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APPLICATION OF THE HUNGARIAN FADN PRACTIS IN AZERBAIJAN: RESULTS AND PROSPECTS

*MACAR FADN UYGULAMASININ AZERBAYCAN'DA
GERÇEKLEŞTİRİLMESİ: SONUÇLAR VE BEKLENTİLERİ*

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Abstract

Agriculture is a meaningful component of Azerbaijan's non-oil economy and has significant potential for boosting export revenues, and at the same time increasing food security and economic diversification. Azerbaijan's agriculture is highly fragmented and mostly based on small family-owned farms, created as a result of privatization of former collective and state farms. Agriculture is 99.9 percent private, out of which 66.8 percent of specialized agricultural producers consist of family-villager, 32.8 percent housekeeping and only 0.2 percent farming.

Government of Azerbaijan is now giving priority to non-oil sectors, including agriculture, to diversify economy and provide food security. Government subsidies crop and seed production, fertilizer, agricultural machinery etc. In the current stage, assessing the impact of subsidy policy has not been implemented and any research or monitoring in this direction was not implemented. That's why there's need for implementation of assessment of the results of subsidy policy applied in agrarian sector. Also, scarce information on production costs and farms profitability, in line with the lack of adequate institutional arrangements between the institutions collecting, processing and analyzing information are serious obstacles to the preparation of relevant analyses. The establishment of FDMS will address these problems and allow to collect, process and analyze information on small and medium farms level, which produce more than 90 percent of agricultural products in the country. Establishment process of FDMS is analysed and recommendations for improvement are put forward in this article.

Key Words: Azerbaijan, Hungary, Agriculture, FADN, FDMS, subsidy

Özet

Tarım Azerbaycan'ın petrol dışı ekonominin anlamlı bir bileşenidir ve ihracat gelirlerinin artırılması için önemli bir potansiyele sahiptir. Aynı zamanda tarım gıda güvenliği ve ekonomik çeşitliliğini artırmakta önemli rol üstlenmiştir. Azerbaycan'da eski kollektif ve devlet çiftliklerinin özelleştirilmesi sonucunda tarım son derece parçalanmış ve çoğunlukla küçük çaplı aile çiftlikleri oluşmuştur. Tarımda özel sektörün payı yüzde 99,9 dur. Azerbaycan'da tarım üreticilerinin yüzde 66,8i aile-köylü ve yüzde 32,8 alie çiftliklerinden oluşmaktadır. Diğer üreticilerin payı sadece yüzde 0,2dir. Azerbaycan hükümeti şimdi ekonomiyi çeşitlendirmek, tarım da dahil olmak üzere , petrol dışı sektörler öncelik veriyor. Şunun için de hükümet bitki ve tohum üretimine, gübreye sübvansiyon veriyor. Ama sübvansiyon politikasının etkisini değerlendirmek için bu yönde herhangi bir araştırma yapılmamıştır. Şu anda tarım sektöründe uygulanan sübvansiyon politikasının sonuçlarının değerlendirilmesine ihtiyaç var. Azerbaycan da FDMS in kurulması bu sorunları ele almak ve ülkedeki tarımsal ürünlerin yüzde 90'ından fazlasını üreten küçük ve orta ölçekli çiftlikler düzeyinde bilgi toplamakla aynı zamanda bunun analizinin yapılmasını da sağlayacaktır. Bu makalede FDMS kurulması süreci ve iyileştirme için öneriler ortaya konulmuştur.

Anahtar Kelimeler: Azerbaycan, Macaristan, Tarım, FDMS, FADN, Sübvansiyon.

1. Introduction

Azerbaijan, with a population of 9.4 million in 2013, out of which about half live in rural areas. After restoration of independence in 1991, the Republic of Azerbaijan had serious economic problems. But in the last 15 years Azerbaijan has gained much success in the socio-economic development.

