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EXCHANGE EXPERIENCES and STRENGTHENING INTER-AGENCY COOPERATION on the DEVELOPMENT of ECOLOGICALLY CLEAN AGRICULTURE MODEL in ECO MEMBER COUNTRIES

**ECONOMIC COOPERATION ORGANIZATION (ECO)**

**INSTITUTE for SCIENTIFIC RESEARCH on ECONOMIC REFORMS (ISRER)**
**Ministry of Economy of the Republic of Azerbaijan**

ECO-ISRER Study on “Clean Agriculture” in the ECO Region

# EXCHANGE EXPERIENCES and STRENGTHENING INTER-AGENCY COOPERATION on the DEVELOPMENT of ECOLOGICALLY CLEAN AGRICULTURE MODEL in ECO MEMBER COUNTRIES

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## *Ön Söz*

**Əziz oxucular, hörmətli həmkarlar, gənc tədqiqatçılar!**

Dünya iqtisadiyyatının müasir inkişaf meyillərinin iqtisadiyyatın "yaşıllaşdırılması" niyyətləri, istər qlobal, istərsə də regional məhdudiyyətlər, təbii resurların çatışmazlığı və onların uzun müddətli istifadəsinə nail olunması, təbiətin qorunması ölkələrin nail olmaq istədikləri iqtisadi-sosial hədəflər sırasındadır.

Bunun içərisində bioloji müxtəliflik, torpağın bioloji aktivliyi və bioloji dövrü ekoloji təmiz kənd təssərrüfatı daxil olmaqla istehsalının idarəolunması vahid bir sistemi xarakterizə edir. Bu sistem kənd təsərrüfatında regionun xüsusiyyətləri nəzərə alınmaqla, xarici resurslardan istifadə etməklə yanaşı, orada idarəetmə təcrübələrinə istinad edir, ona diqqət yetirir. Milli prioritetlərindən asılı olaraq, ixtiyari ölkənin bu istiqamətdə öz yolu və təcrübəsi vardır və bu təcrübələrin mübadiləsi dinamik şəkildə hərəkət etməyə imkan verir.

Hazırda ekoloji təmiz kənd təsərrüfatı dünyanın 179 ölkəsində inkişaf edir v□ onunla 2 milyon istehsalçı məşğuldur. Qərbi Avropa və Şimali Amerikanın liderlik etdiyi bu istiqamət təcrübədə ciddi qanunvericiliklə tənzimlənir. 89 ölkənin ekoloji təmiz kənd təsərrüfatı istehsalını və dövriyyəsini tənzimləyən xüsusi qanunları vardır.

İqtisadi Əməkdaşlıq Təşkilatı (İƏT) regionunda ekoloji təmiz kənd təsərrüfatı inkişafının tədqiqi normativ hüquqi tənzimləmədə boşluqların olmasını, bunun isə ekoloji istehsalın beynəlxalq bazara çıxışının məhdudlaşdırılması, yaxud tam iştirak imkanının məhdudlaşdırıldığı, eləcə də ölkələrin öz daxili bazarlarında məhsul istehsalçılarının normativlərə uyğun olmayan "organic", "ekoloji", "bioloji" və s. markalardan istifadə etdikləri müşahidə edilir.

Belə qənaətə gəlirik ki, mövzunun böyük ekoloji potensiala malik İƏT regionu üçün xüsusi əhəmiyyətini nəzərə alaraq, regional iqtisadi maraqların təmin edilməsi məqsədilə qanunvericilik bazasının gücləndirilməsi istiqamətində işlərin davam etdirilməsi qaçılmaz zərurətdir.

Qanunvericilik bazasının möhkəmləndirilməsi "ekoloji təmiz məhsul", "ekoloji təmiz məhsul istehsalçısı", "ekoloji təmiz məhsul istehsalı" kimi anlayışların müəyyən olunmasına, ekoloji təmiz kənd təsərrüfatı məhsullarının istehsalında prinsiplərin qorunmasına, sertifikatlaşdırma, akreditasiya məsələlərinin həlli ilə yanaşı, ekoloji təmiz kənd təsərrüfatı istehsalçılarının vahid reyestrinin yaradılması məsələlərinə aktuallıq qazandıracaqdır, bu isə layiqli məşğulluğun, dayanıqlı gəlirlərin əldə edilməsinə imkan verir.

Böyük məmnuniyyətlə, İqtisadi Əməkdaşlıq Təşkilatı (İƏT) və Azərbaycan Respublikası İqtisadiyyat Nazirliyinin İqtisadi İslahatlar Elmi Tədqiqat İnstitutunun birgə əməkdaşlığı sayəsində ərsəyə gələn ***"İqtisadi Əməkdaşlıq Təşkilatı üzv ölkələrində ekoloji təmiz kənd təsərrüfatının inkişaf etdirilməsi sahəsində təcrübə mübadiləsi və qurumlararası əməkdaşlığın gücləndirilməsi"*** mövzusunda tədqiqatı Sizə təqdim edirik.

Bu işdə uzun illərdir İqtisadi İslahatlar ETİ ilə səmərəli və fəal əməkdaşlıq edən, həm ölkəmizdə ekoloji təmiz kənd təsərrüfatına dair ilk tədqiqatların aparılmasındakı elmi əlaqələrin, həm də digər ölkələrlə əlaqələrin qurulmasında dəstəyinə görə Prof. Uyğun Aksoya və eləcə də digər həmkarlarımıza təşəkkür edir, gələcək işlərində uğurlar arzulayıram.

**Vilayət VƏLİYEV, prof., i.e.d.**

***Layihə qrupunun rəhbəri***
***(Azərbaycan Respublikası)***
***İƏT-İİETİ birgə əməkdaşlığı,***
***"İƏT regionunda "Ekoloji Təmiz Kənd Təsərrüfatı""***

## *Foreword*

**Dear readers, dear colleagues, young researchers!**

Tendencies of modernization of the world economy refer to economic and social goals by "greening" the economy, which are achieved by countries to prevent global and regional constraints, the lack of natural resources and their long-term use, as well as to protect nature.

Biological diversity, biological activity of soils and the biological cycle, including ecologically clean agriculture, characterize a unified production management system. This system, taking into account the peculiarities of the region in agriculture, uses not only external resources, but also focuses on management practices in agriculture. Depending on national priorities, every country has its own path and experience in this area and this exchange of experience allows it to move dynamically.

At present, 179 countries of the world are developing ecologically clean agriculture, in which participate more than 2 million producers. This aspect of Western Europe and North America in practice is regulated by strict legislation. In 89 countries there are special laws governing the production and turnover of organic farming.

The study of environmentally justified agricultural development in the Economic Cooperation Organization (ECO) shows that there are gaps in the regulatory framework leading to the restriction of access to international markets or to a complete restriction of participation, as well as the inconsistent use of brand names in the domestic market, "ecological," "biological," and etc.

We concluded that, taking into account the special importance of the topic for the ECO region, which has great ecological potential, it is inevitable to continue work on strengthening the legislative base to ensure regional economic interests.

Strengthening the legislative framework is to define such concepts as "ecologically clean product", "production of ecologically clean products", "producer of ecologically clean products", protection of the principles of production of ecologically clean agricultural products, certification and accreditation issues will make the necessity of creating a single register more relevant, which will ensure decent employment and sustainable income.

We are pleased to present you a joint project developed by the Economic Cooperation Organization (ECO) and the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of Economy of the Republic of Azerbaijan on ***"Exchange of Experience and Strengthening of Interagency Cooperation on the Development of Ecologically Clean Agriculture model in ECO Member Countries"***.

I would like to thank Professor Uygun Aksoy and other colleagues, that worked effectively and actively cooperated for many years with the Institute for Scientific Research on Economic Reforms (ISRER) and supported scientific relations in the field of the first studies of ecologically clean agriculture in our country, as well as in establishing contacts with other countries, and wish them success in their future work.

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***ECO-ISRER Study on "Clean Agriculture" in the ECO region***

## *Предисловие*

**Дорогие читатели, уважаемые коллеги, молодые исследователи!**

Тенденции модернизации мировой экономики относятся к экономическим и социальным целям путем «озеленения» экономики, которые достигаются странами для предотвращения глобальных и региональных ограничений, отсутствия природных ресурсов и их долгосрочного использования, а также для защиты природы.

Биологическое разнообразие, биологическая активность почв и биологический цикл, включая экологически чистое сельское хозяйство характеризуют единую систему управления производством. Эта система, принимая во внимание особенности региона в сельском хозяйстве, использует не только внешние ресурсы, но также фокусируется на практике управления в сельском хозяйстве. В зависимости от их национальных приоритетов произвольная страна имеет свой собственный путь и опыт в этой области, и этот обмен опытом позволяет ей двигаться динамично.

В настоящее время в 179 странах мира развивается экологически чистое сельское хозяйство, в котором участвуют более 2 миллионов производителей. Этот аспект Западной Европы и Северной Америки на практике регулируется строгим законодательством. В 89 странах действуют специальные законы, регулирующие производство и оборот органического земледелия.

Изучение экологически обоснованного развития сельского хозяйства в Организации Экономического Сотрудничества (ОЭС) свидетельствует о наличии пробелов в нормативно-правовом регулировании, ведущего к ограничению доступа к международным рынкам или к полному ограничению участия, а также о несоответственном использовании во внутреннем рынке фирменных наименований, таких как, «экологический», «биологический» и т. д.

Мы пришли к выводу, что, принимая во внимание особую важность темы для региона ОЭС, владеющим большим экологическим потенциалом, неизбежно продолжение работы по укреплению законодательной базы для обеспечения региональных экономических интересов.

Укрепление законодательной базы заключается в определении таких понятий, как «экологически чистый продукт», «производство экологически чистых продуктов», «производитель экологически чистого продукта», защита принципов производства экологически чистых сельскохозяйственных продуктов, вопросы сертификации и аккредитации сделает вопрос о создании единого реестра более актуальным, что позволит обеспечить достойную занятость и устойчивый доход.

С большим удовольствием представляем Вам совместный проект, разработанный Организацией Экономического Сотрудничества (ОЭС) и Научно Исследовательским Институтом Экономических Реформ Министерства Экономики Азербайджанской Республики на тему ***«Обмен опытом и укрепление межведомственных отношений в***

***развитии экологически чистого сельского хозяйства в государствах-членах Организации Экономического Сотрудничества (ОЭС)»***.

Я хотел бы поблагодарить профессора Уйгун Аксой и других коллег, которые в течение многих лет эффективно работали и активно сотрудничали с Научно Исследовательским Институтом Экономических Реформ (НИИЭР), и поддерживали научные отношения в области первых исследований экологически чистого сельского хозяйства в нашей стране, а также в установлении контактов с другими странами, и пожелать им успехов в их будущей работе.

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## *Xülasə*

***Eko-sistemin tərkib hissəsi: Ekoloji Təmiz Kənd Təsərrüfatı.*** Bəşəriyyətin ən qədim fəaliyyət növlərindən biri olan kənd təsərrüfatında tarix, mədəniyyət və ictimai dəyərlər öz əksini tapmışdır. Müasir qlobal meyllərdən biri olan Ekoloji Təmiz Kənd Təsərrüfatı (ETKT) bütün dünyada sürətlə inkişaf etməkdədir.

Külli miqdarda sintetik qatqılardan istifadənin qarşısının alınması, torpağın münbitliyinin saxlanılması, insan sağlamlığının qorunması ilə eko-sistemin yaxşılaşmasını təmin edən vahid istehsal sistemi olan ETKT yerli şərait və ekoloji dövr nəzərə almaqla, ətraf mühitə zərər verə biləcək birləşmələrdən istifadəyə yol verilməməklə mövcud bioloji müxtəlifliyin saxlanılmasına əsaslanır.

ETKT ənənəvi təsərrüfat üsullarının innovativ texnologiya və elmi-texniki tərəqqinin müasir nəaliyyətləri ilə birgə torpaqdan istifadəyə əsaslanır ki, bu isə öz növbəsində həyatın bütün formaları ilə sıx və qarşılıqlı əlaqəni təmin etməklə ətraf mühitə müsbət təsir edir.

Bir idarəetmə sistemi kimi ETKT-nin diqqət mərkəzində bioloji dövrün təbiətə uyğunlaşdırılması yolu ilə torpağa edilən əlavələr və əkinçiliyin inkişaf etdirilməsidir. ETKT-nin istehsalında geni dəyişdirilmiş və çoxaldıcı maddələrdən istifadəyə, radiasiya və çirkab suları ilə suvarmaya yol verilmir. Əkinçiliyə edələn qatqılar və istifadə edilən metodlara isə rəsmi və xüsusi standartların tətbiqi ilə icazə verilir. Bu standartlar arasında cüzi fərqlər ola bilər, lakin bütün bunlar sağlamlıq, ekologiya, ədalət və qayğı prinsiplərinə əsaslanır.

2015-ci ilin rəqəmlərinə görə 89 ölkədə ekoloji təmiz kənd təsərrüfatını tənzimləyən qanunvericilik mövcuddur. Bu zaman bütün istehsal zinciri yoxlanılır və istinad standartına uyğunluğu təsdiq edildikdə məhsullara ETKT etiketi vurulur və sertifikatlaşdırılır. Beləliklə, bu şəkildə etiketin vurulması isə istehlakçıya istehsal sistemini daha yaxşı müəyyən etməyə və qanunvericilik və sertifikatlaşdırma isə bazarda uyğunluğun təmin edilməsinə imkan verir.

***Prinsiplər.*** ETKT-nin inkişafı və artımı (böyüməsi) **(i) sağlamlıq; (ii) ekologiya; (iii) ədalət** və **(iv) qayğı** kimi **4 əsas prinsipə** söykənir.

Məhz bu prinsiplər ETKT-nin inkişafının əsasını və bəşəriyyətə töhvəsini izah edir. Kənd təsərrüfatına geniş mənada tətbiq edilə bilən bu prinsiplərə insanın istehsal, emal, qida və digər məhsulların paylanması məqsədilə torpağa, suya, fauna və floraya qayğısı daxildir.

Qısacası, fəaliyyətin ilhamvericisi və etik əsası olan bu prinsiplər vəhdət şəklində istifadə edilməlidir. Bu isə təsadüfi deyildir, məhz sadalanan bu prinsiplərdə ETKT-nin bəşəriyyətə verə biləcəyi fayda və qlobal miqyasda kənd təsərrüfatının yaxşılaşdırılması yolları görünür. Beynəlxalq Ekoloji Kənd Təsərrüfatı Hərəkatı Federasiyasının (IFOAM) bu prinsipləri inkişafın əsasını, proqram və standartları tənzimləyir, eləcə də, bütün dünyada tətbiq imkanı nəzərə alınmaqla hazırlanmışdır.


***Qlobal meyllər və İƏT regionu.*** Müasir qlobal meyllərdən biri kimi dünyada fəal şəkildə intensivlik qazanmaqda olan ekoloji təmiz qida bazarı 2015-ci ildə 81,6 milyon ABŞ dolları kimi qiymələndirilmişdir. Bu dövriyyəyə liderlik edən ölkələr Amerika Birləşmiş Ştatları (ABŞ), Almaniya, Fransa və Çin olmuşdur. Bir çox bazarlar 2015-ci ildə

ikiqat rəqəmlərlə böyümüşdür. Belə ki, sürətlə inkişaf edən bazarlar demək olar ki, əsasən inkişaf etməkdə olan ölkələrdədir, lakin bununla belə onların istehsal həcmi eyni sürətlə inkişaf etmir, bu isə idxal və qlobal bazarlarla nəticələnir.

IFOAM bu sahədə istər istehsalın, eləcə də bütün ölkələrdə daxili bazarın təşviqi və ekoloji təmiz kənd təsərrüfatı məhsullarının münasib qiymətlərlə buraxılması üçün **"Organic 3.0"**ı elan etmişdir.

İƏT regionunun müxtəlif iqlim şəraiti, geniş və zəngin biomüxtəlifliklə ETKT-nin inkişafı üçün böyük potensiala malikdir. Baxılmış məlumatlarda ayrı-ayrı hallarda seçilmiş İƏT ölkələrində ekoloji kənd təsərrüfatının inkişaf etdiyi görünür. Ümid edilir ki, öyrənilən dərslər digər İƏT üzv ölkələrində ekoloji ərzaq və qeyri-ərzaq məhsullarının, bazarların, habelə, insan kapitalının və institusional səviyyənin inkişafına kömək edəcəkdir.

***Tədqiqat layihəsinin nəticələri.*** İqtisadi Əməkdaşlıq Təşkilatı (İƏT) 1985-ci ildə İran, Pakistan və Türkiyə respublikaları tərəfindən qurulmuş Avrasiya siyasi və iqtisadi dövlətlərarası təşkilatdır. Sonradan 1992-ci ildə qurum 7 yeni üzvlərin – Azərbaycan, Əfqanıstan, Qazaxıstan, Qırğızıstan, Tajikistan, Türkmənistan və Özbəkistanın ona qoşulması ilə genişlənmişdir.

Təşkilatın yaradılmasında məqsəd regionda inkişafın yüksəldilməsi, ticarətin və investisiya imkanlarının təşviqi üçün platformanın təmin edilməsidir. Bu platforma Mərkəzi Asiyadan başlayaraq, Türkiyədən keçməklə Aralıq dənizinə qədər, İrandan keçməklə Fars körfəzinə qədər və Pakistandan keçməklə Ərəb dənizinə qədər ölkələrin qrupu ilə formalaşmışdır. İƏT ümumilikdə orta və aşağı gəlirə malik ölkələrdən ibarətdir. Onlar coğrafi yerləşməsinə və təbii ehtiyatların potensialına görə çox əhəmiyyət qazanırlar. Kənd təsərrüfatı isə təkcə suvarma və ərzaq təhlükəsizliyində deyil, həmçinin, yeni iş yerlərinin yaradılmasında və rayon kəndlərində gəlir əldə edilməsində mühüm rol oynayır. Bu regionun tipoqrafiyası yüksək dağlarla əhatələnmiş, mülayim iqlimə malik geniş düzənliklərdən münbit vadilərə qədər uzanır. Bu isə öz növbəsində regionda hava şəraitinin müxtəlif növlərinin, məs., çöllər, nəmli kontinental, nəmli subtropik və səhranın ortaya çıxmasına gətirib çıxarır. Hərəkətverici kimi qüvvəsinin olmasına baxmayaraq, kənd təsərrüfatı aşağı məhsuldarlıq, torpaqların deqradasiyası, bioloji müxtəlifliyin itirilməsi, torpağın və suyun çirklənməsi kimi müxtəlif problemlərlə qarşılaşır. Bundan başqa İƏT ölkələrinin üzləşdikləri iqlim dəyişmələri də böyük problemlərdən biridir. 2014-cü ilin may ayında Almatada (Qazaxıstan) təşkil edilən İkinci Mərkəzi Asiya İqlim Problemləri Forumunda bütün maraqlı tərəflər Mərkəzi Asiyada iqlim dəyişmələrinin nəticələrinin yumşaldılması və uyğunlaşdırılması istiqamətində regional strategiyanın hazırlanmasına dair qərara gəlmişlər.

