Review article

Economics of Agriculture 2/2012
UDC: 631.147(497.5)

HOW TO MAKE AGRICULTURE PRODUCTION IN PROTECTIVE AREAS PROFITABLE? - PROJECT IDEA ON THE EXAMPLE OF REPUBLIC OF CROATIA -

Tea Golja[1], Sanja Dolenc[2], Vladimir Marinkovic[3]

Summary

Agriculture has a significant impact on many economic activities. Its development is very important for every economy. Modern lifestyles as well as the increasing recognition of the value of sustainable development had influenced organic farming which importance has risen on the market as a significant and sustainable in the long-run. The subject of this paper is farming in protected areas in the Republic of Croatia. The same is achieved by conducted empirical research on shopping centres in Istria (primary research) and specific systematization and analysis of data from secondary sources. This has also proven the fundamental hypothesis that in the long run the agricultural situation in the Republic of Croatia is unsustainable due to the fact that too small and fragmented farms with inadequate institutional structure cannot be competitive and survive on the market. The goal of the paper was achieved by presenting proposals and arguments to improve the conceptual design of the present state in Croatia through the OTN Company, with special emphasis on production in protected areas.

Key words: *agricultural production in protected areas, project management, Organic Trade Network, Republic of Croatia.*

JEL: *M11, M21, Q13, L22*

1 Golja Tea, Ph.D., University Jurja Dobrile, Department for economy and tourism „Dr Mijo Mirkovic", Preradoviceva Street 1/1, 52100 Pula, Republic of Croatia, E-mail: tgolja@efpu.hr

2 Sanja Dolenc, B.A., Fifth year student of graduate study in University Jurja Dobrile, Department for economy and tourism „Dr Mijo Mirkovic", Preradoviceva Street 1/1, 52100 Pula, Republic of Croatia.

3 Vladimir Marinkovic, Ph.D., Higher Education Institution for applied studies for Entrepreneurship, Belgrade, republic of Serbia, E-mail: vmarinkovic99@gmail.com

Introduction

Agriculture is very important for every country. It has significant influence on other economic activities, as on food-processing industry, economy, tourism, and etc. It is important because of the food population quality and quantity, and also because of the employment status of the population and foreign-trade balance. It makes part of the rural area, it is important for ecological balance, environmental protection and for keeping cultural and other traditional values. For those reasons countries are giving financial incentives to agricultural production. This is also something the European Union does. From its own beginnings, the Common agricultural policy (CAP) was one of the most important items in EU in the EU budget. In 1985 the share of agriculture in the EU budget was 72,8% (*Kandžija Andrijanić, Ljubić, 2002*). The EU gives around 55 billion Euros a year on the common agricultural policy, as the most significant policy or 40% of the EU budget (*EnterEurope, 2011*). Hill and others (1996) emphasize that European Union "paid" big attention in rural development directed toward agriculture through directing most of financial flows into that sector. But, nowadays reforms are being performed through regional and cohesion funds (*Bojnec, 2007*).

Economy of agriculture is not connected only with production issues but also with equal fortune distribution issues among various society levels, with special accent on payment composition effects, land, credit, marketing methods, comparative workers life standards in the country and in the city. It is also connected with relative chances of income accumulation of various population levels and relative welfare of farmers. It is connected with farmers' issues in a manner of choosing what and how to produce, what to sell and how to sell in order to insure the highest net farmers' profit, and in the best interests of the community (*Taylor and Taylor, 1952*). Growth and agricultural development assume investments and technology. Combining them it is possible to accomplish high productivity. For example, in the last 20 years growth of state investment into agriculture in east and south Asia gave fast agriculture growth and advancement in achieving Millennium Development Goals (*Bage, 2006*). Regardless of the point that in the past century the world moved away from any type of investments into agriculture, because of the low returns, which are result of technology advancement and integrated markets, those notions were abandoned in the very beginning of this century. Especially the significant contribution is the World Bank Report 2008 where is stated that growth in agricultural sector proportionally contributes to poverty reduction more than the growth in any other sector.

Because of the changes in behaviour and the point that increasing importance was being placed on the recognition of high quality values, healthy and ecologically grown foods, organic agriculture becomes highly valued. In the recent years, the interest for **organic agriculture** in the EU countries significantly grew, as organic food become part of everyday food. Organic production is based on biologic control and destroying pests. Use of insecticides is forbidden since apart from damaging the environment, they negatively influence the useful organisms (parasites and pest predators, bees, earthworms, and etc.). It also makes and resistance on insecticides pollutes ground and water (*Jošt, 2000*). „*Every year hundreds of thousands of people die because of random poisoning by agricultural chemicals*“ *says Roy C. Alimoane,* manager Mindanao Baptist Life Centre (MBRLC) Foundation, Inc. (*Henrylito, 2009*). Organic agriculture supports the rules of sustainable development, which makes the base of today's economy. Agriculture must be based on economic justification, sociable justice and environmental sustainability (*Pinto and Guedes, 2006*). Regarding the Republic of Croatia and its recognition of the values of organic agriculture, it can be said that this process is still slow, behind the Europe and the world, but it can be seen the easy growth of demand toward the products. For sure, the reasons for this should be looked for as on the offer side so as on the demand side since the prices of organic food are still very high. Therefore they are not in the same level with the current possibilities of Croatian consumers.