During last 10 years GDP increased for more than 3 times, the incomes of state budget increased for 16 times, production of industrial goods increased for 2,7 times, strategic currency reserves for 31 times, The volume of internal capital investments increased for 18,4 times, investments in non-oil sector increased for 21,6 times, average salaries increased for 5,5 times, pensions increased for 9,3 times, household deposits increased for 27,2 times, more than 1 million 200 thousand new jobs were created, the level of poverty decreased to 5,3 %. During this period the average annual economic growth have been 12,9 per cent. This achievement of Azerbaijan was fixed as one of the best results in the world. According to the level of GDP Azerbaijan has gone 40 steps forward among the world countries and raised to 66th place from the 106th in 2003.

One of main goals for Azerbaijan today is to remove dependence of the economy on oil and assure expansion of economic development to rural areas. Being the third biggest sphere in Azerbaijani economy after oil and construction agriculture possesses the biggest share in employment (in 2013, 37.1% of total employed population worked in agriculture, and only 1% in oil sector¹).

¹ www.stat.gov.az/source/labour/indexen.php

As a result of agrarian reforms, 2239 collective farms, state farms and other agricultural enterprises were closed down and liquidated and instead of them different economies of organizational-legal forms. The farm privatization reform in the mid-1990s led to the redistribution of land to some 843,200 small private farms of 2.02 ha on average, a large share of which (96%) have between 1 and 5 hectares. Agriculture is 99.9 percent private, out of which 66.8 percent of specialized agricultural producers consist of family-villager, 32.8 percent housekeeping and only 0.2 percent farming. And it should be noted that more than 90% of agricultural production is produced on these small farms.

The Government of Azerbaijan (GoA) recognizes the importance of developing the agricultural sector as a counterbalance and as a means of reducing differences in living standards between urban and rural areas. The State Programme on Reliable Food Supply of population in the Azerbaijan Republic (2008-2015), The State Program on Socio-Economic Development of Regions of the Republic of Azerbaijan for 2014-2018 years and the State Programme on Poverty Reduction and Sustainable Development during the period 2008-2015² are a positive sign that the country is willing to progress and to pay more attention to the non-oil sector and in particular to focus on the agricultural sector and rural areas. The goals of these three official programmes are in line and have the same targets: economic growth and support to the non-oil sector.

We want to note that after regaining its independence following the fall of the Soviet Union, Azerbaijan began the process of land privatization.

Land reform in Azerbaijan had two important effects that worked reduce poverty in rural areas. First, it increased per capita family income through a one-off transfer of productive assets (land, livestock and farm machinery) from corporate farms to households. A second important characteristic of land reform in Azerbaijan was that distribution of land was highly pro-poor. To see this, consider the size of distributed land parcels by income level (Lernman and Sedik. 2010).

In general, privatized agricultural land fell into one of three categories: "*agricultural enterprises*, registered as legal entities, include agro-industrial enterprises, joint ventures, and agricultural cooperatives that employ people; *peasant farms*, a type of individual enterprise where the farmer is directly involved in production; or *household or private farms*, very small plots or gardens for personal or household use"³.

At the moment The State Statistical Committee of Azerbaijan Republic does not collect the data from household and family farms, which are the main producers in agriculture. And this doesn't allow to implement impact assessment of agrarian policy in an effective way.

² http://economy.gov.az/index.php?option=com_content&view=article&id=179&Itemid=150&lang=en

³ www.jasstudies.com/Makaleler/1784617980_30HuseynRamil-545-562.pdf

Of course many transition countries are in need for accurate farm-level information for policy-making. Previous information systems are not applicable and statistics are not sufficient and adequate for design and evaluation of support policies and programmes. Thus, there is a critical gap with regard to access to information, characterized by lack of ICT infrastructure, inadequate institutional and support arrangements, and limited human resources and capacity.

This results in inadequate capacity to use and analyze existing information to support the formulation of effective policies and interventions and insufficient understanding of the enabling conditions for value chain development.