Ümumilikdə, İƏT ölkələrində kənd əhalisinin payı və kənd təsərrüfatının rolu hələ də yüksəkdir. Bir-neçə region istisna olmaqla, fermer təsərrüfatlarını əsasən ailə təsərrüfatları təşkil edir, onlar isə aşağı məhsuldarlıq və bazarlara girişin olmaması kimi problemlərlə üzləşirlər. Hər bir ölkənin müxtəlif kənd təsərrüfatı siyasətləri, prioritetləri və dəstək proqramları vardır. İƏT-in şüarı **"Region xalqı üçün dayanıqlı sosial-iqtisadi inkişafdır".** Bu şüarla kənd əhalisinin sosial-iqtisadi inkişafı kənd təsərrüfatı sahəsində potensialın artırılması və yüksək dəyərli istehsal çox əhəmiyyətli olmuşdur. Buna təbii resursların yaxşı idarəedilməsi, fermerlerin yüksəldilmiş potensialı və rəqabətli məhsullarla bazarlara sərbəst giriş yolu ilə nail oluna bilər. Böyük fermer təsərrüfatlarında mono-əkinçiliyin tətbiqi çərçivəsində məhsullarda qalıqlara və yaxud torpağın və suyun çirklənməsi problemlərinə yol açmışdır. Kiçik ailə təsərrüfatlarının kənd qadınlarının güclənməsinə və ərzaq təhlükəsizliyinə töhvə verməsinə baxmayaraq, gəlirlərin yaranması və bazarlara giriş səviyyəsi aşağıdır. Beləliklə, təcili şəkildə cari idarəetmə sistemlərinin dayanıqlı idarəetmə sisteminə çevrilməsinə və bazara girişin inkişafına ehtiyac vardır.

***Tədqiqat layihəsinin qısa tarixi.*** Tədqiqat işin icrası üzrə tərəflər arasında müqavilə 2014-cü ilin 3 oktyabr tarixində Bakı şəhərində 2-ci "Bakı Forum-Konfransı"nın

bağlanış mərasimində imzalanmışdır (İİETİ adından: İİETİ-nin direktoru i.e.d., prof. Vilayət VƏLİYEV və İƏT adından: İƏT-in Baş Katibi t.ü.f.d. Şamil ƏLƏSGƏROV).

Regional mütəxəssis şəbəkəsinin formalaşdırılması məqsədilə işin icrasına Azərbaycanla yanaşı, İƏT üzv ölkələrindən Türkiyə, Qırğızıstan, Özbəkistan, Qazaxıstan, İran, Əfqanıstan və Pakistandan məsləhətçilər cəlb edilmiş, iki aralıq və yekun hesabatlar hazırlanaraq, diplomatik qaydada İƏT Katibliyinə təqdim edilmişdir.

**Uygun AKSOY, prof., dr.**
***Layihə qrupunun rəhbəri***
***(Türkiyə Respublikası)***

**Aynurə İSMAYILOVA,**
***Layihənin əlaqələndiricisi/tədqiqatçı***
***(Azərbaycan Respublikası)***

***İƏT-İİETİ birgə əməkdaşlığı,***
***"İƏT regionunda "Ekoloji Təmiz Kənd Təsərrüfatı""***

## *Executive Summary*

***An integral part of the agriculture policy: Organic Agriculture.*** One of the most ancient types of human activity is agriculture, in which are reflected - history, culture and social values. One of the modern global trends is Organic ("Ecologically Clean") Agriculture, which is rapidly developing around the world.

Organic agriculture is an integrated production system that provides the improvement of the eco-system with the protection of human health, the use of large amounts of synthetic additives to prevent, maintain soil fertility based on the conversation of existing biological diversity by preventing the use of compounds that may be harmful to the environment following the local conditions and the ecological period.

Organic Agriculture of traditional economic innovation technologies together with modern achievements of methods of scientific and technical progress is based on the use of land, thereby ensuring a positive impact on all forms of life and the environment.

***Organic agriculture*** is defined as a management system that focuses on on-farm inputs and developing agro-practices by mimicking the biological cycles in nature.

In organic production, use of genetically engineered inputs and propagation materials, irradiation and sewage sludge are not allowed. The inputs and methods that can be used are permitted by official and private standards. There could be slight differences among these standards but all are based upon the same principles of health, ecology, fairness and care. According to the figures of 2015, 89 countries have legislation on organic agriculture. The whole production chain is inspected and in case of conformity to the reference standard, the products are certified as organic and labeled.

Thus, labeling helps the consumer to better identify the production system and the legislation and certification provides harmony in the market.

***Principles.*** The growth and development of organic agriculture is based on **4 such basic principles** as: **(1) health; (2) ecology; (3) care** and **(4) fairness.**
These principles explain the basis for the development of Ecologically Clean Agriculture and contribution to humanity. These principles can widely applied in agriculture, include care of land, water, flora and fauna by human for production, processing, distribution of food and other products. In other words, these inspirational and ethical principles should be used together. It is not accidental that in these principles are seen the benefit, which Ecologically Clean Agriculture could bring to the humanity and the ways of improving agriculture. These IFOAM principles regulate the basis for the development of programs and standards and are prepared taking into account the possibility of application all over the world.


***Global trends & ECO region.*** ECA as one of the modern global trends is actively gaining intensity over the world. Such as, the organic food market is estimated as 81.6 billion US dollars in 2015. The leading countries are USA, Germany, France and China. Most of the markets grew by double digits in 2015. The fast growing markets are mainly in developing countries however; their production capacity does not increase at the same rate resulting in imports and globalized markets**.**

The International Federation of Organic Agriculture Movements launched **'Organic 3.0'** to promote organic agriculture both as a producer and as the domestic market in all countries and release organic products at affordable prices. The ECO countries have great potential for developing organic agriculture with diverse climates, wide product range and

rich biodiversity. The compiled data display various cases among selected ECO countries where organic agriculture developed. It is hoped that lessons learned will help other member countries to develop organic food and non-food production, markets and capacity both at human and institutional levels.

***Project Outcome.*** The Economic Cooperation Organization or ECO is a Eurasian political and economic intergovernmental organization founded by Iran, Pakistan and Turkey in 1985 and further expanded to include seven new members; Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan in 1992. It aims to provide a platform to improve development and promote trade and investment opportunities in the Region. It is formed by a group of countries ranging from Central Asian to the Mediterranean through Turkey, to the Persian Gulf through Iran, and to the Arabian Sea via Pakistan. The ECO is in general composing of upper middle to low income countries. They gain more importance due to their geographic location and natural resources capacity. Agriculture has a crucial role not only for water and food security but also for creation of employment and generating rural income. The topography of this region ranges from vast plains to high mountains surrounding fertile valleys with mild climate. This influences weather patterns in the region yielding to multiple types of climates e.g. steppes, humid continental, humid subtropical and desert. Despite agriculture's role as a driving force, it faces various challenges as low productivity, land degradation, loss of biodiversity, and land and water pollution. Climate change is a challenge in ECO countries more than ever. The Second Central Asia Climate Knowledge Forum organized in Almaty in May 2014 brought together all stakeholders to prepare a regional strategy for climate change mitigation and adaptation in Central Asia.

In ECO countries, the share of rural population and the role of agriculture are still high. With few regional exceptions, farms are mostly family farms facing problems of low productivity and having no access to the markets. Each country has different agricultural policies, priorities and support programs. The motto of ECO is **"Sustainable socioeconomic development for the people of the region".** With this motto, the socio-economic development of the rural population through increased capacity and high value production in agriculture become crucial. This can be achieved through a better management of natural resources, improved capacity of farmers and easier access to markets with competitive products. In large-scale commercial farms increased off-farm input use under mono-cropping practices lead to residues in the products and/or soil and water pollution problems. The small family farms contribute to empowerment of rural women and food insecurity, however the income generation and market access rates are low. Thus, there is an urgent need to change the current management systems to a more sustainable management and improve market access.

***Project Background.*** The agreement on implementation of the research project was signed between the parties on October 3, 2014 in Baku at the closing ceremony of the 2nd "Baku Forum Conference" (on behalf of ISRER, Prof., Dr. Vilayat VALIYEV, Director of ISRER and on behalf of ECO, Dr. Shamil ALESGEROV, Secretary General of ECO).

In order to form a network of regional experts, along with Azerbaijan, consultants were invited from the ECO member states, such as Afghanistan, Turkey, Kazakhstan, Kyrgyzstan, Uzbekistan, Iran and Pakistan. Two mid-term and final reports were also prepared and submitted to the ECO Secretariat through diplomatic channels.

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***Aynura ISMAYILOVA,***
***Project Coordinator/Consultant***
***(Republic of Azerbaijan)***

## *Резюме*

***Составная часть ЭКО системы: органическое сельское хозяйство.*** Одним из самых древних видов человеческой деятельности является сельское хозяйство, в котором нашли свое отражение - история, культура и общественные ценности. Одним из современных глобальных тенденций является **органическое сельское хозяйство (ОСХ)**, стремительно развивающееся во всем мире.

Профилактика использования в больших количествах синтетических добавок и сохранение плодородия почвы. ОСХ является единой системой обеспечения охраны человеческого здоровья, и улучшения экосистемы, с учетом местных условий и периода экологического производства, а также предотвращение использования всевозможных соединений, несущих вред окружающей среде, основаны на сохранении существующего биологического разнообразия.

ОСХ традиционно - хозяйственных инновационных технологий совместно с современным достижением методов научно-технического прогресса, основывается в свою очередь с использованием земли, обеспечив тем самым положительное влияние на все формы жизни и окружающую среду.

ОСХ определяется как система управления, которая фокусируется на внутрихозяйственных вкладах и развитии агропромышленности, имитируя биологические циклы в природе.

В органическом производстве использование генетически модифицированных материалов и материалов для размножения, облучения и осадка сточных вод не допускается. Подходы и методы, которые могут быть использованы, разрешены официальными и частными стандартами. Между этими стандартами могут быть небольшие различия, но все они основаны на тех же принципах здоровья, экологии, гигиены и ухода.

Согласно данным 2015 года, 89 стран имеют законодательство об органическом сельском хозяйстве. Вся производственная цепочка проверяется, и в случае соответствия эталонному стандарту, продукция сертифицируется как органическая и маркируется.

Таким образом, маркировка помогает потребителю лучше идентифицировать производственную систему, а законодательство и сертификация обеспечивают гармонию на рынке.

***Принципы.*** Рост и развитие ОСХ, основывается на ***4 таких основных принципах***, как: **(i) здоровье; (ii) экология; (iii) гигиена** и **(iv) уход.** Именно эти принципы объясняют основу ОСХ и вклад в развитие человечества. В широком смысле слова к применению этих принципов производства в сельском хозяйстве входит забота людей к земле, воде, флоре и фауне с целью распределения, переработки пищевой и другой продукции.

Иными словами, эти вдохновляющие и этические принципы, должны быть использованы совместно. И это не случайно, что именно в перечисленных принципах, ОСХ может принести человечеству пользу на пути к улучшению сельского хозяйства в глобальном масштабе. Эти принципы IFOAM (Федерация Экологически Чистой Сельскохозяйственной Деятельности) регулируют основу для развития программ и стандартов, а также подготовлены с учетом возможности применения во всем мире.

***Глобальные тенденции и регион ОЭС.*** ОСХ, является одним из современных глобальных тенденций, активно добивающейся интенсивности во всем мире. Таким образом, в 2015 году рынок органических продуктов питания оценивался в 81,6 млрд. долларов США. Ведущими странами являются США, Германия, Франция и Китай.

В 2015 году большинство рынков выросли на двузначные цифры. Однако быстрорастущие рынки в основном находятся в развивающихся странах. Их производственные мощности не увеличиваются с той же скоростью, тем самым приводя к импорту и глобализированным рынкам.

IFOAM запустила «**Органик 3.0**», чтобы продвинуть органическое сельское хозяйство в качестве производителя, на внутреннем рынке всех стран и выпускать органические продукты по доступным ценам.

Страны ОЭС имеют большой потенциал для развития ОСХ с разнообразными климатами, широким ассортиментом продукции и богатым биоразнообразием. Собранные данные показывают различные случаи среди отдельных стран ОЭС, где развивается ОСХ. Следует надеяться на то, что извлеченные уроки помогут другим странам членам ОЭС развивать органические продовольственные и непродовольственные товары, рынки и потенциал как на человеческом, так и на институциональном уровнях.

***Результат проекта.*** Организация Экономического Сотрудничества или ОЭС - это евразийская политическая и экономическая межправительственная организация, основанная Ираном, Пакистаном и Турцией в 1985 году. В 1992 году она включила еще семь новых членов: Афганистан, Азербайджан, Казахстан, Кыргызстан, Таджикистан, Туркменистан и Узбекистан. ОЭС призвана обеспечить платформу для улучшения, развития и распространения торговых и инвестиционных возможностей в Регионе. Она сформирована группой стран, начиная от Средней Азии до Средиземного моря, через Турцию, до Персидского залива через Иран и до Аравийского моря через Пакистан. В целом ОЭС составляют страны с низким и средним уровнем дохода. Они приобретают наибольшее значение из-за их географического положения и потенциала природных ресурсов. Сельское хозяйство играет решающую роль не только в области водоснабжения и продовольственной безопасности, но и для создания рабочих мест и получения доходов в сельских районах. Топография этого региона колеблется от обширных равнин до высоких гор, окружающих плодородные долины с мягким климатом. Это влияет на погодные закономерности в регионе, что приводит к появлению различных типов климата, например, степному, влажному континентальному, влажному субтропическому и пустынному. Несмотря на роль сельского хозяйства в качестве движущей силы, она сталкивается с различными проблемами, такими как: низкая производительность, деградация земель, утрата биоразнообразия и загрязнение земли и воды. Более чем когда-либо изменение климата в странах ОЭС является большой проблемой. Второй Форум по Вопросам Климата в Центральной Азии, организованный в Алматы в мае 2014 года, собрал все заинтересованные стороны для подготовки региональной стратегии смягчения последствий изменения климата и адаптации в Центральной Азии.

В странах ОЭС доля сельского населения и роль сельского хозяйства по-прежнему высоки. При немногих региональных исключениях фермы - в основном семейные, сталкиваются с проблемами низкой производительности и не имеют доступа к рынкам. Каждая страна имеет различные сельскохозяйственные стратегии, приоритеты и программы поддержки. Девизом ОЭС является **«Устойчивое социально-экономическое развитие для жителей региона»**. С этим девизом социально-экономическое развитие сельского населения за счет увеличения производственных мощностей и высокоценного производства в сельском хозяйстве приобретает решающее значение. Это может быть достигнуто за

счет более эффективного управления природными ресурсами, улучшения возможностей фермеров и облегчения доступа к рынкам с конкурентоспособной продукцией. В крупномасштабных коммерческих фермах увеличение использования нехозяйственных ресурсов в условиях монокультурности приводит к остаткам в продуктах и/или загрязнениям почвы и воды. Небольшие семейные фермы способствуют расширению прав и возможностей сельских женщин и отсутствия продовольственной безопасности, однако уровень доходов и доступ на рынки являются низкими. Таким образом, существует настоятельная необходимость изменить существующие системы управления на более устойчивое управление и улучшить доступ к рынкам.

***История проекта.*** Соглашение по исполнению исследовательских работ было подписано между сторонами 3 октября 2014 года в городе Баку на церемонии закрытия 2-ой "Баку Форум-Конференции" (от имени НИИЭР: Директор НИИЭР д.э.н., проф. Вилаята ВАЛИЕВ и от имени ОЭС: Генеральный Секретарь ОЭС к.т.н. Шамиля АЛЕСКЕРОВ).

С целью формирования специалистов для исполнения работ в региональной сети наряду с Азербайджаном, были привлечены консультанты членов государств ОЭС как: Турции, Кыргызстана, Узбекистана, Казахстана, Ирана, Афганистана и Пакистана. Также были подготовлены два промежуточных и итоговый отчеты и представлены в дипломатическом порядке в Секретариат ОЭС.

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**Айнура ИСМАЙИЛОВА,**
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***(Республика Азербайджан)***

***ОЭС– НИИЭР исследование***
***«Чистого сельского хозяйства» в регионе ОЭС***

# *Institute for Scientific Research on Economic Reforms*

*Ministry of Economy of the Republic of Azerbaijan*

**Institute for Scientific Research on Economic Reforms (ISRER)** under the Ministry of Economy of the Republic of Azerbaijan founded **in 1964** at the State Planning Committee of the Azerbaijan SSR. In that period, a newly-established Institute was the first research institution working in applied fashion on scientific foundations of economic development in Azerbaijan, and its main activities were focused on development of master schemes related to development of economy and placement of productive forces.

After regaining its independence, Azerbaijan has emerged as a significant player in the international policy arena through cooperation with a number of reputable international organizations. Therefore, it is reasonable that any organization according to its profile, becoming a participant of the international integration process is eager for hosting international events and searching opportunities to attend scientific-technical events held overseas.

Considerable works have been conducted in recent years by the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of Economy of the Republic of Azerbaijan in relation to economic research, capacity building, exchange of information, the expansion of cooperation with foreign partners, international organizations and funding organizations.