The subject of this paper is agricultural production in protective areas in Republic of Croatia. **The purpose** is to give a picture of agricultural sector state in Republic of Croatia, and **the aim** is to present and give arguments for the idea of improving nowadays state in Croatian agriculture with special accent on production in protected areas.

It begins from **fundamental hypothesis** that in the Republic of Croatia *state in agriculture is unsustainable because of the fact that too small and parted agricultural economies, with inappropriate institutional organization cannot become competitive, fight and stay on the market.*

Therefore, **authors suggest** quality project management that assumes company establishment for providing service for promotion and distribution of products from greenhouse production. Also, they should follow the realisation of defined project aligned with the basic rules of quality project management.

Agricultural production in Republic of Croatia

Agriculture responds to ISICs (International Standard Industrial Classification[4]) divisions 1-5 and includes forestry, hunting, fishing as and crops cultivation and cattle production. Before providing the retrospective of situation in Croatian agriculture, authors provide a short review on agricultural grounds state and rural population in the World.

According to the World Bank data, the share of agricultural area in total earth surface in 2008 was 37,7%. Agricultural soil refers on the soil part that is arable under permanent crops, and also under permanent pastures. Middle East and North Africa, followed by Europe and Central Asia, with respect to other areas in the world have the smallest share of agricultural areas in total surfaces, less than 30%. Even 54,6% of total surface

4 International Standard Industrial Classification is composition of economy datas classification of United nations available on>http>//unstats.un.org/unsd/cr/registry/regcst.asp?cl=2

in South Asia goes to agricultural soil. In 2006, there was 22% of agricultural land in the Republic of Croatia, in 2007 the share was even lower - 21,5%, while in 2008 the share went up to 23% of total agricultural soil (*World Bank Indicators, 2011*).

From one side the condition of agricultural lands can be considered, and from the other side it is necessary to see the share of rural population so that the picture could be fuller. Total share of rural population in total world population in year 2009 was 50%.

European area, country members of OECD and Latin America and Caribbean Islands have the smallest rural population with regard to other areas, while in the Sub-Sahara Africa 63% of population make part of rural population. Sub-Saharan Africa is also an area where the larger numbers of the poorest people live, besides South and East Asia and Pacific Islands. Regarding Republic of Croatia, in 2006, 2007 and 2008, the total rural population was 43% while in 2009 and 2010 the number claimed to 42% (*World bank, 2011*). In economically developed areas, rural population makes minority while from the other side in those undeveloped and less developed areas makes bigger share in total population.[5]

Croatia has favourable agro-climatic conditions that enable various agricultural productions. Because of the favourable and varied climatic conditions, relief and soil, on relatively narrow geographical ground, large number of agricultural cultures successfully grow. It has big potential for production of agricultural cultures from grains and industrial plants to grapes for wine and Mediterranean fruits and vegetables (Ministry of agriculture, fishing and rural development, 2009.). In Croatia, added value from agriculture was 5% of GDP in the year of 2006 and 2007. In 2008 the added value was 6%, while in year 2009 it reached 7% of BDP. Added value presents net output sector after adding all outputs and subtraction of intermediary outputs. It is calculated without refusal of the amount of made property depreciation or impoverished and degraded natural resources (World Bank national accounts data; OECD national Accounts data files). In year 2006, in Croatia 14,2% of total number of employees was employed in agriculture, while in 2007 that share was reduced to 12.8% (*World bank, 2011*). Arable ground includes soil defined by FAO as one under temporary crop (double crop areas can be counted just once), temporary lawn mowers or for grazing, vegetable gardens and temporary fallow land. Abandoned lands as result of breeding movement are off. In 2006, there was 15,7% of arable land, in the Republic of Croatia. In 2007 something lower -15.2% while in 2008, it was 15,4% of arable land (World bank, 2011.). The following chart shows Croatian import and export of agricultural and food products from 2000 to 2010.

5 Jelić, S., Jovanović, T. (2011): *Rural population and poverty*, Economics of Agriculture, Special issue, pp. 179, Institute of agricultural economics, Belgrade

Chart 1. Display of foreign-trade exchange of agricultural and food products by years

Year	Import mil. USD	Export mil. USD	Difference mil. USD
2000	687	406	-281
2001	845	470	-375
2002	1.000	558	-442
2003	1.256	768	-488
2004	1.455	740	-714
2005	1.616	920	-696
2006	1.848	1.190	-658
2008	2.150	1.313	-837
2008	2.625	1.399	-1.226
2009	2.239	1.360	-879
2010	2.168	1.355	-813
Index 2009/2008	85	97	72
Index 2010/2009	97	100	92

Source: Country Institute for Statistics of Republic of Croatia, 2011

It is visible that in the last 10 years the import of agricultural and food products was always larger than export, and the last 50 years were marked with fall trend of import and export of all agricultural products regarding total import/export (*Obadić, 2010*). The agricultural import-export ratio in 2006 was 65% while the same indicators for total economy were around 48%. Croatia is net food and processed fruits and vegetables importer, where even 70% of domestic consumption of processed vegetables and 27% of processed fruits are compensated with import (*Government of Croatia, 2008*).

