural and food production.

So Organic agriculture may seem economically expensive today, but it is certain that unlike conventional agriculture, it has not received its share of studies and research that are appropriate to its nutritional and health importance. It helps to develop and spread among farmers and contributes to the marketing of its products to consumers. The

decision to switch to the organic farming system needs to be seriously thought by many farmers and agricultural companies to apply it in an appropriate manner that ensures the benefits and avoids negatives

Recommendations

This study calls for a reconsideration of the agricultural methods used by many farmers in Hungary and in the world, who spend large amounts annually to fertilize the land and control the pests and grass - in an unregulated way - and to increase the quantities of production, while this leads to depletion of time And the spread of pests and grass in numbers that may be difficult to control as well as the use of non-optimal chemicals of various kinds of direct and indirect damage to the environment in general and on the human, food, soil and water resources in particular.

The existence of sustainable agriculture related to economic sustainability of farmer's markets and the farmer's markets still have main concern and many challenges about their process :

1. Ensure simultaneous presence of the main four components of farmers, markets critical number of verifiable producers, critical diversity of quality products purchasing power of the significant customers and the reliable producers.
2. The willingness of all component above to work transparently.
3. Reactive or operate the farmer's markets to make it as economic viable enterprise, further to external of regular financing and voluntary work.
4. Increase of organized farmer's markets to challenge the pricing, ensure of production volume, high competition, cost incurred, limited opportunity for produces, increase or develop their production .7
5. Link between high quality raw food products and small producers
6. Products are selected based on quality and social and environment criteria
7. Directing farmers to produce what the need in term of environmental norms and standard by increasing farmers contact with agricultural extension centers

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