## *Cooperation with partners.*

Attaching great importance to extending and developing the relations with international organizations, ISRER maintains fruitful and close cooperation with the **Economic Cooperation Organization (ECO).**






As part of the measures taken in connection therewith, the last year, the works were carried out for establishment of Research Center of the ECO in Baku, in the framework of the joint cooperation during the period covering 2013-2014, the ***1st and 2nd "Baku-***

***Forum Conferences",*** the ***1st and 2nd Meetings of the Editorial Board of the Journal of "Economics (EBEJ)"***, ***2nd Meeting of ECO Permanent Steering Committee on Economic Research (PSCER)***, ***1st regional training on "Practical Modeling with GAMS"*** for delegates of the ECO member states were held in Baku, ***(2nd regional training on "Economic Impact Analysis"*** held in Bishkek, Kyrgyzstan with methodological and trainer support of ISRER), in response, the specialists of the ISRER attended the events held in the member states of the organization and the meetings of the ECO Regional Planning Council (RPC).

Two Projects funded throught ECO Special Fund implemented by ISRER are: ***(i) "Study on Applicability of General Equilibrium Model in ECO Countries and Capacity Strengthening" and (ii) "Exchange of Experience and Strengthening Inter-Agency Cooperation on the Development of Ecologically Clean Agriculture in ECO Member Countries").***

The development of non-oil sector and provision of scientific support to stable economic growth through effective use of oil revenues are amongst the priorities of the economic policy of the government. From this standpoint, a great importance is attached to the study of local capacity or effective use of the international experience.

Hence, within the framework of the project on "Capacity Building Support to the Ministry of Economic Development to encourage the development of a competitive non-oil sector in Azerbaijan" implemented during 2009-2010 by the Institute in cooperation with the country office of the **United Nations Development Program (UNDP)** in Baku, research works on the topics-improvement of competitiveness in the economic areas of Azerbaijan such as transport, trade, transit, agriculture, tourism and strenghtening the regional economy were conducted.

The in-depth and science-based analysis of indicators featuring the country's socio-economic development and preparation of forecasts reflecting the development trends, analysis and essessment of the country's socio-economic development indicators contributed to the development of **"General Equilibrium Model of the Republic of**


**Azerbaijan"** based on the application of economic-mathematical modeling. In this connection, a close cooperation was established with **"EcoMod Network" Company** (Global Economic Modeling Network) and the project entitled "**Development of**

**General Equilibrium Model of the Republic of Azerbaijan**" was successfully implemented.

One of the other outstanding tasks assigned to the ISRER was to conduct research studies on development of agriculture, particularly the organic agriculture sector. In view of the fact that such an new initiative was launched in Azerbaijan for the first time, since 2011, the ISRER initiated and established a cooperation with the **Turkish Cooperation and Development Agency (TIKA)** Baku office of the Prime Ministry of the Republic of Turkey. A research on ***"Studying the Turkish experience in the process of development of organic farming in Azerbaijan and development of interagency cooperation"*** was conducted during 2011-2012.

As a result of the research work, scientific-practical conferences were held on the topics: "Organic farming and sustainable development in Azerbaijan" (in Ganja city), "The role of organic farming in the enhancement of non-oil export potential" (in Baku city); roundtables were organized on below topics: "SWOT analysis for the assessment of the prospects for development of organic farming", "Prospects for the development of organic farming and viticulture" and "Trends in development of organic agriculture in Azerbaijan", a textbook designed specifically for the secondary school students and the Draft Action Plan for the development of organic farming for the period 2012-2017 was elaborated.

In accordance with the State Program on **"Development of wine-growing in the Republic of Azerbaijan in 2012-2020"**, the ISRER conducted research in a variety of economic areas and made relevant proposals and guidelines in this connection. Prof., Dr. Vilayat VALIYEV, Director of ISRER attended the 10th meeting of the **International Organization Vine and Wine (OIV)** held in Izmir, Turkey, in 2012 where he held an exchange of with the representatives of OIV for searching the opportunities to encourage the development of viticulture and wine-making in Azerbaijan with its enormous capacity and good viticultural experience.

Research work on studying the international best practices related to insurance and leasing services in the field of viticulture and winemaking, analysis of the current situation in the field of agricultural subsidies, preparation of relevant proposals and guidelines for improvement of this process taking into account the international best practices were conducted by the Institute. The organization of various seminars with


presentations of foreign experts, provision of information about Azerbaijan, as well as delivery of the Azerbaijani realities to a larger audience are of high priority issues constantly deserving the attention.

Furthermore, a great progress has been achieved in the application of research output to the production process as a result of studying the international experience and regional entrepreneurship capacity. In this regard, International Conference on "Role of entrepreneurship in socio-economic development: Turkish-Azerbaijani experience" was organized in association with the ISRER, **Ozyegin University** of the Republic of Turkey**,** Azerbaijan Export and Investment Promotion Foundation (AZPROMO) and Baku Business Training Center (BBTC) in Baku, on 3 June 2013. Moreover, studying the experience of Turkey in boosting the entrepreneurial activity, as well as cooperation and exchange of experience with the organizations in Azerbaijan in this field were on the agenda as well. Within the framework of the conference, **Online Competition** entitled **"Virtual Stock Exchange"** was held and winners were awarded. The online-based competition was co-organized by ATIG Securities, Turkey (Advised Trading Investment Group) and Ozyeğin University between April 8 - May 6, 2013. 166 students represented Azerbaijan in this competition.

During **2010-2016**, a number of bilateral and multilateral memorandums of understanding, cooperation agreements were concluded with Moldova, South Korea, Turkey, Ukraine, Hungary, Kazakhstan, Kyrgyzstan and other countries to conduct joint research works aimed at expanding cooperation relations, exchange of information and experience, as well as organization of joint events.

For the purpose of extending cooperative relations with foreign and international organizations, in line with the expansion of the joint activities, supporting the active participation of specialists of both parties in international scientific and technical events, in particular, during 2010-2016, the delegates of the Institute paid numerous official visits to countries such as Germany, Austria, Belgium, Belarus, Czech Republic, China, South Korea, France, Moldova, Hungary, Turkey, Tajikistan, Kazakhstan, Kyrgyzstan, Uzbekistan, Iran, Georgia, Portugal, Indonesia, India, Ukraine, Russia, Estonia, Malaysia through different sources of funding. In general, ***130 official visits*** were made within the stated period and part of travel expenses were covered by organizers or funding organizations.

***Capacity-building activities.***

*In recent years, ISRER has carried out activities towards the conduct of economic research, capacity building of personnel, information exchange, expansion of*

*cooperation with foreign partner organizations and funding organizations. Since, in this respect, organized several international and local level scientific-technical events particularly in the last 7 years within the framework of cooperation with international organizations.*

On **April 26-28, 2016**, the training on the topic **"Financing of small and medium enterprises"** held in cooperation with the Islamic Development Bank (IDB), the Islamic Research and Training Institute (IRTI) and Institute for Scientific Research on Economic Reforms (ISRER) in Baku city (Azerbaijan) for the representatives from mid-level bank employees, employees from small and medium-sized enterprises, retail, corporate and credit departments, economic and fiscal policy makers, researchers, and Ph.D. students.

On **December 14-18, 2015**, the training on the topic **"Islamic Microfinance for Poverty Reduction"** held in cooperation with the Islamic Development Bank (IDB), the Islamic Research and Training Institute (IRTI) and ISRER in Khachmaz town (Azerbaijan) for the representatives of Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan Republics. Guba-Khachmaz Regional Branch of the Ministry of Economy, Baku Business Training Centre (BBTM) and "Guba-Khachmaz Regional Development Centre" provided enormous support in the organization of training held in Khachmaz.

On **September 28-October 2, 2015,** a high-level representative of the **Middle East University Science Park (ODTU Techno parks)** Mr. Tolga ÖZBOLAT made a visit to our country and during the visit; he participated in several meetings, in the evaluation process of specialists, and held meetings with the specialists of the ISRER.

The regional training on **"Financing of Small and Medium Enterprises (SMEs)"** held in Baku on September 22-26, 2014, with organizational support of the **Islamic Development Bank (IDB), the Islamic Research and Training Institute (IRTI)** and ISRER.

According to a mutual agreement, the representatives of Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan republics attended the training. Within the framework of the trading, a **"Study Tour"** – a tour to the selected business enterprises organized **on September 26, 2014** for the training participants to become familiar with the government policy implemented towards the development and promotion of SMEs, financing mechanisms for SMEs, and the results of the work performed in this direction. Guba-Khachmaz Branch of the Economy Ministry, Baku Business Training Centre (BBTM) and "Guba-Khachmaz Regional Development Centre" provided tremendous support in organizing the regional tour.

The **Second Baku Forum** of the Economic Think Tanks of the Economic Cooperation Organization (ECO) member states, and **the second International Conference on "Energy, Regional Integration and Socio-Economic Development"** held **on October 1-3, 2014,** in Baku under the framework of effective cooperation with the Economic Cooperation Organization (ECO) and the **50th anniversary of the ISRER.**

The **Second Meeting of the Editorial Board of the ECO Economic Journal** held **on April 26, 2014,** in Baku.

The **First Regional Training on Practical CGE Modelling with GAMS** intended for the representatives of the Economic Cooperation Organization (ECO) member states held in Baku **on April 21-25, 2014.**

The **"Innovation and Training Centre"** established **in 2013** at ISRER with the support provided by the Turkish Cooperation and Coordination Agency (TIKA).

The **First Baku Forum** of the Economic Think Tanks of the Economic Cooperation Organization (ECO) member states and **the first International Conference on "Energy, Regional Integration and Socio-Economic Development"** conducted in Baku **on September 5-6, 2013.**

The international practical conference on the **"Role of entrepreneurship in socio-economic development: Turkish-Azerbaijani experience"** was held in Baku on June 3, 2013 with organizational support of Özyeğin University (Republic of Turkey), ISRER, Baku Business Training Centre (BBTM) and Azerbaijan Export and Investment Promotion Foundation (AZPROMO). During the event, awards presented to winners of the competition **"Online Stock Trading"** organized via the internet by Özyeğin University.

The visit of students from **Brandies University's (USA)** graduate school to our country **(Country Study Tour: Republic of Azerbaijan)** was organized with the support of ISRER **during 3-4 June 2013.** During the visit, the students held several meetings at local institutions and agencies such as *Azerbaijan Diplomatic Academy (ADA), Research Centre of National Bank, "Azersun" Holding, Qafqaz University, Azerbaijan-Turkey Business Association* (*ATIB*), *AZPROMO, Azerbaijan International Society of Turkish Industrialists & Businessmen (TUSIAB), National Confederation of Entrepreneurs (Employers) Organizations of Azerbaijan Republic (*AEC*)* etc.

The international scientific-practical conference on **"Prospects of development of viticulture and winemaking, the best practices and the opportunities of using technologies"** held in Ganja on March 7, 2013.

Presentation on **"General Equilibrium Model of the Republic of Azerbaijan (AZMOD): the work performed, results and prospects"** held on December 26, 2012.

The **First Meeting of the Editorial Board of the ECO Economic Journal** held in Baku **on November 08, 2012.**

The **Second Meeting of the Permanent Working Group on Economic Research of the ECO** held **on November 7, 2012** in Baku.

The international scientific-practical conference on "**Prospects of development of viticulture and winemaking, the best practices and the opportunities of using technologies"** convened in Ganja town on October 7, 2012.

The roundtable on **"The trends of development of organic farming in Azerbaijan" held on October 1, 2012;** moreover, the round table on "Prospects of development of Organic Farming, as well as viticulture" held in March 13, 2012.

During **February 9-28 and March 4-15 2012,** an expert group from the Republic of Turkey Mrs. Sibel Guneyi, Prof., Dr. Uygun Aksoy, Dr. Gülay Besirli paid a visit to Azerbaijan within the framework of joint cooperation between the *Turkish International Cooperation Agency (TIKA*) Baku office and ISRER for the purpose of conducting a SWOT analysis on development prospects of organic agriculture in Azerbaijan and carried out research on the aforesaid topics.

The training on **"Project Assessment and Cost-Benefit Analysis"** conducted in Baku on November 14–December 10, 2011 with organizational support of **the United States Agency for International Development (USAID) Azerbaijan Mission** and ISRER.

Scientific-practical conference on the **"Role of organic agriculture in enhancement of the non-oil export sector (Exchange of experience between Turkey and Azerbaijan)" held in Ganja, on November 4, 2011.**

A scholar of ISRER awarded the scholarship of the Fulbright Program (USA) during the period September 1, 2011 to June 1, 2012.

The Conference on ***"Socio-Economic Development in a Globalizing World: Azerbaijani-Turkish cooperation"*** *was held* in Baku on 28-30 April 2011.

***Projects implemented through funding from the State Budget.***

"Making suggestions and recommendations for assessment and efficient use of investments in Azerbaijan"; "Assessment the competitiveness of the agro-industrial complex products"; "Assessment of the current state of export potential of non-oil sector and problems related to enhancement of its capacity"; "Assessment of production of goods and delivery of services based on inter-industry balance model" **(in 2010)**;

"Research work on "Development of a simulation model of creation of workplaces on the basis of inter-industry labour balance in the areas of economic activity" **(in 2011)**;

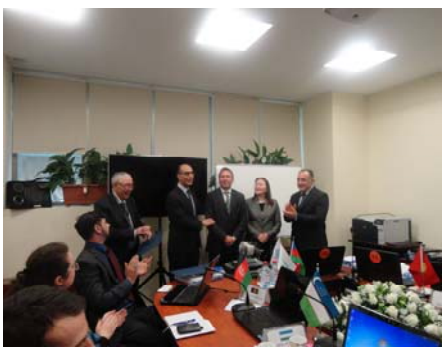
"Study of experience on progressive international insurance and leasing services practiced in viticulture and winemaking, making appropriate suggestions and guidance for the development of this specific area"; "Making suggestions and recommendations on organization of services and quality improvement within the framework of reforms conducted in housing sector"; "Income tax optimization on economic areas taking into account the impacts of inter-industrial relations" **(in 2012)**;

"Assessment of poverty on the basis of Multidimensional Poverty Index criteria (MPI) in the Republic of Azerbaijan"; "The analysis of the current situation in the field of allocation of agricultural subsidies and making recommendations for improvement of this process taking into account all international best practices"; "Conduct studies on best international practices in the development of organic farming and elaboration of development plan" **(in 2013)**;

"Making suggestions and recommendations for resolving employment problems in the frontier region (on Fizuli, Beylagan regions)"; Making suggestions and recommendations to encourage the development of Techno parks and Agro parks focused on technological innovation in the Republic of Azerbaijan with reference to the international experience **(in 2014);**

"Making suggestions and recommendations for evaluation of innovation activities and enhancement their effectiveness in Azerbaijan" **(in 2015),** etc.



# *Project Team Members*

## Republic of Azerbaijan

*(Coordinating country)*

### *Prof., Dr. Vilayat VALIYEV*

*Director*
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*Prof. Valiyev is a recognized leading expert on economy, namely the energy sector. His career of about 30 years has been marked by academic distinction in teaching and research in the areas of the application of uncertainty/risk analyses to resource extraction, development of optimization programs for oil and gas recovery, economic and technical analysis of rehabilitation projects in the energy sector, and analysis of laws and contractual arrangements intended to facilitate the development of both the upstream energy sector and the domestic utility industry. He has also undertaken commercial assignments in the development of financial and management accounting systems for fuel and energy enterprises, and has contributed at a senior level to several WB, ADB, BP, EBRD and USAID funded studies of the Azeri domestic energy utility industry, and of the regional Caucuses energy sector.*

*Prof. Valiyev has been conducting research on a number of matters in upstream oil & gas sectors, such as rational coodination of works in geological-geophysical, exploration and development phases for oil & gas fileds and condensate fields; preparation of feasibility studies for development of oil & gas and condensate fields; estimation and projection of oil & gas and condensate reserves and their extraction; development of Production Sharing Agreement (PSA) models for joint development of oil & gas reseves; study of various perspective geological, technical and economic problems and strategic decision-making, tax policy in oil & gas production, etc, and has achieved important results.*

*Recently, as the Director of the Institute for Scientific Research on Economic Reforms (ISRER) of the Ministry of Economy of the Republic of Azerbaijan, he is implementing research on developing General Equilibrium and macro-econometric models of Azerbaijan required for efficient use of oil revenues, and on the basis, boosting the economic, and, specifically the export potential of the non-oil sector, estimating short-, medium- and long-run plans and projections of socioeconomic development indicators.*

### *Associate Professor, Ph.D. Hezi EYNALOV*

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*Ph.D. Hazi Eynalov was born on December 17, 1973 in Yolustu village of Salian District of the Republic of Azerbaijan. In 1991, he graduated Special Physics and Mathematics High School and in the same year started his undergraduate education at the Faculty of Economics at Marmara University in Turkey. In 1995, he continued his graduate education at Marmara University. In 1997, after graduation from Marmara University he started his academic career at Qafqaz University and currently he continues his activity at Baku Engineering University.*

*In 2005, Mr. Eynalov got his Ph.D. degree in Economics. Currently, he is doing his Doctor of Science program at the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of the Republic of Azerbaijan. In 2011-2016 years, he worked as a leading scientific researcher at ISRER, and a member of the Scientific Council.*

*In 2009-2013, Mr. Eynalov was a Dean of Faculty of Economics of Qafqaz University; in 2014-2015, he worked as a Head of the Department of World Economics of that University.*

*Mr. Eynalov has 25 scientific papers covering different fields of Economics, including Organic Farming, published at domestic and international journals. He is an author of 3 books and has participated at 12 international conferences. As a national expert of UN FAO, he was a coordinator of 2 and expert of 3 different international projects. He is a Deputy Chairman of Public Union Together and Healthy. He is married and has two children.*


***Aynura ISMAYILOVA***
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*A.Ismayilova studied at a bachelor and master level programs of the Baku State University's School of Applied Mathematics & Cybernetics in 1997-2003. Later, with financial support of Government of Italy, she attended the master program on "International Public Affairs" in 2010-2011. Since 2012, she is a PhD student on Econometrics at the Institute for Scientific Research on Economic Reforms of the Ministry of Economy of the Republic of Azerbaijan, where she is continuing to work on her dissertation on "Modelling of affected factors increasing of non-oil export in Azerbaijan."*