Agricultural policy in the Republic of Croatia is implemented by National program for agriculture and rural areas that suggest that the agricultural production must satisfy total needs of domestic population (sc.AD) and accomplish export surpluses. With that, the production must be doubled and come to the level of cca. 4 billion USD by year (*Obadić, 2010*).

Ecological production grows very fast. Europe has an important role in this. Countries such as Italy, Spain, and Germany have more than 40% organic fields all together. In Croatia that kind of production is less present. According to GfK data from 2009, in Croatia there are some more than 700 domestic manufacturers with eco-certificate (on cca. ten thousand ha). Shopping centres in Croatia are foreign origin that mostly sells foreign, imported products (*Sertić et al. 2011*). Final entrance of Croatia in EU would contribute to larger share/role of foreign (agricultural) products in total offer. Authors, to confirm what kind of ratio between foreign and domestic products is, made a concrete research in the well known shopping centres that do business all over Croatia. The following ones are presented: Billa, Kaufland and Lidl as foreign multinational companies, then Puljanka, Konzum and Plodine as Croatian companies. The comparison is made. The results are presented in Chart 2.

Chart 2. The Countries of origin of chosen vegetables and fruits that are offered in shopping Centres in Croatia

Vegetables /fruits	Billa	Kaufland	Lidl	Konzum	Plodine	Puljanka
Bananas	Ecuador	Ecuador	Ecuador	Ecuador	Ecuador	-
Red onion	Netherland	Croatia	Netherland	Austria, Netherland	Austria, Netherland	Croatia
Garlic	China	China	China	china	China	Croatia
Grapes	South Africa	Argentina, Netherland	South Africa	South Africa	South Africa	-
Apples	Croatia	Croatia, Italy	Croatia, Italy	Croatia	Croatia, Slovenia	Croatia
Strawberry	Spain	Italy	Greece	Spain	Spain	-
Potato	Croatia	Egypt, Croatia	Egypt, Croatia	Croatia	Croatia, Netherland	Croatia
White cabbage	Croatia	Croatia	Croatia	Croatia	Italy	Croatia
Mandarin	Spain	-	-	-	-	-
Olives	Croatia	Greece, Croatia	Spain	Croatia	Croatia, Greece	Croatia
Carrots	Netherland	Croatia, Netherland	Bosnia and Herzegovina	Croatia, Netherland	Croatia	Croatia
Pepper	Morocco	Spain, Turkey	Netherland	Italy	Italy, Turkey	-
Tomatoes	Spain	Croatia, Turkey	Turkey	Turkey	Spain	Croatia
Cristal cabbage	Croatia	Croatia	Croatia	Croatia	Croatia	Croatia
Plums	South Africa	Greece, Croatia	USA	Croatia	Serbia	-

Source: author research

It can be clearly seen from the above table that only shopping centre Puljanka, with headquarters in Pula offers specified kinds of vegetables and fruits of Croatian origin. All others mostly offer imported products.

Consumption of fertilizers (100 grams by ha of arable area) is measure of plant food amount by unit of arable area. Fertilizers include nitrogen, potassium carbonate and phosphate fertilizer (including ground phosphate rock). Traditional nutrients – vegetable and animal fertilizers – are not included. In the Republic of Croatia, in 2006, the consumption was 293,1, in 2007 it was 314,1 whilst in 2008 it was 387,6 (*World bank, 2011*).

Agriculture in Croatia is in big problems. Productivity and even profitability in that sector is very low. That is the consequence of very low investments of own capital. Return deadline of invested capital is very long but farmers know very little about foreign investments. Technology is old and not sufficiently mechanized. Croatia is very often facing the migration of young people into urban areas what causes depopulation as well as the lack of education and professional improvement in rural areas. Not just educational, but the age structure of farmers is devastating. Production structure is bad – prevails corn production (*Tadić, 2010*), and market is unsolved. Production is done unprofessionally and with great environmental pollution where the basics of production – soil fertility is actually destroyed. Trade balance is getting worse and debt and insolvency are enlarged (*Tadić, 2010*). It is necessary to emphasize the stormy protests of Croatian farmers who asked for state incentive. While Ministry for agriculture, fishing and water management emphasizes that **incentives are given just to the farmers who did not *"made a mistake"* with nature, environment, animals welfare, vegetable health, people and stock during production** (*Znaor, 2009*). In the array of problems, two stand out as the biggest and they show that the current state is more than serious. Those are: (**1**) Parted agricultural farms and (**2**) Inappropriate institutional organization. In structure of agricultural farms small agricultural (family) farms are prevailing where 70% of agricultural production is done. Therefore, agricultural farms are too small and parted (partition is growing more with the inheritance issue). From totally 190 000 registered farms, 63% of them have less than 3 ha (*Croatian Agriculture Chamber, 2010*). Average property of agricultural home in Republic of Croatia is just 2,6 ha. Just something more than 1% of agricultural homes have property larger than 20 ha while agricultural factories, in average, have 168 ha of land.