2. Importance of Farm Data System

European countries have developed specialised farm data systems many decades ago. Farm level data in market economies was initially used for farm management purposes by farmers and agricultural extension advisers as tools to assist in the increase of agricultural productivity. This led, in turn, to the establishment of a National Farm Management Survey, in 1936 in Britain followed by similar development in some other European countries. Policy-makers recognized the potential and started to establish national farm data systems.

Currently there are two major farm support related data systems on the EU level, the Integrated Administration and Control System (IACS) and the Farm Accounting Data Network (FADN).

1) Integrated Administration and Control System (IACS):

- Member States of the EU are responsible for administering the Common Agricultural Policy (CAP).
- Direct income support for those working the land based upon the amount of land.
- Central to EU Common Agricultural Policy (CAP) payments is the Integrated Administration and Control System, intended to ensure that the payments made are correct and traceable.
- This requires Member States to establish Land Parcel Information Systems (LPISs) that identify each parcel of farmland.
- Provides information on: location and size of each parcel and allows check whether only one claim has been made for each parcel, claim is for the correct amount, whether it has been made for eligible land, and whether it has been made by a farmer who is entitled to receive the payment.
- In physical terms, IACS consists of a number of computerized and interconnected databases which are used to receive and process aid applications and respective data. Thus it provides for:
 - a unique identification system for farmers;
 - an identification system covering all agricultural areas called Land Parcel Identification System (LPIS);
 - an identification system for payment entitlements;

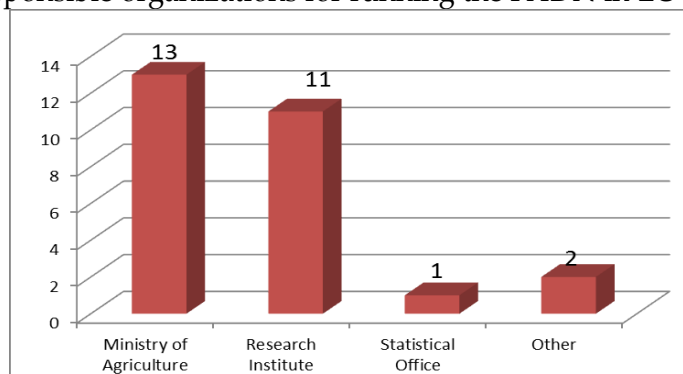
– a system for identification and registration of animals (in Member States where animal-based measures apply)⁴.

2) Farm Accounting Data Network - FADN:

- Launched in 1965 is an instrument for evaluating the income of agricultural holdings and the impacts of the Common Agricultural Policy. It consists of an annual survey carried out by the Member States of the EU.
- The aim of the network is to gather accountancy data from farms for the determination of incomes and business analysis of agricultural holdings.
- The annual sample 80.000 holdings.
- population of more than 6.400.000 farms in the 28 Member States,
- 90% of the total utilized agricultural area
- 90% of the total agricultural production of the EU⁵.

For the analysis of the incomes and economic activities of farms and in this way for the support of the Common Agricultural Policy, in 1965 the European Commission (EC) established a representative information system, named the Farm Accounting Data Network. EU Member States are obliged to provide data for the system. In the EU27 data are collected from approximately 80 000 farms, partly to fulfil the obligation towards the EC and partly for internal purposes. Sample farms represent a statistical population of 6.4 million farms. The farms, selected according to well-defined criteria, join the system on a voluntary basis and provide accountancy data. These data are treated in an anonymous way, strictly observing the prescriptions on data protection and are only used for statistical purposes. Although, according to the special situation and unique needs for information of the countries, the data collection systems of the individual Member States may differ from the mandatory EC standard to some extent, all of them are able to deliver data of uniform content and structure to the central FADN database after certain conversions. Different organizations are responsible for running the FADN in different countries(Figure 1).