*A.Ismayilova started her career at the National Academy of Sciences in 2004, and continued with the Institute of Scientific Research on Economic Reforms of the Ministry of Economy and Industry as of 2009 as Head of Department, now as Deputy Director on Strategic Development and International Relations Issues. In parallel she worked as project assistant in the Baku office of UNDP in 2011; during this time, she served as a Visiting Research Fellow at the Korea Institute International Economic Policy (KIEP) in Seoul, South Korea on May 1-31, 2012; also participated as a member of the Evaluation Commission of the project funded by the European Union in Baku in 2013.*

*A.Ismayilova, also took an active part in implementing cooperation with a number of international organizations in 2012-2014; attended scientific and scientific-technical events, cooperation meetings held in foreign countries with financial support of various foundations since 2006, and presented lectures for students enrolled in masters and doctoral programs.*

*In addition, she has been publishing in academic circles in recent years along with pursuing activities targeted at raising awareness in mass media about the ISRER.*


***Aral DAVUDOV***
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*Mr. Aral Davudov was born on September 6, 1984, in Baku, Azerbaijan Republic.*

*He graduated secondary school in 2001; Bachelor Degree on specialty of Legal Regulation of Economy from the Azerbaijan International University in 2005, and Master Degree on specialty of Legal Regulation of Economy and Management from the Azerbaijan Cooperation University in 2007.*

*He started his work experience as a Manager of Production and sales at the "El-Plastic" LTD between 2009 and 2010, in Baku; then he worked as Senior Research Fellow and Head of Department at the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of Economy of the Republic of Azerbaijan from 2010 till 2014; since 2014 he works as a Senior Counselor for the Ministry of Economy of the Republic of Azerbaijan.*

*Mr. Davudov is married, and lives with his family in Baku city of Azerbaijan Republic and has a daughter and a son: Tahira 8, and Amal 6 years old.*


### *Aygun ISAYEVA*

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*Aygun ISAYEVA is a chemistry specialist with experience in analyzing of chemical composition, agrochemical features and chemical characteristics of the soil, which is the main raw material for the organic agriculture; studying agro-parks and their management features, and based on the best international practice identification of benefits of innovativ agriculture; contribution to the strenghtering of entreprenurship activities of farmer at the region through joining small farms in agriculture complexes; reactions of ethanolamine's with triglycerides derived from vegetable oils; allocation from the reaction system of ethanolamines and ester compounds, defining their physicochemical features, studying the structure and composition, investigation of characters in oil storage and dispersion.*

*Mrs. Isayeva was born in Baku city, Republic of Azerbaijan on 18 January 1987. She graduated from the Baku State University with a Bachelor in Ecological Chemistry in May, 2008. She remained at the Baku State University to complete her Masters of Science Degree in Physical Chemistry of Nanomaterials in May, 2010.*

*After receiving her education, since 2009, Mrs. Isayeva she worked as a junior scientific worker in the Institute of Petrochemical Processes of the Azerbaijan National Academy of Sciences (ANAS) and in 2013, she joined the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of Economy of the Republic of Azerbaijan.*

*She involved as a Junior Consultant in the Project "Studying international best experiences in development organic agriculture and preparation of Development Action Plan" in 2013; as a Consultant in the Project "Preparation of policy recommendations on establishment of technological-innovative Techno-parks and Agro-parks based on international best experiences" in 2014; as a Consultant in the Project "Exchange of experience and strengthening inter-agency cooperation on the development of organic agriculture in ECO countries" funded through the ECO Special Fund in 2015.*

*She attended numerous trainings, seminars such as, "the Advantages and Disadvantages of Accession to WTO (Azerbaijan case)", "Industry Branding" provided by the ODTU Techno-park, author's seminar on "The Art of writing Scientific Papers" provided by the Elsevier Publishing, and "Data bases of the Academic Journals: cases of Science Direct and Scopus", "How to publish successfully in international journals" provided by the Wiley Library; "Improvement of skills and the level of management for coordination of improvement value chain" and "Development of organic agriculture in Azerbaijan and institutional capacity building" provided by an international expert within the implementation of projects between FAO and the Ministry of Agriculture of the Republic of Azerbaijan.*

*Mrs. Isayeva is married, and she lives with her family in Baku city of Azerbaijan Republic and has two sons: Harun 6, and Nicat 2.*

## Republic of Afghanistan


### *Prof., Dr. Wakil Ahmad SARHADI*

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*Prof. Dr. Wakil Ahmad Sarhadi s/o Hi Mohammad was born in Andarab district of Baghlan province in 1968. He completed Qasan-e-Andarab elementary school and received his baccalaureate from Agriculture High School in Baghlan province.*

*After passing the entrance exam, and due to high interest and enthusiasm in agriculture field, he got admission to agriculture faculty of Kabul University. After the completion of four-year study and receiving B.Sc. degree in excellent grade, he has been accepted as an assistant professor in the Department of Agronomy of Agriculture Faculty at Kabul University. In addition, he was farm research manager in the research farm of Agriculture Faculty from 1993 to 1997. He was selected as the head of agronomy department in an open selection in 2003.*

*For further education up to Master and Ph.D. degrees, he went to Japan and successfully completed the mentioned programs in 2008. He returned to his home country after obtaining of Master and PhD degrees and continued the sacred profession of being a professor at Kabul University. Prof. Dr. Sarhadi has membership of Society of Plant Breeding Science, Society of Agronomists, and Crop Science Society.*

*Prof. Dr. Sarhadi has more than 50 scientific publications in national and international languages in national and international journals. He has been appointed*

*as the dean of Agriculture Faculty in 2013. Currently, he is the Dean of the Faculty and an Active Professor of Agronomy Department in Agriculture Faculty of Kabul University. Prof. Dr. Sarhadi speaks in five different languages Dari, Pashto, English, Japanese, and Arabic.*

## Islamic Republic of Iran


### *Prof., Dr. Mohammadreza REZAPANAH*

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*Prof. Rezapanah is the founder and director of the Center of Excellence for Organic Agriculture (CEOA), an approved consortium of universities and research institutes by the Ministry of Science since 2012.*

*Since 1998, he works as a researcher at the Biological Control Research Department and is a scientific board member of the Iranian Research Institute of Plant Protection (IRIPP). For ten years, he was head of this department.*

*He is an insect pathologist with a key interest in Baculoviruses, as well as the practical use of biological control agents, especially in organic agriculture. Besides his involvement in the National Research Committee of the Pesticide-use Reduction Plan, the National Organic Comittee, and related national Iranian Associations.*

*He is editor of the national organic program. Furthermore, he served the International Organization of Biological Control (IOBC/WPRS) as an auditing committee member for a decade (2001 to 2011). Since 2007, he is teaching Master courses on organic agriculture, as a professor at the universities of Arak and Karaj, Iran. He has more than 150 publications including 30 peer-reviewed articles.*

## Kyrgyz Republic


### *Iskenderbek AIDARALIEV*

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*Mr. Aidaraliev is a Chief Executive of Federation of organic development "BIO-KG" (FOD Bio-KG). FOD "Bio-KG is an umbrella organization working on development of organic agriculture in the Kyrgyz Republic. I.Aidaraliev is also a President of IFOAM – EuroAsia since 2014.*

*I.Aidaraliev is a graduate of Frunze Polytechnic Institute, one of the top universities in the Kyrgyz Soviet Socialist Republic. He received specialist diploma in electricity engineering. After graduation, I.Aidaraliev began his career in electro technical plant as a design engineer and worked there for 6 years. After the Soviet Union collapse, I.Aidaraliev worked in Issyk-Kul Regional Council as a Deputy Head of economic development Department and then as a Deputy of Karakol City state Administration for almost 10 years. I.Aidaraliev knows all 7 regional oblasts of the Kyrgyz Republic from inner side, because he was a Governor of 2 regional oblasts and worked in 4 different regional areas of the Kyrgyz Republic between 1996 and 2007 years.*

*In 2007, I.Aidaraliev became a First vice prime minister of Kyrgyzstan and worked on regional development, made reform in local government. I.Aidaraliev was awarded the title of Honored Worker of local government.*

*I.Aidaraliev headed the Ministry of Agriculture, Water and Processing Industries of the Kyrgyz Republic for two years. In his two years at the Ministry, I.Aidaraliev focused his efforts on food security and elaboration of land market legislation. He made structural reforms of the Ministry.*

*After Kyrgyz Revolution in 2010, I.Aidaraliev retired from government and gave lectures for university students on Government and Policy. In 2012, I.Aidaraliev was one of initiators of the Federation of organic development "BIO-KG" in the Kyrgyz Republic.*

## Islamic Republic of Pakistan


***Prof., Dr. Manzoor Hussain SOOMRO***
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*Prof. Dr. Manzoor Hussain Soomro isthe Founder President of ECO Science Foundation (ECOSF) - a Specialized Agency of Economic Cooperation Organization (ECO), which is a 10-countries Inter-governmental Organization. He is Member of Governing Board of the International Science, Technology and Innovation Centre for South-South Cooperation under the auspices of UNESCO (ISTIC), Kuala Lumpur-Malaysia, Member of Global Council of the Inter-Academy Partnership Science Education Programme (IAPSEP), founding Member of the Asian Innovation Forum and founding Member Asian STI Think Tanks Network (ASTN) established in 2015 at Seoul, South Korea.Dr. Soomro is basically a Plant Protection/Agriculture specialist and has worked as an expert on Integrated Pest and Crop Management. He has an experience of over 35 years in science, technology research, management and capacity building. Previously, he has been Chairman of Pakistan Science Foundation, Director General of Pakistan Scientific and Technological Information Centre, DG of Pakistan Museum of Natural History Islamabad and Professor of Plant Protection at Sindh Agriculture University Tandojam. Dr. Soomro has also servedFAO of the United Nations as an Expert and National Coordinator for over four years in the Asia and the Pacific Region.*

*Dr. Soomro is proponent of Inquiry Based Science Education (IBSE) and learning approach across the educational systems and human development, especially at schools, and promotes science education at grass root levels not only in the ECO region, but also at global forums.He has developed numerous programmes for international cooperation and in recognition of his contributions for promotion of science education cooperation between Pakistan and France, the French Republic bestowed upon him their erstwhile Civil Award "Order of Academic Palms" in 2013. The award was originally instituted in 1808 by Napoleon Bonaparte. Dr. Soomro in collaboration with UNESCO and FIEAP is promoting Standardization of Engineering Qualification and Accreditation in the ECO Region.*

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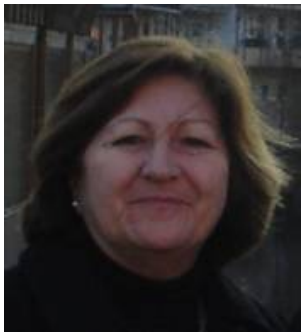


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*She has more than 200 publications composing of scientific (25 peer-reviewed) articles and book chapters.*


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*Last seminar:* ***Beşirli G****., 2016. Organic Vegetable Production in Open Field Condition, Crop Rotation on Organic Vegetable Production in Open Field Condition, Crop Rotation on Organic Vegetable Seed Production in Open Field Condition, Ankara, Turkey (These seminars which have been given by the researcher yearly since 2000 are held for extention services persons).*

*Book chapters: (1)* ***Beşirli, G.,*** *Yaşarakıncı, N. 2003. Organic Agriculture, Chpt. 11, pp. 21-30, (Education of Farmers on Vegetable Crops, Book II), Minister of Agriculture and Rural Affairs, Ankara-Turkiye; (2)* ***Beşirli, G****. 2004. Organic Vegetable Production, Chpt. 3, pp. Minister of Agriculture and Rural Affairs, Ankara-Turkiye.*

*Book edition: (1)* ***Beşirli G****., Yaşarakıncı, N. 2003. Education of Farmers on Vegetable Crops, Book I, pp. 226 and Book II, pp. 394, Minister of Agriculture and Rural Affairs, Ankara, Turkiye; (2)* ***Beşirli, G.,*** *2010. Organic Agriculture (Book, for farmers). Ankara, Turkey.*

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## *List of Abbreviations and Acronyms*

| | |
|---|---|
| **ECO:** | Economic Cooperation Organization |
| **USA:** | United States of America |
| **ECAP:** | Ecological Clean Agrocultural Products |
| **DDT:** | Dikloro difenil trikloroethan |
| **IFOAM:** | International Federation of Organic Agriculture Movements |
| **DC:** | Developing Countries |
| **FAO:** | Food and Agriculture Organization of the United Nations |
| **USDA:** | United States Department of Agriculture |
| **USAID:** | United States Agency for International Development |
| **AEA:** | Aegean Exporters' Associations |
| **BUĞDAY:** | Buğday Association to Support Ecological Living |
| **CB:** | Control bodies authorized for inspection and certification of organic Agriculture |
| **ÇATAK:** | Program to Protect Agricultural Land for Environment |
| **DG:** | General Directorate |
| **EEC:** | European Economic Commission (later named as EC) |
| **EC:** | European Commission |
| **EU:** | European Union |
| **ETO:** | Association of Organic Agricultural Organization |
| **GAP:** | Good Agricultural Practices |
| **GIZ:** | German Corporation for International Cooperation GmbH |
| **Ha:** | Hectare (10.000 m2) |
| **HS:** | Harmonized system |
| **HELVETAS:** | Helvetas Swiss Intercooperation |
| **IAMB:** | Mediterranean Agronomic Institute of Bari |
| **IFOAM:** | International Federation of Organic Agricultural Movements |
| **IPARD:** | EU Instrument to Support Rural Development at Pre-Accession |
| **ISOFAR:** | International Society for Organic Farming research |
| **JAS:** | Japanese Agricultural Standards |
| **MAP:** | Medicinal and Aromatic Plants |
| **MoA:** | Ministry of Agriculture (later named as MoFAL) |
| **MoFAL:** | Ministry of Food Agriculture and Livestock of Turkey |
| **MOAN:** | Mediterranean Organic Agriculture Network |
| **MT:** | Metric tonnes |
| **NOC:** | Organic Agriculture National Orientation Committee of MFAL |
| **NOP:** | National Organic Program of the United States Department of Agriculture |
| **OA:** | Organic agriculture |
| **OAC:** | Organic Agriculture Committee of MFAL |
| **SE:** | South East |
| **TAGEM:** | DG on Agricultural Research and Policies |
| **TUBITAK:** | Turkish Scientific and Technological Research Council |
| **ARREO:** | Agricultural Research, Education and Extension Organization |
| **CEOA:** | Center of Excellence for Organic Agriculture |
| **IRIPP:** | Iranian Research Institute of Plant Protection |
| **SPCRI:** | Seed and Plant Certification and Registration Institute |
| **ASRI:** | Animal Science Research Institute |
| **SWRI:** | Soil and Water Research Institute |

# Table of Contents

# THEORETICAL ASPECTS of EXPLORING the PROBLEMS of ORGANIC AGRICULTURE

## The concept and history of organic agriculture

Emergence of new production methods, adoption of new technologies in agriculture, which has maintained its significance since the evolvement of human society, as well as widespread use of chemical and genetically modified substances and fertilizers in light of the growing world population, has resulted in the mass supply of harmful food products to the world markets. Chemicals and chemical fertilizers have been used to increase productivity in traditional agriculture, which in turn contaminated the resources such as water, air and soil. After certain period, chemical fertilizers that aim to increase the decreasing levels of nitrogen and phosphorus degrade physical components of the soil killing many microorganisms.

As a result, agricultural lands with organic substances started to disappear through the flow water and wind. Fast growing demands for food and the necessity to sustain increasing life standards following the Second World War prompted greater agricultural production. The non-organic enhancement of soil fertility ruined biological components and significantly decreased soil quality. This has affected water basins, decreased family businesses, divided and reduced the size of lands, increased migration from rural to urban areas, increased agricultural production costs and consequently increased social and economic problems in rural areas. "Green Revolution" that took place in 60-70s of XX century played a great role. It was the time when the concept of organic agriculture introduced as an alternative to conventional farming. At present, organic farming has become even more urgent for its role in sustaining the health of humans; protecting consumer rights and adding value to agricultural sector, as organic products produced using ecologically sound methods.

Agriculture has had an irreplaceable role in the provision of food products from ancient period until present day. In the beginning, the low number of population and the use of natural production techniques prevented the occurrence of major ecological problems. At present, organic farming is seen as the solution that explores alternative systems to conventional farming that caused environmental problems, as well as values human health and conserves the nature.

Organic agriculture is a modern agricultural method that controls and certifies each stage from production to consumption without the use of chemicals. The aim of the production method is to produce certified products in accordance with organic production requirements without polluting the three vital elements of life – soil, air and water sources and by protecting the environment, plants and human health. Continious rise of environmental problems amid globalization process has further increased the significance and the role of organic agriculture.

The idea of organic agriculture has the history of more than 100 years. American agricultural scientist F.H. King explored farming practices in China, Korea and Japan in the early years of XX century and published his findings in "Farmers of Forty Centuries, Or Permanent Agriculture in China, Korea, and Japan" in 1911 which served as the basis for a number of research works focusing on organic farming.

Organic agriculture started in US, Japan, China and UK in 1920s and continued to rapidly grow in 1930-40s. Nitrogen, which was used in explosives in the First World War, was later used as synthetic nitrogen fertilizer along with some other widely used

pest fighting substances, which indeed had negative consequences[1]. German researcher Rudolf Steiner developed the principles of biodynamic farming which was based on the preparation of special composites and which is considered the initial form of organic farming. Biodynamic farming, which frequently refers to organic farming, is currently considered a form of organic farming.

However, organic farming founded in 1940s. Sir Albert Howard, along with Eve Balfour and Rodale are considered the pioneers of organic agriculture. Howard came to support traditional eastern farming practices over conventional agricultural science following his observations in Bangel in 1905-1924. Balfour did the first comparison of organic and conventional farming and published her book "The Living Soil." Japanese scholar M.Okada developed the concept of "Nature Farming" in 1930s, which was similar to organic farming[2].