For example, EU has an average farm size of 18 ha whilst the USA's average farm size is 180 ha. They are quite ahead from Republic of Croatia. (*Gelo, R.. and Gelo, T., 2007*).

Regarding Croatian agricultural policy, the most important is the reform of the agricultural policy due to Croatian inclusion into World Trade Organization by the end of year 2000 (reduction of custom protection for 50%). Till then Croatia was isolated from European and World market in agricultural spheres. Today, in the Republic of Croatia 4 models of agricultural support are used (*Gelo, R. and Gelo, T., 2007*): (**1**) *Model of production stimulation* – direct support directed on production in commercial farms, (**2**) *Model of income support* - it is not related with production but directed on smaller and elderly economy with the aim of ensuring an adequate level of income, (**3**) *Model of capital investments* - directed on commercial farms through co-financing investments in agricultural sector and (**4**) *Model of rural development* - preservation and development of rural areas, culture and traditional values of rural means. The lack of an appropriate institutional organisation which would be connecting farmers is evident, high part of mix (unspecialized) farms, small share in state budget regarding other countries (specially EU countries that extract from joint budget, while every country separately supports agricultural production with some kind of subventions) is evident (*Obadić, 2010*). Subventions level for agriculture gradually became reduced in developed countries, but it is still higher than in Croatia (1,2:0,9% BDP), (*Obadić, 2010*).

It is very difficult to accomplish agriculture products competitiveness. At the end this brings to very low prices. Looking at mentioned issues it is easy to conclude that Croatian agriculture sector is uncompetitive. Because of above mentioned issues it is necessary to make some steps so as to make the domestic manufacturers (mostly small agricultural farms that are the most important in agricultural products production) accept new technologies and in that manner secure bigger yield and bigger profitability of their own vegetable production. Through continuous education process it is necessary to give domestic manufacturers new knowledge regarding the most modern manufacturer technologies of vegetables (greenhouses production) so they could achieve competitiveness and capability to respond to requests of domestic and foreign market.[6] Beside that, considering that Republic of Croatia has big potentials for production in protected areas, the same thing should be supported. In the next chapter the accent is given exactly on production of agricultural cultures in protected areas.

Characteristics of agricultural products production in protected areas

Two basic types of protected areas where crops can be produced exist. These are: **1) greenhouses and 2) glasshouses.**

Greenhouse is special form of multiyear or permanent protected area which, by its own shape, size and equipment in total is adjusted for vegetable and flower breeding. It provides creation and very qualitative control of climatic, food and other conditions necessary to vegetable and flower culture cultivation. Greenhouses provide breeding and qualitative vegetable and flower harvest during all year. They provide a few times bigger yield regarding production on open. Thus, they represent the most intensive form of production (*Parađiković and Kraljičak, 2008*).

Glasshouse is protected area for whose covering composition is used glass. Glass misses the light and keeps warmth, but it is also and the most expensive investment. Special attention is dedicated to the place or better said construction site where the object would be built. For its building it is necessary to have building permit (*Parađiković and Kraljičak, 2008*).

The main reason why the greenhouses and glasshouses had to be used in greater amount is much bigger yield unlike when the production in open. Chart 3 shows difference between yields of some crops in traditional manner in comparison with yields in protected areas – specifically in the greenhouse. It is visible that the greater yield is in the greenhouse (almost 2-3 times bigger).

6 Djekić, S., Jovanović, S. (2010): *Regional aspects of consequences of world economic crisis in agricultural sector, Economics of* Agriculture, Institute of agricultural economics, Special issue, pp. 102, Belgrade

Chart 3. Difference in yields between production in open and production in greenhouse

Culture	Production in open	Greenhouse
Pepper	4kg/m2	10-12 kg/m2
Tomato	10 kg/m2	25-30 kg/m2
Green salad	1.5 kg/m2	4-5 kg/m2

Source: http://edasplast.com/cms/index.php?.yields-in-greenhouse-production
http://edaplast.com/cms/ondex.php?prinosi-u-plastenickoj–proizvodnji

Then, product quality is better because of the reduced biological cycle. Thus, fruits are more tasty, nicely shape, coloured and of good health condition. Because of the controlled conditions it is not necessary to use so much pesticides and herbicides and other chemicals. It means that it is much easier to accomplish organic production and it is much more useful for bigger production competitively. Production time is not limited on just few months in the year, but it is used during all year long. And also it is very important to use domestic resources: domestic work force, own land and beside all of that, the developing domestic production is developing.

According to economists and agronomists, Croatia has big potentials for vegetable production in protected areas, but because of all previously mentioned issues (mostly because of insufficient knowledge about new technologies and ways of financing, land fragmentation and etc.) Croatia is not using (*Parađiković and Kraljičak, 2008*) its potential. In the total structure of agricultural production, products production in protected areas account for just 3% (*Parađiković and Kraljičak, 2008*).