Figure 1. Responsible organizations for running the FADN in EU



Source: DG Agri, *Unit AGRI L.4 Evaluations and studies / RICC 1605*

⁴ http://ec.europa.eu/agriculture/direct-support/iacs/index_en.htm

⁵ http://ec.europa.eu/agriculture/rica/concept_en.cfm

FADN only takes into consideration the broader sense agricultural activity of farms (agricultural production, primary processing of agricultural products, forestry, fishery, agricultural services, rural tourism) but does not include the industrial, commercial and non-agricultural service activities (Szilard and Csaba 2010).

The uniqueness of FADN consists in the fact that it collects the data, being considered as those belonging to sensitive group; they describe the economic and financial situation of agricultural holdings. Bearing in mind the assumed goal, FADN is based on accountancy data, coming from the accountancy, implemented in the so-called managing convention. Variety of the mentioned accountancy reflects more precisely the situation of agricultural farm than the financial accountancy does. The choice of the convention of managing accounting was affected by the will undertaking decisions which are most adequate to a real situation of agricultural holdings. Otherwise, even the best elaborated decisions would be referred to virtual reality (Lech, Dariusz and Renata 2008).

3. Farm Data Monitoring System in Azerbaijan

The Azerbaijan Research Institute of Economy and Organization of Agriculture (IEOA) under Ministry of Agriculture (MoA) has piloted the introduction of a Farm Data Monitoring Systems (FDMS). Farm Data Monitoring System can be accepted as an simplified Azerbaijanian version of Farm Accounting Data Network of EU⁶.

Significant achievements have been made, such as the establishment of the Farm Data Unit (FDU) within IEOA, the development and testing of questionnaire and farm management and surveys guidelines to conduct surveys, development and testing of a computer-based farm management survey data system, a pilot survey of 140 farms conducted in three regions, training of core staff. However the capacity within IEOA and other concerned institutions to collect and analyze farm data and is insufficient to establish a country-wide sustainable farm data system which could provide reliable information on the state of farming sector.

In this regard EC/FAO Programme on information systems to improve food security decision-making in the European Neighbourhood Policy (ENP) East Area, through the component "Establishment of a sustainable Farm Data Monitoring System at national level to support decision-making" provides unique opportunity to build up on so far provided assistance⁷.

The Ministry of Agriculture and the Ministry of Economy and Industry (MEI) are determined to implement new reforms in agriculture and rural sectors, so as to improve rural livelihoods and make agricultural activities and related investments more competitive in an open market scenario. However, current information available on farm and rural enterprises performance in Azerbaijan is limited and does not necessary information for well informed policy decisions. At present there are no readily available comprehensive farm and regional level data sets. Institutional arrangements, and human resources needed to provide a basis for such a complex

⁶ <http://azetkti-ti.az/inforshobe.aspx?vpbid=37>

⁷ <http://www.foodsec.org/web/fs-reports/europe/azerbaijan/activities/en/>

information and decision support system are also lacking. Available reports and studies show that information on economic characteristics of farms is limited and there is an acute lack of data and analyses on economic efficiency and profitability of farming.

The establishment of FDMS will address these problems and allow to collect, process and analyze information on small and medium farms, which produce more than 90 percent of agricultural products in the country.

- ✓ FDMS provides reliable information to government to design relevant farm policies, based on the identification of actual constraints;
- ✓ Assistance to perform initial accounting;
- ✓ Farmers will regularly have annual economic analysis of their farm;
- ✓ Using national and regional level economic analysis able comparison of economic performance with other farms;
- ✓ Plan to use FDMS analysis and information for provision of different advice and services in future.