Lord Northourne first introduced the modern concept of organic farming in 1940 in his book "Look to the Land" which defined the principles of transition of rural households to organic farming. R.Carson justified the harm inflicted to the environment by DDT (dikloro difenil trikloroethan) and other pesticides used in the US in his book published in 1962, which resulted in banning the use of DDT after 10 years and further pushed the concept of organic farming to the top of the agenda.

Organic agriculture had already positioned itself on international level in 1970s. The establishment of IFOAM in 1972 was the starting point, which awakened the interest of many other countries in the following years[3]. The research carried out by Lampkin in 1990s focused on the advantages of organic farming in terms of sustainability and described organic farming as a new system that integrates and maintains sustainability of environment, social and economic sectors. He also pointed out the necessity of decreasing the dependence on resources not available inside the farming[4].

Recently, organic farming gained a status among international establishments, as well as seen as a supply chain that protects and sustains soil, ecosystem and human health. At present, organic farming tops the agendas of a number of international events. In Europe and in various parts of the world, organic farming is also referred with synonym words such as "organic", "ecological" and "biological"[5]. In UK, it is called "organic", in Germany "ökologish" (ecologic) and in France "bioloque" (biologic). However, the Regulation of the Council of European Communities (EEC) N° 2092/91 on "organic production of agricultural products" points out the similarity of such indications referring to agricultural products[6]. The United States Department of Agriculture provides the definition of organic farming that also identifies major trends. According to that definition, "organic agriculture produces products using methods that avoid synthetic fertilizers, pesticides, artificial growth hormones, some components of food additives to animal food[7]."

Organic agriculture aims to produce high quality products as well as build viable relations between soil-plant-animal and humans and conserve tha nature by promoting healthy lifestyle. As part of the economic development initiatives organic agriculture

[1] **Loter. D.W, 2003.** Organic Agricultura, J.Sustain. Agric. 21(4)
[2] *The same*
[3] **Gümüş, S. 2006.** Türkıye organık tarımın neresinde? Dünya Gazetesi, 19 Ocak 2006
[4] **Lampkin, N., 1990.** Organic Farming. Ipswich: Farming Press
[5] **Babayev, A.,** 2011. Ekoloji Kənd Təsərrüfatının Əsasları.
[6] **Anonim, 1991**. Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs (OJL198, 22.7.1991, p.1). http://europa.eu.int/eur-lex/en/consleg/pdf/1991/en_1991R2092_do_001.pdf
[7] **USDA, 1980.** Report and Recommendations on Organic Farming. Washington, D.C.: USDA.

also encourages recycling in agriculture, increases employment, as organic agriculture is labour intensive, creates benefit to the agricultural sector of countries etc.

Following the joint efforts of organic producers, the International Federation of Organic Agriculture Movements (IFOAM) founded in the 70s of the 20th century. The IFOAM represents about 800 affiliates in 140 countries and aims to sustain the health of ecosystems and human beings[8]. Unlike intensive farming that aims to yield maximum crops, organic farming aims to produce high quality products and relies on principles of preservation of natural resources, soil fertility, water diversity and rich biodiversity. Use of nature and systemized approach to processes are among the main principles in organic farming.

Preservation of soil quality, avoidance of using synthetic fertilizers, genetic engineering and its products and sustaining diversity of plant and animal species that adapts to local conditions are the practical principles of organic farming. Having evolved on the principles organic farming has been widely utilized over the recent period.

## Current concepts and main development trends of organic agriculture

Organic farming practices are widely used in the developed countries meaning that regulatory framework for such practices have also been established in the developed countries. As part of the strategic plans that explain main concepts of organic farming, improvement of legislation and institutional framework is underway in all the countries with developed organic practices.

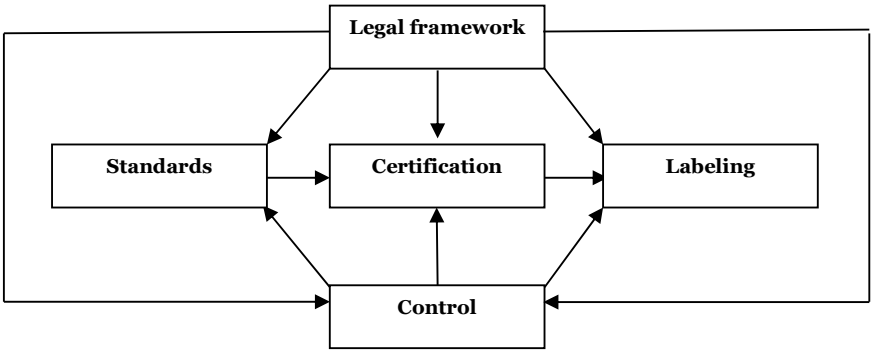
US Congress passed the Organic Foods Production Act in 1990 and the US National Organic Standards took effect in 2001-2002 thus creating legal framework for organic producers. The standards prohibit the use of artificial and chemical substances, genetic modification techniques and other chemical pesticides. Japan has adopted a set of rules titled "Japanese Agriculture Standards". Sufficiently comprehensive legislation has been created in the EU. "Council Regulation (EEC) No 2092/91 of 24 June 1991 on organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs" is the basic legislative framework of the EU. Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products has been amended over the past period[9].

The main objectives of the regulation include the establishment of rules to control production, labeling and quality, exercise continuous control and raising awareness among consumers on regular basis.

The developed countries have enabled mass production of organic products by involving farmers and entrepreneurs and raising awareness of consumers. This in turn, has helped to set certain standards for production of organic products based on general criteria and a number of legal norms, as well as carry out certification for the products that bear the name "organic", enabling consumers to choose such products. Such products are labeled as "ECO", "BIO" or "ORGANIC" and are easily recognized by consumers as ecologically sound products.

[8] **IFOAM**, http://ifoam.org
[9] http://europa.eu.int/eur-lex/de/consleg/main/1991/en_1991R2092_index.htlm

*Figure 1. General structure of organic agriculture*




Standards, certification and labeling process are the subject for control, which is based on the legal frameworks of those countries. Even though standards play an important role in the process of control and certification, a control body's activities are regulated by legislation and supervised by a relevant State Agency. Therefore, legal framework on organic agriculture should neither run counter to supervision and certification bodies nor create problems for export, as gaps in the legislation may create obstacles to sell certified products in the world markets labeled as "organic". Standards may also restrict the sale process meaning that an exporter country may prohibit the sale of products labeled as"organic" for not complying with its own standards.

Improvement of legal and institutional capacities is a major developmental trend in organic farming. 30% of various projects and scientific researches conducted in the EU on organic farming aim to settle organizational and legal issues.

Annual increase of global competitiveness of organic products attracts more and more entrepreneurs. Research shows that compared to conventional agriculture, organic production is more competitive and the competitiveness is on the rise. Experts explain the rising competitiveness to growing demand and the annual expansion of organic food market. Higher price of organic products compared to non-organic is yet another factor that helps to increase competitiveness[10].

Even though the main aim of organic agriculture is to produce ecologically sound products, some other trends are seen to evolve as well. Organic fertilizers sector that include chicken fertilizers, composites, green and bio fertilizers is on the rise as well. Research is underway in various parts of the world to look into the production issues of such fertilizers.

As part of the requirements, organic aquaculture production is one of the developing trends. The recent rise of environmental issues in seas and the oceans and different techniques used in aquaculture production have raised concerns among consumers. Following the 1970 Green Revolution in agriculture, Blue Revolution was introduced recently which is seen as a new developing trend in food industry that emerged due to rapidly developing fishing industry which is not in line with social and environmental standards[11].

In addition, organic medical plant production has seen a steady development over the recent period. Heavy metals, pesticides, aflatoxins and other impactful substances in

[10] **Babayev, A.,** 2011. Ekoloji Kənd Təsərrüfatının Əsasları.
[11] **Buhan E., Turgut E.,** Organik Su Ürünleri Yetiştiriciliği, Sürdürülebilir reakbet avantaji elde etmede organik tarım sektoru,sektorel stratejiler ve uygulamlar, URAK, 2006.

medical plants should be on permissible levels[12]. For this reason, organic production of medical plants has been positioned as one of the specific trends of organic farming. Both agricultural and tourism sectors have similar levels of dependence on natural resources from the sustainability point of view. However, improper techniques that have been used until now inflicted a great deal of damage to environment. There is a common global understanding of the necessity of promoting tourism along with agriculture under the principles of sustainability, in harmony with nature, without harming people's lifestyle and cultures. The tourism sector should conserve ecosystem, generate income and function as environment friendly. Such tourism is called eco-tourism[13].

As major developmental trends of organic farming the mentioned sectors attracted greater attention over the recent period.

## Factors influencing the promotion of organic agriculture

At present human health and environmental problems are among the major concerns of all the world countries. Conversion to organic farming is of utmost importance in order to eliminate conventional farming and its negative consequences. Changing climate, the ozone layer, pollution of environment, search for healthier food are the major factors that accelerate the conversion to organic agriculture. Organic agriculture differs greatly from other types of farming with its systems and features. The main feature of organic farming is sustainability. Along with scientific research and education, the knowledge of information about organic market and prices play a significant role in identification of the future of organic farming[14].

Organic farming is an alternative farming system that uses less chemical substances and hosts more biological density[15].

The main reasons of conversion to organic farming include the following: social-personal, social-economic, social-psychological, and social-cultural and inter system relations. Defining separate priorities for producers of every region would add to the overall achievements. Some of the main factors that help the successful conversion to organic farming include the financial opportunities created for producers, fast information flow, wide variety of products, national symbols, prevention and planning. Financial support to producers inevitably helps them in a positive way. However, such supports vary from country to country[16].

One of the pre-conditions for successful organic farming is the demonstration of organic agriculture paradigm. Classification of products and market channels (supermarkets, cashbox sales, restaurants, food services, processing industry) intensify conversion to organic agriculture. Consumer awareness is important to create and develop the demand. Creation of a logo for organic products and maintaining quality control greatly supports the promotion of organic farming[17].

Below are the factors that influence agricultural sector: climate, landscape, soil maintenance, irrigation, fertilization, seed improvement, mechanization (use of machinery), marketing (market), treating with a mordant, agriculture support authorities.

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[12] **Başer H.C., Malyer H.,** Tibbi ve Aromatik Bitkilerin Organik Olarak Yetiştirilmesi, Sürdürülebilir reakbet avantaji elde etmede organik tarım sektoru,sektorel stratejiler ve uygulamlar, URAK, 2006.
[13] **Gössilgin. 1999,** Eco-tourism, A means to safeguard biodiversity and ecosystem Function? Ecological Economics, Vol 23, No 2
[14] FAO, www.fao.org
[15] www.eto.org.tr
[16] **Organik Ürün Tüketimini Etkileyen Faktörler ve Tutumlar Üzerine Bir Saha Çalışması,** Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi (14) 2007/2
[17] http://akcagunkoyu.webnode.com.tr/news/turkiyede-tarimi-etkileyen-faktorler/

***Climate***. A great volume of agricultural production depends on rains, as the distribution of rain throughout the year is unequal, which is why product variety and farming periods change throughout the regions.

***Landscape***. Large number of middle size heights negatively affects economic activities. Heights limit farming (plant growing) and stimulate cattle raising.

***Soil maintenance***. Sustainability of production in farmlands is associated with existence of rich soil minerals. It is important to maintain the lands that continiously and regularly utilized for farming purposes. Lands should be tilled before rain, cleaned from wild plants and protected against erosion[18].

***Irrigation***. Irrigation is the most important factor that influences productivity in agriculture. In many regions, draught comes in summer season at the time of intensive farming. This in turn increases demand for water.

***Fertilization***. Fertilization is the second most important factor after irrigation that increases productivity. Continious use of soil decreases minerals and productivity. Fertilization aims to increase productivity by adding some minerals. There are two types of fertilizers – natural and animal. Chemical fertilizers are expensive and therefore should be subsidized to farmers by the state[19].

***Seed improvement***. Along with irrigation and fertilization, use of high quality seeds is important to yield high-level crops. Seed imporovement is carried by hybridization and seed selection.

***Various control techniques.*** Protects against diseases, prevents the spread of wild plants and insects, thus protecting against the decrease of productivity[20].

***Use of mechanisms.*** The use of mechamisms is a major condition for timely planting, collection and maintenance of high productivity. However, use of mechanisms is not widely used.

***Farmer education.*** At present farming involves the use of modern tools, quality seeds and sensitive medications, which indeed requires that farmers receive education.

***Marketing***. Sale of products for reasonable price is as important as their production. Cooperatives are established to do the marketing for variety of products. The state may purchase products in an attempt to support farmers. Such purchases do not affect product but influence production volumes. The above-mentioned factors have either direct or indirect influence on organic agriculture as well.

The principal aim of organic agriculture is to increase quality rather than quantity. According to Crucefix (1998), the practice of organic agriculture is intended to deliver wider benefits to the agricultural system, the environment, society and the economy[21].

***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, resilient agroecosystem, wildlife protection, compatibility of production with environment.

[18] www.egebirlik.org.tr
[19] http://www.turkcebilgi.org/cografya/genel-cografya/turkiyede-tarimi-etkileyen-faktorler-31894.html
[20] *The same*
[21] http://ifoam.org

***Social conditions.*** Improved health, better education, stronger community, reduced rural migration, increased employment, good quality work.

***Economic conditions.*** Stronger local economy, self-reliant economy, income security, increased returns, reduced cash investment, low risk.

It is evident that the economic factors (especially award prices and market guarantee) play a crucial role in the conversion to organic production[22]. Establishment of ties between the current research works and organic farm paradigm networks, joint activities with existing civil society organizations, aiming to strengthen the benefits of organic farming among politicians, farmers and consumers are important factors that lead to the promotion of organic farming.

Farmer support activities are also important to develop organic farming. Control over production of organic products is among the major features of organic farming. There are number of factors that influence the income generated from organic farming. High or low income depends on production forms, financing, productivity, quantitiy of utilized initial product and the sale of organic products.

Establishment of ties between the current research works and organic farm paradigm networks, joint activities with existing civil society organizations, aiming to strengthen the benefits of organic farming among politicians, farmers and consumers are important factors that lead to the promotion of organic farming[23].

## The role of organic agriculture in economic development and comparative analysis of global practice

Sustainable economic development unlike traditional economic development has been in the focus of attention over the recent period. Sustainable and balanced economic development concepts have been brought forward and attempts were made to set up various mechanisms.

According to the Brundtland Report, sustainable development is the kind of development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Such development prevents the wasteful use of natural resources and ensures prosperity for future generations[24]. Agriculture, environment and economic development are seen as complementary. Agriculture and environment are under the same sector. Natural factors directly influence productivity. Pollution of environment, change in the structure of natural resources that are vital for agriculture such as soil and water leads to the decrease of quality and quantity of agricultural products.

The world population has tripled over the past 60 years and the number of cities with the population of more than 8 million has increased more than 10 times. This has increased the daily calorie production by 50%. Fishing increased by 400%, water consumption by 250%, number of vehicles by 600%, use of fertilizers by 200% while forests decreased by 30%. These figures explain the causes of environmental problems and the necessity to assess its impact on economic development.

[22] www.tarim.gov.tr
[23] www.fao.org
[24] **WCED, 1987.** Our Common Future, Commission on Environment and Development, Oxford University Press, Oxford, UK

Organic agriculture protects and develops all the components of environment, guarantees the provision of high quality food products, positively contributes to food security and builds ground for sustainable economic development. Prohibition of the use of chemical components helps to preserve soil and water quality, which positively influences human health. Organic agricultural lands cover the area of 37.5 million ha in 164 countries and the collection of statistical data is underway[25]. Australia is on the top of the list with 12 million ha of organic land.

*Table 1: World: Organic agricultural land (including in-conversion areas) and shares of total agricultural land 2012*

| Continent | Organic agr. land [ha] | Share of total agr. land* |
|---|---|---|
| **Africa** | 1'145'827 | 0.1% |
| **Asia** | 3'217'867 | 0.2% |
| **Europe** | 11'171'413 | 2.3% |
| **Latin America** | 6'836'498 | 1.1% |
| **Northern America** | 3'012'354 | 0.7% |
| **Oceania** | 12'164'316 | 2.9% |
| **Total** | 37'544'909 | 0.9% |

Organic agricultural land makes 1% of total agricultural lands in the world and Europe has the biggest share of organic agricultural land. The data from 2012 suggests that there are 1,9 million organic producers in the world, India being the first with 600 thousand producers. 36% of producers are in Asia, 30% in Africa and 17% in Europe, which suggest that productivity in these countries, are higher when taking into account production volumes as well.

On the global level organic agriculture, oriented policy means provision of financial and technical support. The experience of Europe and other developed countries show that financial and technical assistance is the most important support that can be provided by the government. This has actually proven to be true, as the share of EU and the US in organic product market reaches 97%. In addition, taking into account that organic agriculture provides reliable food supply, maintains ecological balance and helps to develop rural farmers, it becomes even more important for developing countries. Competitive food products that are certified as organic reach the markets of the developed countries and bring benefit to the agricultural sector. UK imports 70% of food products, which creates opportunities for other countries to export.

Government support to organic agriculture encompasses some areas only. Awareness raising, educational seminars for farmers, organizing various fairs, prioritization in strategic development plans and suggesting certain activities, providing direct financial assistance, promoting farmers with various pilot projects, issuing soft loans etc. Regional activities are more intense. For many years now, Australia has been leading the list of countries producing organic products with more than 12 million ha of organic agricultural land and more than 2.660 companies producing organic products. Cattle breeding in Australia come first among some other organic activities. Similar situation is observed in Southern Africa, Argentina and Uruguay.

Main organic products in Australia include fruit and vegetable, meat and milk products. 70% of products are exported to Europe. For many years, legal standards that

[25] **BAUER, S. 1994.** Development of environmental impact assessment tools for livestock production systems.Vol. 1: Research Report, Giessen, Germany

facilitate export were established in Australia and New Zealand and there is continuous government support to organic farming[26]. In Africa, organic products are mainly collected from nature. Natural forests cover the countries located on tropical climate zones. In total Africa has 1.1 million ha of organic agricultural land. Fas and Egypt are the major organic producers, specialized mainly on the export of fast growing vegetables. Awareness rising on organic farming has just been launched which leaves a lot of room to improve certification. For many years the use of chemicals in agriculture has remained low which enables easier conversion to organic farming. South African countries have been more active in this respect. Large amount of certified organic products are exported to European markets while certification and legislative framework in many countries remains to be weak.