In 2010, the total agricultural area under greenhouses/glasshouses in the Republic of Croatia was 475,29ha (Agency for payments in agriculture, fishing and rural development, Register of agricultural holdings, 2011). It must be mentioned that in the context of greenhouse and glasshouse production it is very hard to be in touch with manufacturers of agricultural products in protected areas –a register of the named manufacturers does not exist. If there is any interest from third sides for marketing of those products, big problem is how to find them. Therefore, their profit cannot be determined. It means they are very difficult to deal with. Also, manufacturers are not connected, or better said, there are no associations of manufacturers from protected areas that would potentially insure better conditions for manufacturers' performance on the market. Agriculture in the world and in the Republic of Croatia is also faced with big problems that climate change is causing. This is one more reason that gives advantage for production in greenhouses and glasshouses over the production in the open.

In the chapter that follows, the suggestion of project idea with aim of empowerment of Croatian farmers in protected areas is provided.

Suggestions of production development in protected areas – organic trade network as project idea

Considering previously mentioned problems that are present in Croatian agriculture, apropos agricultural products production in protected areas, we ask a question how that complex problem could be solved. In the continuance authors explain their own suggestions and possibilities of roof company that should direct its business toward creating ties between present, mostly unsatisfied condition in production sphere under protected area and possible better and more qualitative business and production in protected areas.

Therefore, authors suggest formation of the company „Organic Trade Nestwok" (or OTN) that would offer services of promotion and distribution of products of greenhouse and glasshouse production. Company would be working as „roof institution" that would be connected with all manufacturers of organic products under protected areas. Company would put an accent on sustainable agriculture or agriculture as part of sustainable development. Therefore, ground and natural resources must be in the same or better condition for future generations than they were before. Sustainable agriculture use ecologically acceptable agro-technical measures. This is what would make the basis of the company. OTN would connect itself with manufacturers that produce exclusively organic products. Ecologic production (organic, biologic) is special composition of sustainable agriculture and forestry that include growing plants and animals, food production, raw materials and natural fibres and processing of primary products. Production implies all ecologically, economically and socially justified production and technological methods. It focuses on the best use of soil fertility and water availability, natural properties of plants, animals and landscape, then yield and resistance of plants with natural forces and laws and prescribed use of fertilizers, plant protection and animal by international adopted norms and principles (*Business forum, 2011*). It is also important to mention that trade with ecological food products is one of the fastest growing category in food sector. OTN would be connected with manufacturers which would maximally reduce use of chemical implantable fertilizers, pesticides and protection. There are many reasons why manufacturers of agricultural products in protective areas should perform on the market within the association. First of all it is the impossibility to make an individual and continual delivery of the asked product amount, breakdown of the cost of delivery, then creation of unique brand that would secure a certain image and recognition. **Company vision** would be to become leading distributer of organic agricultural products under protected areas in Croatia and the region, and the **mission** would be to collect and connect agricultural manufactures in protective areas that are doing with organic production exclusively as well as the improvement of their production promotion as their supply. The primary activity of the company would be service outsourcing for the manufacturers of organic agricultural products from greenhouse and glasshouse production. Manufacturers of organic agricultural products would give bigger part of their activities (that are better explained in details in company aims) to OTN. **OTN aims** would contribute to target realisation of agricultural policy that was defined by Croatian Agriculture Chamber as to the Action Plan for Development of ecological agriculture in Republic of Croatia for period from 2011-2016 brought by Ministry of agriculture, fishing and rural development (*Ministry of agriculture, fishing and rural development, 2011*). The following would be the OTN aims: (1) gathering of agricultural manufacturers that do organic production of agricultural products and hold them in protected areas, (2) Creating register of those manufacturers, (3) Permanent market research so it would be easier to determine demands for organic products. Based on that, it will be decided what would be produced and where (how much of something should be produced and are there some potentials for export for some of the cultures), (4) counselling and education of farmers regarding modern production technologies, about conditions on the market (firstly regarding demand for some specific agricultural products) – very important segment considering on insufficient farmers education, (5) Branding products considering on space of protected area by individual manufacturer, it is very difficult to create recognizable brand of one manufacturer, therefore the focus is on one brand for all manufacturers, (6) Product promotion, (7) Collecting financial means from foreign sources (for OTN and Croatian farmers that make products under protected areas), (8) Products placement (and solving the issue of stocks), (9) taking necessary activities for getting certificate of meeting standards on organic agricultural standards according to the provisions of the Law of ecology production for agriculture and food products (standard „good agricultural practice“ whose certificate understate quality, healthy safe product that is manufactured on sustainable manner), (10) reducing prices of organic agricultural products through enlargement of products amounts and accomplishment of advantages that the economy of scale offers, (11) Stirring sustainable agriculture and social responsibility.