FDMS to be developed will provide the information needed for analysis and assessment of profitability and production efficiency at farm level with the possibility to also serve in provision of advice on improvement of productivity and profitability of production. Furthermore, based on the analyses of collected data, decision makers and policy analysts will have the possibility to assess the competitiveness of Azerbaijani farm products on international markets, as well as the effectiveness of implemented policy measures. This will provide the base for making informed decisions on appropriate incentives and measures to improve food security and the use of agricultural resources and assets. In addition to that, the system will provide data for research related to long term perspectives of socio-economic development of Azerbaijani agriculture.

To assure full relevance and reliability of results generated by FDMS it is essential to collect the data from representative set of sample farms covering all regions in Azerbaijan. The approach used to determine the sample size and distribution of sample farms among regions, farm size and farm type categories is based on experience and the approach of Farm Accountancy Data Network (FADN), a sampling based farm monitoring system in EU. The sampling and weighting process was coordinated between IEOA and SSC. The outcome of that work is the representative sample of 2 000 farms which will be drawn from population of 414 940 farms with the annual income larger the 1 000 AZN.(1 AZN=1.07 EUR).

In 2012 1176 farms from 4 economic regions (ER) were involved to the system and these farms amount 59% of the total number of farms (2000 farms), which should be attracted to FDMS to reach the countrywide scale.

Table 1. Sample plan for the countrywide FDMS

Regions	Crop farms	Vegetable farms	Perennial farms	Livestock farms	Mixed farms	Total
Absheron ER	0	4	0	11	4	19
Aran ER	179	42	20	256	279	776
Dakhlik Shirvan ER	40	0	0	32	53	125
Ganja-Gazakh ER	110	27	5	105	63	310
Guba-Khachmaz ER	52	6	22	45	63	188
Lankaran ER	46	16	13	82	63	220
Shaki-Zagatala ER	59	21	0	70	74	224
Yukhari Garabagh ER	13	5	0	13	18	49
Nakhchivan ER	12	14	0	41	22	89
						2 000

1520 farms from 6 economic regions have been included into the system according to the sample plan in 2013. Necessary legislative and institutional arrangements for the establishment of country wide system have to be introduced. In Azerbaijan, majority of farmers do not keep accounts. There is no obligation for bookkeeping, which disables proper involvement of farms into statistical surveys. Log book is introduced to the farmers involved in the pilot FDMS regions. Preliminary structure and procedures have already been developed in the national and regional level for pilot regions. In order to be able to do large scale data collection, permanent structure and procedures must be introduced.

In 2013 data from 1520 farms (representative for 76% of farms of the country) in Absheron, Aran, Guba-Khachmaz, Lankaran, Dagli Shirvan and Sheki-Zagatala economic regions was collected. In 2014 the coverage will grow further to 95.5% and by 2015 it is planned to cover the whole country with a representative sample of 2000 farms.

Hungarian experience played a big role in establishment of FDMS and its successful operation.

4. Hungarian FADN practise

While establishing FDMS in Azerbaijan, according to proposals from FAO experts from different countries (Poland, Holland, Croatia and others), Hungarian practice was taken as the most appropriate one. In Hungary Research Institute of Agricultural Economics (AKI) is responsible for running Hungarian FADN. Having this in account, experts from FDMS visited AKI twice in order to increase the knowledge and professional abilities.

AKI is the most significant centre of agricultural economics research in Hungary. AKI collects and analyses information, performs research and distributes the results obtained through its publications. The two pillars of AKI are the Directorate of Economic Analysis and the Directorate of Agricultural and Rural Development Policy.

The Directorate of Economic Analysis deals with statistical, financial and economic questions regarding Hungarian agriculture, food industry and trade. It

operates European Union (EU) compliant information systems required by both research and practice – with the help of which the Research Institute of Agricultural Economics data requirements of the EU can be met – and, based on these, carries out research. FADN allows the position of agriculture and that of farms to be appraised. It monitors the production data of about two thousand small-, medium- and large-size holdings and assesses the implementation and impacts of the measures of the Common Agricultural Policy (CAP). Furthermore, the Directorate's scope of activity includes sector-specific cost and revenue data collection and publication, as well as the financial analysis of the agri-food industry⁸.