In Asia countries like Indonesia, Japan and United Arab Emirates have fast growing domestic markets. Sri Lanka, India and Bangladesh have been leading the production of organic tea. Over the past period, Vietnam has been known for aquacultures. There are more than 4 million ha of organic agricultural lands and more than 130 thousand producers in Asia. Organic lands of Asia comprise only 9% of total organic lands of the world. 117 organic cerfitication authorities are mainly based in China, India and Japan. Research focused on organic agriculture is mainly pursued in Japan.

Finland and Serbia are the main organic producers in Europe with total organic agricultural land reaching 13.4 million ha. Currently, there are more than 340 thousand organic producers in Europe. Countries like Spain, Sweden, Switzerland, Chezch Republic and Baltic states have increased organic production over the past period. The share of certified organic products in Latvia, Estonia and Chezch Republic reach 10%. EU Member States have common legal framework on organic agriculture. With the exception of Italy, the share of organic agricultural lands is growing every year in Europe. Growing demand for organic products in Italy is satisfied by importing from external markets. 40% of the global organic market belongs to the Northern America and Europe. US are the number one for organic retail sales with 44% while Germany is the second with 14%. The other countries include France 8%, Canada and UK 4%, Switzerland and Italy 3% and 20% for the remaining countries[27].

The value of organic product market in Europe has exceeded 23 bn euros. The strategic plan that targets the increase of organic production in 27 European countries was prepared in 2013[28]. Europe also leads the other regions for per capita consumption of organic products. The first three places in per capita consumption are shared by European countries: Switzerland 250.4 USD, Denmark 225.7 USD and Luxembourg 187.3 USD[29]. These indicators are even ahead of leading European countries such as Germany, France, UK and the US.

USA and Canada are the leading North American organic producers with most of the organic share belonging to the US. The value of organic product share in the country reaches 31.5 bn USD. The share of organic agricultural landis 2'178'471 ha which only 0.64% of total lands is. There are 12.880 organic producers. Organic agriculture is under the state control in the US. Recognizing environmental, social and economic benefits of organic farming, legislation has been improved and relevant rules have been adopted. Financial aid is non-returnable and certification expenses are covered.

[26] **BAUER, S. 1994.** Development of environmental impact assessment tools for livestock production systems.Vol. 1: Research Report, Giessen, Germany
[27] The same
[28] **Karaer, F., 2003.** Gelişmekte Olan Ülkelerde Tarım-Çevre–Ekonomi Etkileşimi, Doğuş Üniversitesi Dergisi, No:2, Istanbul
[29] The same

Another leading North American organic producer Canada has shifted more focus to organic farming over the past years. The country has 833.883 ha of organic agricultural land, which makes 1.23% of total agricultural land. There are 3.590 organic producers in the country. Even though there are some differences in organic production among the continents some international organizations such as IFOAM, FAO and USDA have been actively promoting joint activities.

There are a number of factors that helped to develop organic product markets throughout the world. More export oriented organic product market has stimulated the development of domestic markets as well. More products that are organic have reached markets over the recent period. Large organic producers have increasingly offered new organic products in markets. A number of countries have been able to develop organic fishing. Organic product market is not limited to food products only, as there are organic hotels, organic clothing, toys, medical products and specialized shops that sell such products. Many governments, international organizations, public unions have expressed their interest in the increased production of organic products for the sake of sustainable agricultural and economic development. Significant activities are underway to develop organic agriculture[30].

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[30] The same

# ORGANIC AGRICULTURE in AZERBAIJAN

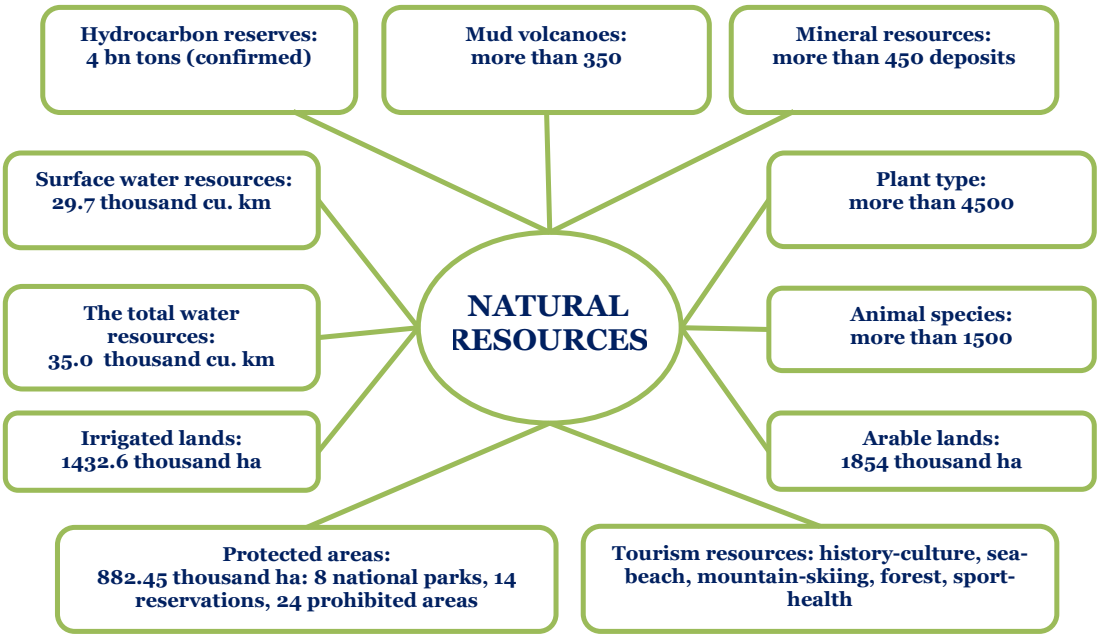
**COUNTRY PROFILE (STATISTICS)**

| ***Key indicators, 2015:*** ***(FiBL & IFOAM - Organic International (2017))*** | ***Key statistics, 2014:*** ***(FAOSTAT)*** |
|---|---|
| ***Organic agriculture land (ha)*** | ***Country area*** |
| *37630* | *8660 (1000 ha)* |
| ***Organic share of total agriculture land (%)*** | ***Land area*** |
| *0.8* | *8266.3 (1000 ha)* |
| ***Number of organic producers (No.)*** | ***Agriculture are:*** |
| *305* | 4769.7 (1000 ha) |
| ***Organic retail sales (Mio €)*** | ***Forest*** |
| *3 (2011)* | 1113.18 (1000 ha) |

## Current situation and priority areas of agriculture in Azerbajian

When looking at the current perspectives, priorities and natural conditions for the promotion of organic agriculture in Azerbaijan, one should consider that there are 9 climate types out of existing 11, more than 4500 plant and more than 1500 animal species. Irrigated lands cover the area of 1432.6 thousand ha and water resources amount to 35 thousand cu.km. The share of agricultural farmlands reaches 1854 thousand ha, thus the size of arable lands cover the area of more than 50%.

*Figure 2. Natural resources of the Republic of Azerbaijan*




*Source: Ministry of Economic Development (now: Ministry of Economy) of the Republic of Azerbaijan, 2012*

The development of organic agriculture in the global practice does not only depend on natural conditions and the availability of resources. Existence of government's agricultural policy that meets modern requirements and challenges is a crucial factor. This means that reforms and government support initiatives should be attractive and should awaken the interests of entrepreneurs. On the following stages, support mechanisms that are in line with sector specific features should be improved.

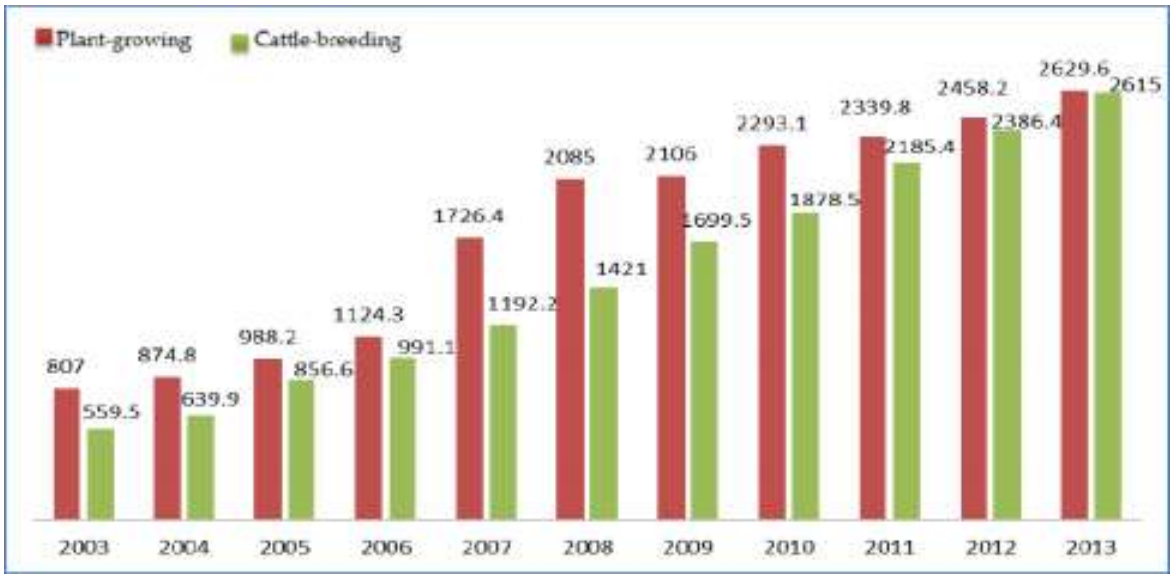
In general, the development of agrarian sector in Azerbaijan is the major trend that is reflected in the state programs adopted to reduce poverty and stimulate social-economic development of the regions. The implementation of The State Program on poverty reduction and economic development in the Republic of Azerbaijan in 2003-2005", "The State Program on the development of small and medium entrepreneurship in the Republic of Azerbaijan (2002-2005)", "The State Program on social-economic development in the regions of the Republic of Azerbaijan (2004-2008 & 2009-2013)", "Social-economic development program in the Republic of Azerbaijan in 2008-2015" and "The State Program on the development of vine-growing in the Republic of Azerbaijan in 2012-2020" and other programs, as well as provision of financial and technical assistance to farmers, promotion of entrepreneurship, implementation of infrastructure projects in the regions have enabled to increase the share of local consumption products and ensure food security[31]. The state pursues a policy that involves allocation of subsidies and issuance of soft loans in order to sustain growth in the agricultural sector. 30-40% of the total value of productive seeds produced in scientific-research institutions are compensated by the state. Farmers buy fuel at 50% lower price and pay only 50-75% of fertilizers.

It is possible to analyse the results of the implemented activities taking into account the growth of agricultural products over the past 10 years. Over the years production of animal products lagged behind agricultural development but in 2013 the difference

[31] **Sanders and Schmid 2014;** see also country reports Willer et al., 2014

decreased and almost equaled. Plant production increased by three times over the past 10 years and animal products increased by four times.

*Figure 3: Production of agricultural products in Azerbaijan, in million manats*




*Source: The State Statistical Committee of the Republic of Azerbaijan (2010)*

Cereals are among the major plants grown in Azerbaijan, which helps to meet local demand for such a strategic product. Potato and vegetables have specific share in the overall production.

*Table 2: Plant production, thousand tons*

| **Plant production,** *thousand tons* ***Years*** | **Cereals and leguminous** | **Cotton** | **Tobacco** | **Potato** | **Vegetables** | **Water-melon, melon** | **Sugar beet** | **Sun flower seeds** |
|---|---|---|---|---|---|---|---|---|
| **2003** | 2057.8 | 99.6 | 4.7 | 769.0 | 1046.3 | 356.7 | 128.9 | 18.3 |
| **2004** | 2158.2 | 135.7 | 6.5 | 930.4 | 1076.2 | 355.3 | 56.8 | 14.3 |
| **2005** | 2126.7 | 196.6 | 7.1 | 1083.1 | 1127.3 | 363.8 | 36.6 | 16.1 |
| **2006** | 2078.9 | 130.1 | 4.8 | 999.3 | 1186.4 | 362.1 | 167.2 | 15.9 |
| **2007** | 2004.4 | 100.1 | 2.9 | 1037.3 | 1227.3 | 417.6 | 141.9 | 13.4 |
| **2008** | 2498.3 | 55.4 | 2.5 | 1077.1 | 1228.3 | 407.7 | 190.7 | 16.5 |
| **2009** | 2988.3 | 31.9 | 2.6 | 983.0 | 1178.6 | 410.8 | 188.7 | 14.4 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **2010** | 2000.5 | 38.2 | 3.2 | 953.7 | 1 189.5 | 433.6 | 251.9 | 15.5 |
| **2011** | 2458.4 | 66.4 | 3.6 | 938.5 | 1214.8 | 478.0 | 252.9 | 19.6 |
| **2012** | 2802.2 | 57.0 | 4.3 | 968.5 | 1216.2 | 428.0 | 173.8 | 19.7 |
| **2013** | 2955.3 | 45.2 | 3.5 | 992.8 | 1236.3 | 429.8 | 187.9 | 17.7 |

The recent investments to milk processing have resulted in the stable growth of milk production. The same is observed in egg production. However, despite the historical development of silkworm breeding, reduction is seen over the past ten years.

*Table 3: Production of main animal products, thousand tons*

| **Years** | **Meat** *(cut and weighed)* | **Milk** | **Egg,** *million pieces* | **Wool** *(physical weight)* | **Silkworm** | **Honey** |
|---|---|---|---|---|---|---|
| **2003** | 185.6 | 1167.8 | 681.9 | 12.1 | 0.1 | 0.6 |
| **2004** | 196.8 | 1213.7 | 829.4 | 12.3 | 0.1 | 0.6 |
| **2005** | 205.0 | 1251.9 | 874.6 | 13.1 | 0.1 | 0.6 |
| **2006** | 212.7 | 1299.5 | 760.9 | 13.6 | 0.1 | 1.1 |
| **2007** | 225.5 | 1341.3 | 953.6 | 14.2 | 0.1 | 1.2 |
| **2008** | 232.3 | 1381.6 | 1101.2 | 14.8 | 0.02 | 1.4 |
| **2009** | 237.1 | 1433.1 | 1209.4 | 15.3 | 0.01 | 1.3 |
| **2010** | 253.8 | 1536.2 | 1178.6 | 15.6 | 0.01 | 1.9 |
| **2011** | 263.7 | 1622.3 | 1011.0 | 16.2 | 0.004 | 2.3 |
| **2012** | 285.6 | 1719.6 | 1226.7 | 16.5 | 0.003 | 2.4 |
| **2013** | 297.9 | 1820.5 | 1401.5 | 16.8 | 0.001 | 2.5 |

Objectives have been identified based on the priorities. ***"AZERBAIJAN 2020: the vision of the future" Development Concept*** approved under the Order of the President of the Republic of Azerbaijan on 29 December 2012 has put forward a number of modern challenges in agrarian sector. The Concept says, "The production of environmentally friendly agricultural produce will be encouraged. Also, consistent measures will be taken to protect genetic and biological diversity, improve sapling, seed-farming and cattle-breeding."

Thus, the agricultural priorities set for the coming 5-6 years will stimulate the modern development of the sector, expand intensive agriculture, and help to access new markets by enhancing benefit opportunities and support to attract foreign investments. Specialization of the economic and administrative regions based on scientific justifications, which builds a ground to pursue agricultural policy, is an important step. Taking into account the natural and climatic features of the economic and administrative regions and statistic indicators, the agricultural specialization of the economic and administrative regions using the special technique will help to efficiently use the local potential, increase production by raising labour productivity, increase export capacity and improve the level of self-reliance.

The 16 December 2014 Order of the President of the Republic of Azerbaijan on additional measures to improve the food and agricultural product markets enables to

pursue food security activities in an organized manner, helps to improve efficiency and intensity and supports the promotion of entrepreneurship in agricultural sector taking into account the modern agricultural challenges.

The concept of the agricultural policy pursued in the country puts forward political will and creates favourable environment for the development of organic agriculture.

## Assessing the possibilities of conversion of Azerbaijan's competitive agriculture products to organic

Legal framework, regulatory mechanisms as well as relevant standards necessary for the development of organic agriculture have been established in Azerbaijan. However, lack of the program with specific action plan remains to be a main problem, which creates challenges to pursue sector specific policy covering private sector.

However, the State Programs adopted by Azerbaijan have clarified some specific issues:

- The National Program on ecologically sustainable social-economic development in the Republic of Azerbaijan – the program covers two of the main priorities related to organic farming: drafting the national and regional schemes on the use of chemicals in agriculture and strengthening control; preventing the use of technology that pollutes and weakens soils[32].
- The State Program on reliable supply with food products in the Republic of Azerbaijan in 2008-2015 – according to the program, effective quality and safety program should be set up to ensure the supply of organic products and the policy focusing on protection of environmental sustainability and biodiversity should be continued[33].
- The State Program on social – economic development of the regions of the Republic of Azerbaijan in 2009-2013 – considering the global experience according to which organic agriculture helps to increase the income of farmers; the mentioned sector has not been ignored[34].

Legal acts that have been adopted in the Republic of Azerbaijan build a ground to promote business activities, protect consumer rights, comply with relevant standards of food products, as well as maintain environmental sustainability. Including the Constitution of the Republic of Azerbaijan, the following documents form the legislative framework on organic agriculture:

- *The Law of the Republic of Azerbaijan on Organic Agriculture*
- *The Law of the Republic of Azerbaijan on Standardization*
- *The Law of the Republic of Azerbaijan on Protection of Consumer Rights*
- *The Law of the Republic of Azerbaijan of Food Products*
- *Other normative-legal acts.*

The basics of organic agriculture have been identified over the recent period. The Law of the Republic of Azerbaijan "On Organic Agriculture" was adopted on 13 June 2008, which covers wide normative components. The law regulates organic agriculture that helps to sustain the health and safety of people, soil, water, plants and animals, as well as

[32] **Yussefi, M., 2003.** Development and State of Organic Agriculture Worldwide. Yussefi, M. and Willer, H. (eds.). The World of Organic Agriculture: Statistics and Future Prospects 2003 (5th revised edition). Tholey-Theley: IFOAM.
[33] http://www.azerbaijans.com/content_1771_az.html
[34] http://www.e-qanun.az/print.php?internal=view&target=1&docid=1975&doctype=0

regulates relations with regard to the production, processing and turnover of organic products[35].