Considering the size of the project accordingly big investments will be necessary. Bellow, the possible sources of financing are mentioned: (1) support program of Ministry of Economy – it is related with award of grants for small and medium enterprises (in April 2011 the max amount of mentioned means was 570 000 Kunas) (*Barkum, 2011*), (2) two part pricing- farmers would be paying a certain symbolic fix price to OTN for the inclusion into register of their production and for using OTN services that are in the same time the company aims, (3) application for mans from pre-accession funds of EU (apropos EU funds) – incentives for sustainable agriculture exceed the subsidies for conventional manufacture of agricultural products.

Then, it is necessary to know how to manage the brand. It is very important to develop a product brand. It is often experienced by protective name and/or with sign awarded to some product, factory, service, procedure, concept, etc. Brand is consisting from name and/or sign brand, and also other elements as the activities that manufacturers give to some product, service or idea to inform the market about their uniqueness or relation toward other competitive products (*Vranešević, 2007*). Considering that, there are very few manufacturers with brands in protected areas in relation to big manufacturers. Thus, it is not appropriate that each manufacturer to brand its own product. OTN suggest just one brand. Roof brand is brand that is used for marking various different products that are dedicated for different markets or targeted segments. The aim is to develop OTN products and make them recognizable to the consumers to put the OTN products in relation to competition, and to take a certain place according to other marks and values.

There are so many buyers and they can be diversified according to lots of segmentation criteria. Basic market classification understates market of commercial consumption and final consumption. Distribution flow can be seen on Display 1.

Display 1. Distribution flow

Manufacturers of organic agricultural products in protective areas

↓

ORGANIC TRADE NETWORK

↓

Market (B2B, B2C)

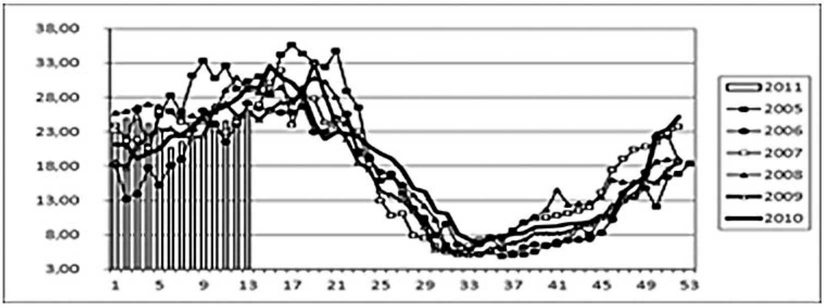
Source: done by authors

First, OTN should focus on the market for business demand (B2B). Basic question that is present here is:*" On which industries that buy this product we should focus on?"* Bearing in mind it is about market for business demand, it means that it is about smaller quantity of larger buyers that are more concentrated geographically (*Kolter, 2006*). Therefore, the products should be bought from OTN with intention to manufacture products and services (in this case ready meals in restaurants), or with intention to be resell with certain profit (shopping centres). Business buyers on which OTN is focused (restaurants, shopping centres) should be buying from OTN, not directly from manufacturer. It is necessary to see the competition too, but in this case, the direct competition does not exist in Croatia since the company as OTN was never established. First of all, OTN should be focused on big shopping centres that offer mostly foreign goods, followed b restaurants. OTN would look for the opportunity in hotel chains, then in other objects that would, especially during tourist season, offer Croatian products to foreign guests. Shopping centres concentration imposes the offer concentration as well. The destiny of many others, especially of small manufacturers, mostly depends of centres readiness to put their products on shelves of their points of sale.

In the beginning OTN products should be sold to shopping centres that offer retail prices in Croatia. Considering that shopping centres mostly offer lower quality and proportionally lower prices, OTN would be offering products of higher quality and prices, but the price difference would not be so high since the manufacturers offering is much larger. Therefore, all advantages of the economy of scale would be used and this will ultimately bring to reducing retail price product.

In shopping centres, availability of some cultures and their price largely depend on the seasonality of certain vegetables types. Graph in the continuance compares prices movement of peppers in retail sale (taken as picturesque example).

Display 2. Average retail prices by weeks in kn/kg for specified group of vegetables-peppers:



Source: Price trend: Fruits and vegetables, Market informative composition in agriculture, 2011, www.tisup.mps.hr

Restaurants, apropos hotels and cafés that would include in its menus meals made from organic products from OTN, would be representing very significant market since the products made in Croatia could be offered directly to guests through tourism. Hence, this is the aim of Croatian government – to enlarge consumption of domestic products.

Final consumers – if the shopping centres would be the target group, together with hotels and restaurants, it would be necessary to take care about final consumers since ultimately they will try OTN products. Besides that, OTN would form its own retail centres and in that manner distribute its own products. From healthy and nutritive reasons, because of the taste, the most often organic products are bought. On the basis of data from GfK-Centre for market research Ltd, it is concluded that momentary buyers of health and organic food are those with high or higher professional qualifications, even 64%, and their age group is from 25 to 44 years. According to the questionnaire/poll, there are just a few regular and often buyers of ecologically manufactured food (around 10%). The reason is the bigger price of those products (*GfK, 2009*). Croatian ecological products are even 100% more expensive since the offer is still too small in relation to demand, while in EU countries they are 30 to 50% more expensive (*Petković, 2010*). Therefore, the OTN could offer its products with much lower prices from other ecological products in Croatia.