The Hungarian FADN system consists of ca. 1900 sample farms. The sample represents more than 106 thousand agricultural holdings over 4000 Standard Output (SO). The 106 thousand farms cultivated the 93% of the total agricultural area used by all farms that were registered in the framework of Farm Structure Survey 2010 and produced the 89% of total SO. The Hungarian FADN makes accrual accounting not only for corporate farms but also for individual farms. It means that also individual farms have a calculated balance sheet and profit and loss statement.

Hungarian FADN is effective in:

- **Agricultural policy;**
 1. Reducing subsidies (national payments)
 2. Area-based taxation
 3. New legislation on land use
 - a. Land use limits for different holding types
 4. Monitoring of Rural Development Programmes
 - a. Axis I: development of agricultural holdings
 - b. Axis II: agri-environmental subsidies
- **Banking sector in agriculture;**
 1. Mortgage credits for agricultural land
 2. Income calculation at regional level
 3. Land price estimation
 4. Case study: Impact of HUF volatility on agricultural holdings' income (for a commercial bank)
 5. Credit rating (*pilot project*)
 6. Standard method of rating agricultural holdings
 7. Comparison to good/average/bad FADN sample farms.
- **Economic research;**
 1. Research within the Institute
 - a. Combining economic data from FADN with qualitative data from interviews, surveys etc.
 - b. Human resources in agriculture

⁸ <https://www.aki.gov.hu/publikaciok/publikacio/a:180/Introduction>

- c. Animal insurances
- d. Regulation of farm types (households, family farms, corporate farms)
2. International projects
3. Farm level data is provided to researchers
 - a. Hungarian universities (PhD studies)
- **Extension services;**
- **FADN of the European Union.**

In close cooperation with Hungarian colleagues the staff of FDU has received initial training in data management and preparation of analytical reports to strengthen FDMS relevance for policy-making processes, by providing information and analyses that are directly useful to monitor and assess the impact of the State Programmes related to food security and agriculture, the purpose of this assignment will be to consolidate capacity of Farm Data Unit (FDU) staff in preparation and interpretation of briefs for analysis and planning of farming sector development.

5. First results of FDMS data

In 2013 the first results of FDMS were presented, the first yearbook of FDMS, 5 policy briefs and other documents as leaflets and brochures were prepared. These results were very important for implementation of assessment of the results of subsidy policy implemented in agrarian sector.

As we know economic profit is a key indicator of the success and competitiveness of farms. Gross margin calculation is common used in the financial accounting approaching in order to indicate profitability. FDMS is capable of delivering data on enterprise level as well, therefore the main variables of gross margin as gross income, as variable costs will be presented in connection with the most important crops and animals.

Gross margin generally is calculated as the gross income plus subsidies and less the variable costs. It is expressed in the following on land area basis similar to the gross income and variable costs. It have been chosen for comparison 3 important crops (*spring wheat, tomato and alfalfa*) as sample. Distribution of the three substantial factors is illustrated by crops in Figure 2.

Figure 2. Share of gross income, variable costs and gross margin per ha land

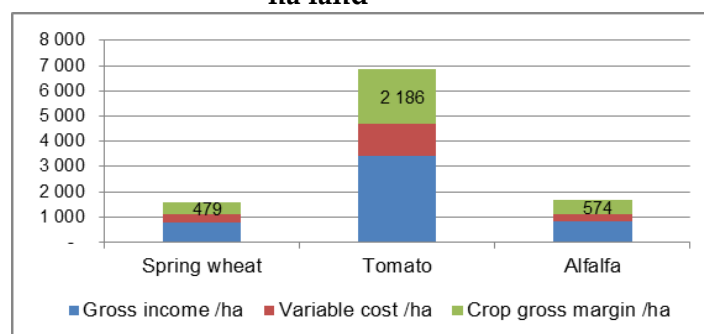


Figure 2 shows that the spring wheat and alfalfa as field crops have a lot of similarities and there is hardly no differences at first sight. But by more accurate

examination of proportion between variable cost and gross income can be stated that it can be found by alfalfa (31%) much better proportion than by spring wheat (40%). The values of tomato as vegetable range from them very obviously, but the proportion between income and variable costs is least unfavourable than by spring wheat.