In addition, following the entrance into force of the Law of the Republic of Azerbaijan "On Organic Agriculture", the Order No 818 of the President of the Republic of Azerbaijan dated 25 August 2008, as well as the Decision No.5 of the Cabinet of Ministers of the Republic of Azerbaijan dated 8 January 2009 have been approved in order to ensure the effective implementation of the above mentioned Law and set up relevant rules[36]. The Order No.267 of the President of the Republic of Azerbaijan was signed on 24 May 2010 in order to ensure the implementation of the Law of the Republic of Azerbaijan on Organic Agriculture. The Order identifies additional measures to ensure the implementation of the Law and issues relevant instructions to ensure scientific application of organic agriculture. The mentioned measures are part of the division of work among the state bodies who are responsible to undertake organizational matters[37].

"The Rules on provision of the scientific framework of organic agriculture" was approved under the decision No 159 of the Cabinet of Ministers of the Republic of Azerbaijan on 30 August 2010, in order to set up specific scientific framework for the implementation of organic agriculture, which is envisioned in the above-mentioned Order. These documents play a crucial role in setting up the scientific framework, which is an important part of modern organic agriculture.

Thereby, despite the recent introduction of organic agriculture, there are legal regulatory frameworks and relevant conditions that are needed to improve economic mechanisms. Export potential of organic products is being increased; target country markets and potential "organic" products that are produced in specialized regions are being identified. In global practice, certain measures are underway to increase export capacity of organic agriculture:

- *Regional and inter-regional specialization on agricultural products is underway;*
- *Highly demanded products in the world markets are identified to ensure the conversion of specialized agricultural products.*

Many countries with developed organic farming apply the "model of region and the product selection" to increase the export capacity. Such model enables the countries to undertake specific measures in the regions with the potential to produce organic products.

The following principles should taken into account during the selection of products and regions:

- *Areas in need of ecological conservation;*
- *Areas with the potential to develop comprehensive organic farming;*
- *Areas with suitable soil and climate conditions;*
- *Areas with the potential to produce competitive products;*
- *Areas that produce unique products for the world markets;*
- *Areas that produce products of strategic importance as part of reliable food supply;*
- *Products that are selected on regular basis, awareness raising for entrepreneurs and consumers in the regions;*

The following table shows that the Russian Federation comes first as the importer of agricultural products. However, European countries import some plant products as well.

[35] http://www.e-qanun.az/print.php?internal=view&target=1&docid=15320&doctype=0
[36] http://www.e-qanun.az/print.php?internal=view&target=1&docid=16721&doctype=0
[37] http://www.e-qanun.az/print.php?internal=view&target=1&docid=15321&doctype=0

*Table 4. Export oriented agricultural products in the Republic of Azerbaijan*

| Product name | Production area | Sale area |
|---|---|---|
| Apple | Quba and Khazmaz | Russia |
| Cherries | Quba and Khazmaz | Russia |
| Persimmon | Samukh | Russia |
| Pomegranate | Goychay | Russia |
| Pomegranate juice | Ganja and Barda | Russia |
| Apple juice | Quba | Russia, Europe |
| Tomatoes and cucumbers (greenhouse) | Absheron and Shamkir | Russia |
| Tomato sauce | Lankaran | Russia, Ukraine |
| Early potato | Jalilabad | Russia |
| Hazelnut | Zaqatala and Qax | Russia, Europe |
| Kiwi | Astara və Lənkəran | Russia |
| Feykhoa | Astara | Russia |

*Source: The Ministry of Economic Development of the Republic of Azerbaijan (2012)*

Specialization is determined with the following formula that calculates production coefficient per capita, i.e. average weight of production is determined through the identification of the share of the region's population in the overall country's population:

***AIC = (VPAR: VPAC) * 100 / (NPR: NPC) * 100***

*Where:*
*VPAR - The volume of production area in the region*
*VPAC - The volume of production area in the country*
*NPR - The number of people in the region*
*NPC - The number of people in the country*

The formula allows determining the level of specialization of Azerbaijan's economic regions that produce agricultural products[38].

*Table 5. The specialization level of the economic regions for production of agricultural products (products in consecutive order)*

| Economic regions | Agricultural products |
|---|---|
| **Absheron** | *PLANT GROWING:*<br>fruit and berries (olive, pistachio, nuts, almond)<br>*CATTLE BREEDING:*<br>poultry (meat and eggs), sheep-breeding (wool) |

[38] **Azərbaycan Respublikası İqtisadi İnkişaf Nazirliyinin İqtisadi İslhatlar Elmi-Tədqiqat İnstitutu,** "İqtisadi və inzibati rayonların kənd təsərrüfatı məhsullarının istehsalı üzrə ixtisaslaşması" mövzusunda tədqiqat işi, Bakı, 2013-cü il

| | |
|---|---|
| **Ganja-Qazakh** | *PLANT GROWING:*<br>fruit and berries (pear, cornel, persimmon, oleaster, apricot, plum, peach, white cherries, cherries, fig, pomegranate), nuts, potato, grapes, vegetables (cabbage, tomato, onions), pistachio, cereals and leguminous (corn)<br>*CATTLE BREEDING:*<br>sheep breeding (wool), large-horned cattle (milk) |
| **Shaki – Zaqatala** | *PLANT GROWING:*<br>fruit and berries (chestnut, hazelnut, nut, cornel, medlar, pear, cherry, plum, cherry-plum, apple, fig, quince, white cherries), cereals and leguminous (barley, wheat, corn, beans), vegetables (cucumbers, cabbage), grapes<br>CATTLE BREEDING:<br>sheep-breeding (wool), large-horned cattle (milk, meat) |
| **Lankaran** | *PLANT GROWING:*<br>fruit and berries (feykhoa, tangerine, orange, kiwi, lemon, lemon, nuts, medlar, fig), cereals and leguminous (beans), vegetables (tomatoes, cucumbers, onions)<br>*CATTLE BREEDING:*<br>sheep breeding (wool), large-horned cattle (milk), poultry (eggs) |
| **Quba-Khachmaz** | *PLANT GROWING:*<br>fruit and berries (aplle, white cherry, pear, nuts, plums, peach, medlar, hazelnut, persimmon, cornel, cherries, fig, olives), vegetables (tomatoes, cabbage, cucumbers), cereals and leguminous (wheat, barley)<br>*CATTLE BREEDING:*<br>sheep breeding (wool), poultry (eggs), large-horned cattle (milk, meat) |
| **Aran** | *PLANT GROWING:*<br>fruit and berries (nuts, unabi, pear, pomegranate, quince, cherry plum, oleaster, fig, cherries, persimmon, pistachio, medlar, apricot), cotton plantin, water-melon and melons, cereals and leguminous (barley, wheat), vegetable (onions, cucumbers, tomatoes, cabbage)<br>*CATTLE BREEDING:*<br>sheep breeding (wool), poultry (egg), large-horned cattle (milk, meat) |
| **Upper Karabakh** | *PLANT GROWING:*<br>vegetables (onions), cereals and leguminous (wheat), fruit and berries (pear), cotton plantin<br>*CATTLE BREEDING:*<br>sheep-breeding |
| **Kalbajar-Lachin** | *CATTLE BREEDING:*<br>sheep-breeding (wool) |
| **Mountaneous Shirvan** | *PLANT GROWING:*<br>cereals and leguminous (barley, wheat, beans), grapes, fruit and berries (nuts, pear, pomegranate, fig, unabe), vegetables (cucumber)<br>*CATTLE BREEDING:*<br>sheep-breeding (wool), large-horned cattle (milk, meat), poultry (egg) |

| | |
|---|---|
| **Nakhchivan** | *PLANT GROWING:*<br>fruit and berries (almond, apricot, peach, oleaster, nuts, cherry plums, quince, cherries, white cherries, apple), cereals and legumninous (beans, wheat), grapes, vegetables (tomatoes, cabbage)<br>*CATTLE BREEDING:*<br>sheep-breeding (wool), large-horned cattle (milk), poultry (egg) |

In light of the global experience on organic farming, the "model of region and the product selection" has an important significance for the development of organic agriculture in Azerbaijan. Candidate of economic studies H.Eynalov first introduced the model in Azerbaijan in 2006 as part of his research titled "The role of organic agriculture in the promotion of Turkish-Azerbaijani relations". The research has divided the economic zones and products as below:

- *Absheron economic region:* *grapes, saffron;*
- *Ganja-Qazakh economic region:* *potato, grapes and wheat;*
- *Lankaran economic region:* *tea, various subtropical fruits and wheat, including fish;*
- *Quba-Khachmaz economic region:* *special quality apple;*
- *Aran economic region:* *wheat, sunflower, sugar beet, cotton, grapes;*
- *Mountaneous Shirvan economic region: pomegranate, sugar beet and wheat;*
- *Nakhchivan economic region:* *sugar beet and grapes.*

Below see the table of products with export potential and economic regions listed considering the regional specialization level and using the various sources that indicate the demand for organic products in the world market.

*Table 6. Export potential of "organic" certified products that are in high demand (in accordance with regional specialization levels)*

| Products Region | Absheron | Ganja-Qazakh | Shaki-Zaqatala | Lankaran | Quba-Khachmaz | Aran | Mountaneous Shirvan | Nakhchivan |
|---|---|---|---|---|---|---|---|---|
| **Cereals and cereal leguminous** | | | | | | | | |
| Wheat | | | + | | + | + | + | + |
| Barley | | | + | | + | + | + | |
| Corn | | + | + | | | | | |
| Leguminous | | | + | + | | | + | + |
| **Fruit and berries** | | | | | | | | |
| Grapes | | + | + | | | | + | + |
| Apple | | | + | | + | | | + |
| Pear | | + | + | | + | + | + | + |
| Pomegrenate | | + | | | | + | + | |
| Quince | | | + | | | + | | + |
| Fig | | + | + | + | + | + | + | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| White cherries | | + | + | | + | | | + |
| Plums | | + | + | | + | | | |
| Medlar | | | | | + | | | |
| Persimmon | | + | | | + | + | | |
| Apricot | | + | | | | + | | + |
| Medlar | | | + | + | | + | | |
| Cherry plum | | | + | | | + | | + |
| Cornel | | + | + | | + | | | |
| Cherry | | + | + | | + | + | | + |
| Olives | + | | | | + | | | |
| Peach | | + | | | + | | | + |
| Oleaster | | + | | | | + | | + |
| Almond | + | | | | | | | + |
| Nuts | + | + | + | + | + | + | + | + |
| Hazelnut | | | + | | + | | | |
| Chestnut | | | + | | | | | |
| Pistachio | + | | | | | + | | |
| Unabi | | | | | | + | + | |
| **Citrus fruits** | | | | | | | | |
| Feykhoa | | | | + | | | | |
| Tangerine | | | | + | | | | |
| Orange | | | | + | | | | |
| Lemom | | | | + | | | | |
| Kiwi | | | | + | | | | |
| **Vegetable, watermelon and melon** | | | | | | | | |
| Potato | | | | | | | | |
| Tomato | | + | | + | + | + | + | |
| Cucumber | | | + | + | + | + | + | |
| Cabbage | | + | + | | + | + | + | |
| Onions | | + | | + | | + | | |
| **Cotton** | | | | | | + | | |
| **Animal products** | | | | | | | | |
| Milk | | + | + | + | + | + | + | |
| Meat | + | | + | | + | + | + | |
| Wool | + | + | + | + | + | + | + | |
| Eggs | + | | | + | + | + | + | |

The adoption of "regional and product selection model" for the development of organic agriculture will have the following short term and long-term outcomes. Short-term outcomes: identify export capacity, provide technical assistance to farmers and initiators, set up specialized market, produce agricultural products in the region under contracts, access world markets with organic certified products etc. Long-term outcomes: maintain environmental balance of the region, ensure purity of water basins, conserve biodiversity, provide additional value in the country's agricultural sector, ensure healthy food production and consumption in the country, and provide reliable food supply and other effective outcomes.

## SWOT analysis of organic agriculture in Azerbaijan

According to the analysis, the following are ***the strengths*** of organic agriculture in Azerbaijan:

- *Existence of legislative framework on organic agriculture;*
- *Clear division of regulatory work among authorities on the basis of the existing legislative acts;*
- *The existing legislation identifies trends and objectives to develop the sector;*
- *Existence of historic agricultural culture in Azerbaijan;*
- *Climate richness, region specific production of products that have adapted to agrarian and environmental features;*
- *Existence of water basins;*
- *Rich "Fair Wild"flora ;*
- *Existence of rich pastures that offer opportunities for organic cattle-breeding;*
- *Good experience of rural farmers and technical experts;*
- *Existence of organizations that raise awareness on organic agriculture and establish international relations;*
- *Existence of experienced agrarian experts and scientific base;*
- *Existence of Agro Industrial Complex and good infrastructure;*
- *Cotton-growing and weaving experience;*
- *Development of weaving industry that is focused on silkworm breeding and wool making;*
- *Existence of effective business support initiative by the government;*
- *Existence of investment support;*
- *Existence of legal and institutional framework for government mechanisms that offer leasing service in agrarian sector;*
- *Existence of legislation that regulates government supported insurance for agrarian sector;*
- *Low costs of energy;*
- *Farmer producers are exempt from all taxes except the land tax;*
- *Existence of labour force;*
- *The experience and scientific activities carried out by the Ganja State Agrarian University on organic agriculture etc.*

***Weaknesses:***

- *Low share of agrarian sector in GDP;*
- *High rate of Azerbaijan's national currency;*
- *Weak relations between the public authorities and non-governmental organizations;*
- *Lack of national body or authority that is internationally recognized for accreditation;*
- *Lack of support activities in line with specifications of organic agriculture;*
- *Weak business activities;*
- *Large number of small land owners;*
- *Most arable lands are focused on growing of cereals;*
- *Expansion of land salinity (> % 60);*
- *Recent growth of environmental risks;*
- *Enhanced soil productivity activities and weak laboratory infrastructure to fight pests;*
- *Lack of market oriented researches (on regional level);*
- *Lack of collection of organic farming data;*
- *Low awareness of technical experts on organic agriculture;*
- *Producers lack knowledge on organic agriculture;*
- *Low number of organizations that raise awareness of producers on organic agriculture;*

- *Lack of sufficient educational materials on organic agriculture for producers;*
- *Lack of expansion of organic agricultural projects;*
- *Low number of experts and organizations that provide consulting services on organic agriculture;*
- *Existence of farmer habits to regularly use chemicals in vine and apple growing;*
- *Lack of market standards, insufficient knowledge and lack of standard products;*
- *Weak experience of organic products in supply chain;*
- *Lack of local organic brands;*
- *Wide network of small farmers;*
- *Weak chain of "producer-consumer";*
- *Lack of specific market opportunities focused on organic products;*
- *Insufficent organic products in cafes and restaurants;*
- *Insufficient consumer knowledge and awareness, insufficient demand for organic products;*
- *Lack of awareness rising on media and slow growth of local demand etc.*

***Opportunities:***

- *Geographical position of Azerbaijan allows to access both Western and Eastern markets;*
- *Favourable investment environment and legal framework;*
- *Intersts expressed by foreign investors;*
- *Requirements for organic agriculture are expressed in "Azerbaijan 2020: The Vision of Future" development concept;*
- *Organic agriculture is labour intensive which increases employment;*
- *Existence of agricultural promotion activities and existence of financial sources as part of the government support (annual growth of financial assistance for agricultural sector);*
- *Existence of local large companies;*
- *Global demand for organic products exceeds supply;*
- *Existence of productions certified under "GLOBALGAP", "Halal" etc.*
- *Easy conversion of some products to organic that have adapted to agro-ecological environment on the regional level (pomegranates in Goychay, potatoes in Gadabay, tea and citrus in Lankaran and etc.);*
- *Ability to process locally produced organic products (fruit juice, cans and etc);*
- *High potential for organic fish-breeding;*
- *Growth in the country's food market;*
- *Existing demand for organic products in Russian Federation that imports most agricultural products;*
- *Customs and tax facilitation rules as part of the agreements signed with a number of countries;*
- *Existence of certified local and imported organic products in domestic market;*
- *High demand for cosmetics and opportunities for the sale of organic cosmetic products;*
- *Promotion of tourism especially in forest and rural areas and existing potential for agro-ecotourism etc.*

**Threats:**

- *Growing consumer demand for high quality and organic products in the developed countries;*
- *Overall weak competitiveness of agrarian sector compared to other sectors;*
- *Monoculture based wheat production that receives more support and covers 65 percent of the country's arable lands;*
- *Weak adoption of technology and innovation in agrarian sector;*

- *Weakening competitiveness of Agro Industrial Complex;*
- *Existence of stronger support to organic agriculture in many countries;*
- *Soil and water pollution that limits organic agriculture;*
- *Insufficient farmer knowledge and experience in processing and marketing which decreases productivity and increases product loss;*
- *Low tendency to establish cooperatives;*
- *Growing urban migration and decreasing rural population;*
- *Preference of foreign investors to produce raw materials and low level of added value;*
- *Excess quantity of imported goods to develop organic agriculture;*
- *Growing organic agriculture in neighboring states;*
- *Demand for organic products have not been identified;*
- *Lack of organic products, their prices and market information in the hands of producers;*
- *The country's organic product market develops due to imported foreign goods;*
- *Weak control in organic product market and low level of consumer confidence;*
- *Low demand for organic products in the country's food market;*
- *Decreasing number of young people involved in agrarian science;*
- *Low competition in organic production;*
- *Dependency on foreign organizations for certification of organic products;*
- *Lack of farmer abilities to carry out maintenance of necessary stages of agro-technology etc.*

## Azerbaijani practice of improving the economic mechanisms to promote organic agriculture

The requirements under organic agricultural practice are compatible with the state policy to protect environment, promote regional development, sustain human health and develop agriculture. The importance of organic agriculture in the modern time continues to grow. Demand for organic products is more visible in the developed countries.