When it is spoken about companies' development, first step would be connection with manufacturers. From many other ways to be in contact with manufacturers we suggest direct contact. Problems are very complex, the project is very demanding and therefore it is necessary to build trust into OTN. So the most appropriate communication is face to face. It would be possible to explain to manufacturers the ways how to solve their problems related with production and the connection between manufacturers and OTN would be shown. The accent would be on manufacturer's benefits. In the later phase, company should be established on the regional level (i.e. on Istria area with residence in Pula) which could be connected with local target market (shopping centres and hotels) and places their products. Further branches can be established in regional centres that can do the same job as the first branch. Through some longer time, establishing its own retail nets and then access to the foreign market could also be planned.

Company would connect more stakeholders – farmers, local community (employers, distributers), government and non-governmental groups (through giving support to the company), shopping centres, hotels and restaurants, then academy community (including into project educational agronomists and economists).

To place and promote products of local economists – manufacturers, Organic Trade Network would be connecting with manufacturers of organic agricultural products in protective areas. Use of local community can be seen in creating bigger possibilities for employment in the company – agronomists, economists, lawyers, etc. Shopping centres, hotels and restaurants offering domestic, organic agricultural products could benefit through differentiation from competition. Academic community should be included into the entire project in the way where the company employs young educational professionals (agronomists, economists). The financial support for the project could be expected from the government and non-government communities and their benefits would understate bigger consumption of domestic products and export reducing.

Conclusion

Republic of Croatia has 4.417 million of residents, on the total area of 56.538 km^2. Total BDP accomplished in year 2010 was 334.564 millions of Kunas (in current prices), apropos 45.917 millions of Euros (in current prices). BDP per capita was 10.396 Euros, and in year 2010 BDP fell on 1,2 % compared to 2009. Average rate of inflation in 2010 was 1,1%. Export of the goods and services in 2010 (as BDP in %) was 28,3% while the export was 38,4%. Foreign debt is 101,1% of BDP and public debt is 41,2% (*HNB, 2011*).

The growth in agricultural sector proportionally brings to reduction in poverty rate more than the growth in any other sector shows clearly the importance of investment into agriculture for one country (*According to World Bank report from 2008*). Republic of Croatia has considerable agro-climatic conditions that provide production of wide spectrum of agricultural products but being aware of the numerous problems, that potential stays unused. Hence, Croatia is a net importer of agricultural products. Sustainable agricultural manufacture and organic agricultural products define the future agricultural movement and that is something emphasized and supported by big international organisations and integrations. This is also something final consumers recognize as well.

The point of this paper was to show the conditions in the agricultural sector in Republic of Croatia. This is achieved through the empirical research done on the sample of shopping centres in Istria (primary research) and direct systematization and analyzing of data from secondary sources. This has proved the fundamental hypothesis authors started from assuming that agricultural *conditions in the Republic of Croatia are unsustainable in the long-run because of the fact that small and parted agricultural economies, with inappropriate institutional organisation, cannot become competitive, and cannot fight and survive on the market.*

The aim of this paper has been achieved through presentation and argumentation of the idea of the possible improvement of the current situation in Croatian agricultural sector through OTN Company. The special accent was put on production in protected areas.

All year long consumers do not have the availability of all types of vegetables and the prices of the same are mostly different regarding the season of some of the culture. Response on price volatility is not in punishing or blocking market, but in their better use, better said through continuing vegetable manufacturing during all year long that the production in protective areas (with multiply higher corps regarding the production in open spaces) provides. Based on the review of conditions in the agricultural sector in Republic of Croatia and on possibilities of production in protective areas, gave their recommendations and emphasized the importance of the recognition of this sector as well as difficulties that it is confronted with. At the beginning, authors make a difference between two basic problems – partition of agricultural economies and inexistence of appropriate institutional frame. Taking into account the above, they suggested the establishment of the company Organic Trade Network that would function as the roof institution that connects manufacturers in protective areas with the market and final users.

With vision explanation, mission and company aims, authors explained the manner of company's business. Finally, by accomplishing OTN aims, many problems could be solved. This would bring to a better productivity of agriculture in Croatia. Consequently, the sustainable agriculture that respects social, ecological and economical targets is the only possible way of the long-term agricultural production in the best interest of all stakeholders.