We can deliver more analyses and results based on FDMS data. Let's see some of the results.

Table 2. Wheat Price, 2012 AZN /ton

Hungary	209
Poland	214
Italy	246
Azerbaijan	
Aran ER	286
Lankaran ER	245
Guba-Khachmaz ER	267

As we can see, in 2012 wheat price in Azerbaijan was 25-30% higher than in world market. The high level of wheat prices are connected to high cost prices of the product. Of course we know that the level of productivity is one of the key factors influencing the cost prices. It means, as higher is the productivity as lower is the cost price and relatively the market prices are lower. As the result of low level of use of high quality seed, fertilisers and other production means the productivity was low. And FDMS data showed that the farms of 4-5 hectares are not competitive.

Table 3. Tomato price 2012 AZN /ton

Hungary	630
Italy	720
Spain	540
Azerbaijan	
Aran ER	250
Lankaran ER	120
Guba-Khachmaz ER	223

In Lankaran the price was 50% lower, but the productivity was higher for 25%. 74% of the product is produced in commercial farms in Lankaran (approximately 3.3 hectares of tomato arable lands). From the table we can see the prices of tomato in Azerbaijan are much more lower than in Europe countries. This factor can be accepted and used as one of the comparative advantages of this product.

Table 4. Patato price 2012 AZN/ton

Hungary	159
Italy	367
Poland	108
Azerbaijan	
Aran ER	201
Lankaran ER	187
Guba-Khachmaz ER	400

In Guba-Khachmaz region the prices of potato are quite high compared to Aran and Lankaran ER. Suitable climatic and natural environment allows to get additional advantages in Lankaran and that's why in Lankaran region 78% of production comes from commercial farms (2.8 hectares per farm).

Table 5. Milk price, 2012 AZN per tons

Hungary	304
Italy	423
Poland	286
Azerbaijan	
Abşeron ER	721
Aran ER	341
Lankaran ER	286
Guba-Khachmaz ER	470

In Absheron the prices are higher than in other regions, as the main part of production is directly sold in Baku city. But generally milk prices are low. Due to low productivity of animals it is hard to make profits from milk production.

Table 6. Meat price, 2012 AZN/ton

Hungary	5 375
Spain	6 293
Austria	3 788
Azerbaijan	
Absheron ER	8 942
Aran ER	8 808
Lankaran ER	8 844
Guba-Khachmaz ER	8 769

As we can see from the data, in Azerbaijan meat prices are higher than in EU for 40-50%. According to the results of analyses of FDMS data we can note that, Azerbaijan has comparative advantages by vegetables (especially Lankaran ER). Wheat and barley production is not so efficient. The prices of meat and milk are high compared to EU. Big differences in production cost by regions, show the low efficiency of the market.

Also FDMS is very important for monitoring subsidies. As we know the main focus of the agricultural policies implemented in Azerbaijan is state support policy to this sector. For this purpose government has declared the agricultural sector tax free. Government subsidies crop and seed production, fertilizer, agricultural machinery and more recently livestock production (Huseyn 2013).

That is the fact that agricultural subsidy policies have been implemented in Azerbaijan in recent years. Millions of dollars from oil income are spent for this purpose. Unfortunately decision makers are not interested in Impact Assessments of these programmes and limited resources are spent for Impact Assessments. Azerbaijan should focus on this area. Of course an impact assessment is important. Because access to the information as a result of impact assessments will contribute to better decision-making in Azerbaijan. Impact assessment give us chance to not repeat mistakes made in

previous years. We want to note that during the 2007-2013 years farmers get 644.89 million AZN subsidies from the state budget.⁹

In the current stage, assessing the impact of subsidy policy has not been implemented and any research or monitoring in this direction was not applied. That's why there's need for implementation of assessment of the results of subsidy policy implemented in agrarian sector.