Literature

1. Bage, L. (2006): *Seeds of Hope*, Our Planet, UNEP special edition on Agriculture and Economic development, pp. 5
2. Barkun (2011): *Dealers of small and middle companies 570 thousand of kunas of grant funds*, taken 9th of March 2011 from: http://www.barkun.hr/2011/04/06/obrtnicima-te-malim-i-srednjim-poduzetnicima-570-tisuca-kuna-bespovratnih-sredstava/
3. Bojnec, Š. (2007): *Agriculture role in developed countries,* Collection of Healthy gathering works agriculture and regional development, Faculty of Economy of University in Zagreb, pp. 3-15
4. *Certfied Organic Associations of BC* (2003): taken 7th July 2011 from:
5. http://www.certifiedorganic.bc.ca/aboutorganic/survey.php
6. *State institute for statistics*, taken 4th September 2011 from: www.dzs.hr
7. *EnterEurope – Guide from informations regarding European Union*, taken 20th September 2011 from: http://www.entereurope.hr/cpage.aspx?page=clanci.aspx&pageID=13&clanakID=3740
8. Gelo, R., Gelo, T. (2007): *Croatian agriculture in context of including Croatia to European Union*, Collection of Healthy gathering works Agriculture and economy development, Faculty of Economy, University in Zagreb, pg.16
9. *GfK center for market research Ltd.*, taken 22nd of September 2011 from: http://www.gfk.hr/public_relations/press/press_articles/005107/index.hr.html
10. Henrylito, D. T. (2009): *Organic, Botanical Pesticides: Cheaper & Effective Pest Control*, taken 22nd June 2011 from: http://www.gaiadiscovery.com/agriculture-industry/organic-botanical-pesticides-cheaper-effective-pest-control.html
11. *Criatian agricultural chamber*, taken 7th of April 2011 from: http://www.komora.hr/?page=polj_proizv
12. *International Standard Industrial Classification*, taken 10th of September 2011 from: http://unstats.un.org/unsd/cr/registry/regcst.asp?cl=2
13. Djekić, S., Jovanović, S. (2010): *Regional aspects of consequences of world economic crisis in agricultural sector,* Economics of Agriculture, Institute of agricultural economics, Special issue, pp.102, Belgrade
14. Jelić, S., Jovanović, T. (2011): *Rural population and poverty*, Economics of Agriculture, Institute of agricultural economics, Belgrade, Special issue, pp. 179
15. Jošt, M. (2000): *Organic agriculture offers new possibilities*, taken 17th July 2011 from: http://marijanjost.wordpress.com/2011/01/31/jost-m-2000-organska-poljoprivreda-nudi-nove-mogucnosti-moja-zemlja-br/
16. Kandžija, V., Andrijanić, I., Ljubić, F. (2002): *Mutual agricultural EU policy,* taken 4th July, 2011 from: www.hrcak.srce.hr/file/44730

17. Kotler, P., Wong, V., Saundres, J., Armstrong, G. (2006): *Basics of marketing*, 4th European issue, Mate, Zagreb
18. *Ministry of agriculture, fishing and rural development* (2009): Croatian agriculture - apprrr, taken 6th April from: www.apprrr.hr/Download.ashx?FileID=28daa471-3ced-4d99-
19. Obadić, A. (2009): *Croatian agriculture potentials and rural development*, taken 10th April, 2011 from: http://web.efzg.hr/dok/MGR/ALKA/osnove%20gospodarstva%20hrvatske/9.%20Agrarni%20potencijali%20i%20ruralni%20razvoj.pdf
20. Parađiković, N., Kraljičak, Ž. (2008): *Protected areas – greenhouses and glasshouses*, taken 30th March 2011 from: http://www.obz.hr/hr/pdf/poljoprivredni_info_pult/2010/Za%C5%A1ti%C4%87eni%20prostori-plastenici%20i%20staklenici.pdf
21. Petković, M. (2010): *Expensive domestic eco-products, taken* 20th September 2011 from: http://www.agroklub.com/poljoprivredne-vijesti/skupi-domaci-ekoproizvodi/3784/
22. Pinto, Guedes, L. G. (2006): *Pillars of Wisdom*, Our Planet, UNEP special edition on Agriculture and Economic development, pp. 6
23. Poslovni forum (2011): *Ecologic agriculture,* taken 10th September 2011 from: http://www.poslovniforum.hr/poljoprivreda/eko.asp
24. Sertić, T., et al. (2011): *Drivers and brakes*, taken 17th July 2011 from: http://www.suvremena.hr/18468.aspx
25. Tadić, M. (2010): *Agricultural policy Republic of Croatia*, taken 15th October 2011 from: http://www.vef.unizg.hr/org/ekonepi/Agrarna_politika_Republike_Hrvatske_z.pdf
26. Taylor, H.C. and Taylor A.D. (1952). *The Story of Agricultural Economics in the United States, 1940-1932*., Iowa State University Press.,Ames IA.
27. *The World Bank*, taken 7th September 2011 from: http://data.worldbank.org/indicator/AG.LND.ARBL.ZS
28. Trsenjak, J. (2010): *Entrance in EU will reduce organic food prices*, taken 10th July 2011 from: http://limun.hr/main.aspx?id=595922
29. *Market informative compilation in agriculture (2011),* taken 4th September 2011 from: www.tisup.mps.hr
30. *United Nations Statistics Division*, taken 10th September 2011 from: http://unstats.un.org/unsd/cr/registry/regcst.asp?cl=2
31. Vranešević, T. (2007): *Brands management*, Zagreb, Accent, pg. 10
32. Znaor, D. (2009): *How to solve problem of Croatian agriculture*, taken 4th October, 2011 from: http://www.tportal.hr/biznis/gospodarstvo/34117/Kako-rijesiti-problem-hrvatske-poljoprivrede.html