Table 7. Efficiency of subsidies

	Wheat	Potato	Tomato
Total variable costs, AZN/Ha	277,1	1906,9	1388,3
GROSS MARGIN, AZN/Ha	617,7	3098,8	2637,4
Direct subsidies, AZN/Ha	80	40	40
Share of subsidies in costs, %	28,9	2,1	2,9
Share of subsidies in gross margin, %	13,0	1,3	1,5

Source: FDMS yearbook 2013

As we can see from the table, the direct subsidies can not affect the results of production due to small share of subsidies in costs. As, in potato this figure was 2,1%, in tomato 2,9%. The same goes for incomes.

Only in wheat production it is reasonable. But FDMS analyses show that the subsidy policy does not increase the productivity of wheat. Average yield is 26 centners per hectare in the country.

It should be noted that, the results of FDMS analyses have been taken into account by decision makers and they decided to improve the current subsidy mechanism.

6. Conclusions and recommendations

Azerbaijan's agriculture is highly fragmented and mostly based on small family-owned farms created as a result of privatization of former collective and state farms. We can stress that in many transition countries structural change in the agricultural sector is underway, characterised by a large number of small farms, a relatively low level of resources and skills, and a low level of commercialization and market integration. However, the small farms are important for food supply and food security at national level. The same situation is observed in Azerbaijan and the problems wait for the solution. The Government of Azerbaijan has recognized this critical gap and launched an initiative to improve this.

As the final note we can stress that, there are deep gaps in availability of reliable information about land use, the structure of agricultural lands, number of animals and their movement in Azerbaijan. And factually, it's a problem to implement the impact assesment of current subsidy system. We can surely stress that, there's no appropriate source of information to be used for decision making and formation of agricultural policy for food security.

⁹ <http://agro.gov.az/index.php?cat=18&ses=59fed>

As it was noted before, scarce information on production costs and farms profitability, together with the lack of adequate institutional arrangements between the institutions collecting, processing and analyzing information are serious obstacles to the preparation of relevant analyses. In this regard, FDMS analyses will:

- support decision-making for agricultural development and improvement of food security;
- formulate and monitor the impact of state support policies and programs for the development of agriculture;
- serve as a basis for the development of agricultural economics research programs.

Average area of 42% of agricultural producers have 1-2 ha, 54% have 2-5 ha. This fact should be taken into consideration and technologies, support and markets that are relevant to small farmers put in place to help them to be more productive.

From 2013, the Department of Information and Organization of Monitoring System prepares different reports using FDMS data. The results of the system can assist government in:

- designing appropriate policies for the development of agriculture, in particular the small holder sector, and monitoring their implementation;
- preparation of long-term social and economic development prospects of agriculture of the country;
- various economic analyses in the field of agriculture;
- monitoring assessment of the impact of relevant Government programmes;
- economic analysis and evaluation of efficiency and production at the farm level;
- monitoring the execution of State Programme on Reliable Provision of the Population with Food (2008-2015);
- preparation of reliable and accessible information products for decision making in food security;
- analysis of the impact of agricultural subsidies and tax policy on agriculture;
- forecasting of agricultural production.

In the end we would like to note that, establishment of FDMS can help to reduce the difference among above mentioned fields, create eligibility with international standards and best EU practices in Azerbaijan. With the countrywide FDMS the decision makers will be able to assess the impacts of implemented measures more definitely, assess the efficiency of the policy based on the analyses of collected data. FDMS can also be useful in attraction of investors to agriculture by means of evidence based results.

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