Therefore, the development of organic agriculture in Azerbaijan has become a current concern. There is a need to formulate a development strategy in line with the country's specifications considering the global factors that hamper the development of organic agriculture.

Main problems that arise include – certification and pricing. The global experience shows that decisive state policy can unify farmers and reduce certification costs, meaning that legal and economical mechanisms of organic agriculture should be improved. However, other types of problems exist in the country, which includes insufficient farmer and consumer knowledge as well as insufficient farmer experience.

Developed organic agriculture in the developed countries is no coincidence. High living standards, demand of quality consumption, government's environmental policy, policy on organic agriculture results in the increased number of organic products in the markets as well as the increased number of organic producers.

High priority of organic products, high demand for such products in the markets of developed countries, high purchasing power and other advantages justify the necessity of developing organic agriculture in Azerbaijan. Considering the country's natural and favorable investment conditions, most importantly the initial stage of formation of organic agriculture, the following is the general list of important actions that should be taken to promote the sector:

- *Improve organic farming legislation considering the world practice and local specifications;*
- *Formulate supervisory and certification system;*
- *Establish relevant authority responsible for organic agriculture;*
- *Formulate specific state policy which also means preparation of development strategy;*
- *Identify organic farming regions and promote conversion process;*
- *Carry out employee qualification and awareness raising for farmers;*
- *Publish educational materials for consumers on regular basis;*
- *Include organic agriculture subject to school curriculums;*
- *Carry out scientific research in the framework of various projects and strengthen farmer relations with scientific research centers in an attempt to use the obtained results;*
- *Carry out joint projects involving universities, municipalities and farmer unions;*
- *Identify organic farming opportunities in Azerbaijan and carry out the demonstration on regular basis in an attempt to involve foreign investors.*

As the global experience shows, short, medium and long-term activities have become an important condition to develop organic farming that has been evolving throughout a long historic period. Many countries have formulated organic farming strategies and action plans that take into account local specifics and opportunities. In line with the above statements, short and medium term recommendations have been prepared for the development of organic farming policy in the Republic of Azerbaijan.

Considering the above said, the following mechanisms can be formulated:

- *Identification of suitable lands for organic farming purposes, covering the expenses of scientific-research, employee qualification, training and consulting by the government in an attempt to attract farmer-entrepreneurs.*
- *Double payment of subsidies per each organic hectare grown by cooperatives*
- *Non-returnable payment of half of the certification costs by the government as part of the support to set up supervisorty and certification mechanisms*
- *Non-returnable payment of government subsidies as part of the support to organic conversion*
- *Identify the volume of support provided per each grown organic hectare (per products). Special loan programs can also be launched.*
- *Coverage of the 50 percent of investment costs in organic production by the government and allowing the re-payment after 5-year period. Special loan programs can also be launched.*

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# ORGANIC AGRICULTURE in AFGHANISTAN

**COUNTRY PROFILE (STATISTICS)**

***Key indicators, 2015:***
***(FiBL & IFOAM - Organic International (2017))***

***Organic agriculture land (ha)***
*81*
***Organic share of total agriculture land (%)***
*0.0002*
***Number of organic producers (No.)***
*-*
***Organic retail sales (Mio €)***
*-*

***Key statistics, 2014:***
***(FAOSTAT)***

***Country area***
*65286 (1000 ha)*
***Land area***
*65286 (1000 ha)*
***Agriculture are:***
*37910 (1000 ha)*
***Forest***
*1350 (1000 ha)*

## Promotion of organic fertilizers

***Objectives**:*

- To teach farmers about promotion of organic fertilizer.
- To provide a source of practical learning for making of compost (promotion of organic fertilizer), environmental issues, use of wastes and food production.
- To improve soil structure and fertility.

Agriculture is critical to Afghanistan's food security and a key driver of economic growth. Sixty percent of Afghans rely on agriculture for their livelihoods and their family's sustenance. The sector accounts for about 40 percent of Afghanistan's gross domestic product. Prior to decades of conflict, Afghanistan's agricultural products earned a global reputation for excellence, particularly almonds, pomegranates, pistachios, raisins, and apricots. Decades of war and neglect devastated Afghanistan's farmland, displaced millions of people, and largely destroyed the country's existing infrastructure.

Prior to decades of conflict, Afghan almonds, pomegranates, pistachios, raisins, and apricots were high-demand products across Central and South Asia. Since 2002, thanks to U.S. government assistance to the sector, high-value fruit and nut production has rebounded and Afghan agricultural commodity traders are reestablishing markets in India, Dubai, Pakistan and elsewhere.

The future of Afghanistan's agricultural sector depends on expanding the customer base beyond Afghanistan's borders. Open new markets to Afghan goods by helping farmers meet international packaging and shipping standards and by organizing international agricultural trade fairs, some NGOs have facilitated agriculture export sales of fresh and dried fruit, nuts, and cashmere worth over $54 million to India, Pakistan, the United Arab Emirates, the United Kingdom and other countries.

International society funding for various commercial horticulture value chains has helped 1.1 million households, planted over 3.9 million fruit saplings and grape cuttings, established over 25,000 hectares of fruit orchards and vineyards, and built 200 raisin drying facilities and cold storage rooms.

## Legal Status

***Competent authority***

Many professors and specialists are working in field agriculture in Afghanistan.

***Legal background (law, by law, regulation)***

The Government of Afghanistan has recently approved Laws on fertilizers use, seed certification, import and export, natural resources exploitation, pests' management.

***Content (plant production, animal production, wild harvest, aquaculture, processing, and marketing)***

Plant productions include of wheat, rice, maize, barley, Pulses, bean, pea, soybean, cowpea, mustard, sesame, flax, sugar beet, cotton, potatoes in Afghanistan.

The animal productions include diary, leather, karakul and carpet. Some of the plant and animal productions are being process in the country. However in general the products or consume without being processed in the meantime storages for the products are traditional bases.

Marketing of the products exists in the country and some of the products are marketed on regional levels.

***Inspection and certification (control bodies CBs)***

Control body is government and each department in the ministry of agriculture serves as a control body. Department of plant nutrition in the ministry of Agriculture controls organic agriculture.

## Data Collection System for Conventional and Organic Products

***Primary production (farm data)***

Primary data are collected by central statistic department in collaboration with ministry of agriculture and NGOs. Farmers also, cooperate in data collection.

***Processing***

Farmers, traders, NGOs and government do processing of agricultural products.

***Marketing channels (domestic market, export, import)***

There are four Marketing Channels for the agriculture and livestock products, which include local, provincial, national and regional.

There is a balance gap between export and import is related to the agriculture and livestock products. In general, 60% of the above products are being imported from regional countries.

***Non-food organic (textiles, cosmetics etc.)***

The textiles producing factories in the past do not exist now in Afghanistan and have been destroyed in fighting in the country. Very few items of Cosmetics have been produced in Afghanistan.

## Training and Education

***Formal higher education***

The formal higher education is implementing by 22 faculties of agriculture, 26 agricultural institutes and 98 agricultural schools. The Faculty of Agriculture, Kabul University is the oldest and top one among the above-mentioned institutions.

***Training of trainers***

Training of trainers is implementing by subject matter specialists in the Ministry of Agriculture.

***Training of farmers***

Training of farmers is done vertically by Extension Agents and horizontally by farmers' field schools.

## Research

Afghan farmers have traditionally practiced organic agriculture. Farm manure is the main source of organic fertilizer in the country.

Department of Plant nutrition in the faculty of Agriculture and Department of Soil Science in the Ministry of Agriculture are doing research on organic fertilizers in different provinces of Afghanistan.

The farmers traditionally make compost but recently ministry of agriculture and NGOs does scientific compost making. Compost contributes to soil fertility and save environment in the process of organic agriculture.

Ongoing objectives of organic agriculture in Afghanistan are as follows:

- To teach farmers about promotion of organic fertilizer.
- To provide a source of practical learning for making of compost (promotion of organic fertilizer), environmental issues, use of wastes and food production.
- To improve soil structure and fertility.

## Meetings on Organic Agriculture

Sometimes the Faculty of Agriculture and Ministry of Agriculture hold meeting on research and extension activities on organic agriculture.

The purposes of these meetings are management, marketing, distribution and providing information on organic agriculture.

## Market

***Domestic market***

Domestic markets exist on districts, provinces and national levels of Afghanistan. However, these markets are just for agricultural production and farmers cannot find organic fertilizers in the market. Farmers themselves exchange farm manure through barter dealing.

***Export market***

Export markets are located in big cities such as Balkh, Herat, Kandahar, Nangarhar and Kunduz. These provinces bordered with neighbor countries and a suitable for export activities.

***Import***

Sixty percent of import in Afghanistan comes from Pakistan and Iran. Firstly, the items and gods are imported to big cities and then distributed to regional markets.

## Existing NGOs and Projects

Existing International NGOs are USAID, JICA, FEAS, ICARDA, and SMITT.

There are many national NGOs and these NGOs receive support from International NGOs then implement in the field. Organic fertilizer and bio-gas project are existed in different zones of Afghanistan.

Agriculture Faculty of Kabul University has also practiced preparing compost and the objective of faculty project is training of students.

## Major Problems Existing in the Country

The major problems of agriculture in Afghanistan are security, poppy cultivation, drought, natural resources management, lower level of production and productivity, markets regeneration, and change management.

# Additional Remarks

*Table 1: Import of commodities to Afghanistan*

| Rank | Commodity | Quantity (tonnes) | Value (1000 $) | Unit value ($/tonne) |
|---|---|---|---|---|
| 1 | Flour of Wheat | 1288109 | 375076 | 291 |
| 2 | Food Prep Nes | 31141 | 155703 | 5000 |
| 3 | Sugar Refined | 225434 | 110000 | 488 |
| 4 | Palm oil | 91100 | 110000 | 1207 |
| 5 | Cigarettes | 12754 | 88669 | 6952 |
| 6 | Tea | 63224 | 85915 | 1359 |
| 7 | Beverage Non-Alc | 85634 | 68508 | 800 |
| 8 | Chicken meat | 51004 | 66344 | 1301 |
| 9 | Wheat | 220428 | 66000 | 299 |
| 10 | Tangerines, mandarins, clem. | 102882 | 50972 | 495 |
| 11 | Pastry | 14000 | 36699 | 2621 |
| 12 | Sunflower oil | 15000 | 27000 | 1800 |
| 13 | Soybean oil | 16000 | 21000 | 1313 |
| 14 | Milk Skimmed Dry | 7543 | 18326 | 2430 |
| 15 | Oil of vegetable origin, nes | 12710 | 18000 | 1416 |
| 16 | Hen eggs, in shell | 20705 | 14588 | 705 |
| 17 | Sugar Confectionery | 10211 | 12094 | 1184 |
| 18 | Milk Whole Evp | 20888 | 12047 | 577 |
| 19 | Infant Food | 1980 | 9567 | 4832 |
| 20 | Vegetables Preserved Nes | 2322 | 7740 | 3333 |


*Fig 1. Afghanistan Export Report (Central Statistics Organization of Afghanistan, 5/18/2015)*

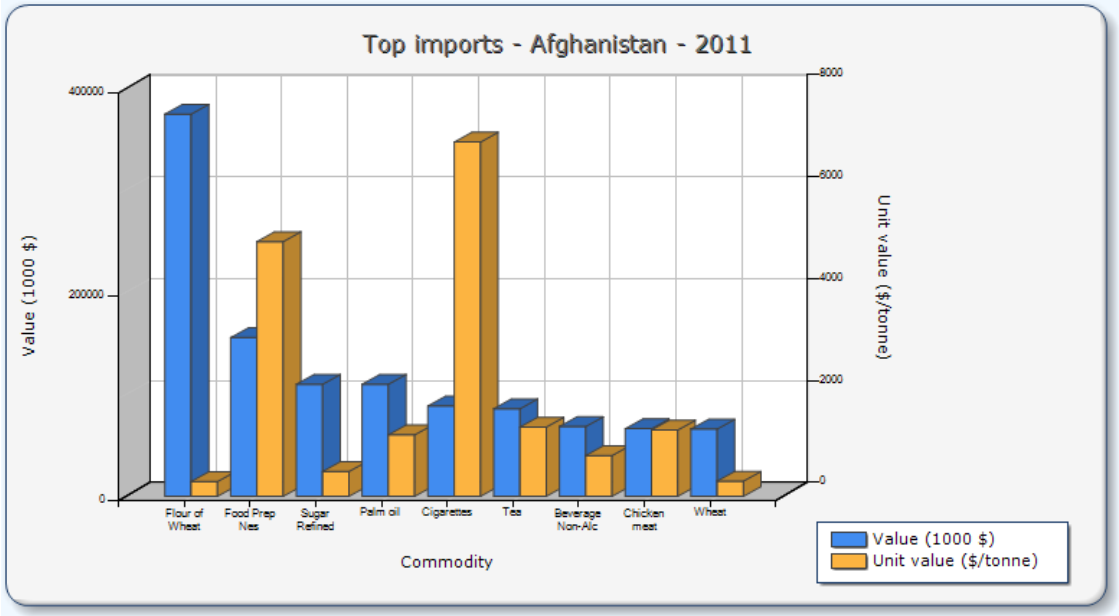


*Fig 2. Afghanistan Export Report (Central Statistics Organization of Afghanistan, 5/18/2015).*

In Afghanistan, exports account for around 20 percent of GDP. Afghanistan main exports are: carpets and rugs (45 percent of total exports); dried fruits (31 percent) and medicinal plants (12 percent). Main export partners are Pakistan (48 percent of total exports), India (19 percent) and Russia (9 percent). Others include Iran, Iraq and Turkey. This page provides - Afghanistan Exports - actual values, historical data, forecast, chart, statistics, economic calendar and news. Content for - Afghanistan Exports - was last refreshed on Monday, May 18, 2015.

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# ORGANIC AGRICULTURE in IRAN

**COUNTRY PROFILE (STATISTICS)**

***Key indicators, 2015:***
***(FiBL & IFOAM - Organic International (2017))***

***Organic agriculture land (ha)***
*14574*
***Organic share of total agriculture land (%)***
*0.03*
***Number of organic producers (No.)***
*3873*
***Organic retail sales (Mio €)***
*-*

***Key statistics, 2014:***
***(FAOSTAT)***

***Country area***
*174515 (1000 ha)*
***Land area***
*162876 (1000 ha)*
***Agriculture area***
*45953.2 (1000 ha)*
***Forest***
*10691.98 (1000 ha)*

Certified organic farming started in 2001 with organic rose-water production certified by the Soil Association, in the Kerman province, in the South of Iran. However, organic farming has been promoted via a national project on Chemical Use Reduction Policy, during 1994 to 2004 decade.

## Legal Status

***Competent authority***

Budget law of 1995 initially supported the national project, Chemical Use Reduction Policy. The structure of the project was well designed not only for decreasing chemical pesticide in the country but also for ecological agriculture developing. One of the reason for starting the national project was a successful decade of research on production of native biological control agents (BCAs) and also positive results in rice and corn fields in north of Iran before 1994.

With such a finance in 1995, the minister of Agriculture , as head of the triple committees, research committee, programming committee and executive committee,

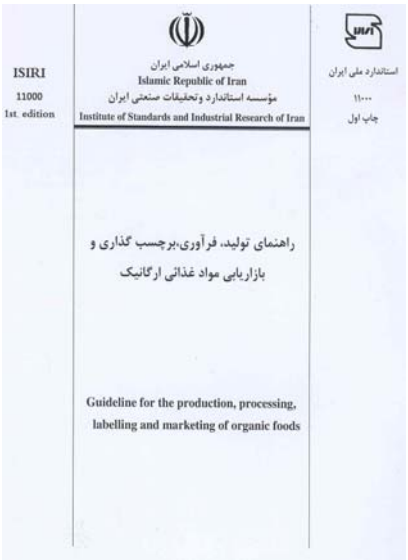
granted and supported the research on essential native organic inputs such as BCAs and biological fertilizers in Iran. The deputy minister and head of executive committee have created the organic subcommittee from representative of six main institutes in 1998. Their report to the minister is still practical and promoting for organic agriculture in the country. Therefore, a unique capacity building for organic farming is initially created in the country since 1998. Meanwhile, the cultivation was controlled with subsidized BCAs reached to about 300,000 ha in 2004.

Regarding decade-balanced efforts on R&D of ecological agriculture, the word of "organic", beside IPM, BCAs and biofertilizer, has been emphasized and encouraged by the parliament via 61b paragraph of the fourth national development program low. It is repeated in the next 5-years development program low until March 2016. Of course, their proved and/or in process by low should consider organic R&D necessities and regulations independently as soon as possible to avoid mis-understanding about organic products.

The Iran Organic Association (IOA) was established for focusing on market development and trade of organic products in Iran's Commerce Chamber with support of governmental institutes in 2006. At the beginning, it is named as organic agriculture extension society. It is a main gathering of related exporters, importers, producers and experts in Iran. The IOA is hosted IFOAM-IRAN since May 2014.

In 2008, Iran's first organic guidelines (standard No. 11000) have been issued based on organic Codex guideline by Iran National Standard Organization. It seems that it is more than a guideline by extensive additions on first revision since 2014.

***The strategic program of organic agriculture*** (Ebrahimi and Rezapanah, 2011)[39] approved on March 3, 2012. This strategic program may effects on quantity and quality of support to organic research for a decade.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استاندارد ملی ایران
۱۱۰۰۰
چاپ اول

راهنمای تولید، فرآوری، برچسب گذاری و
بازاریابی مواد غذائی ارگانیک

Guideline for the production, processing,
labelling and marketing of organic foods


باسمه تعالی

وزارت جهاد کشاورزی

سازمان تحقیقات، آموزش و ترویج کشاورزی

برنامه راهبردی توسعه کشاورزی ارگانیک در ایران

(هدف اولیه: حدود یک درصد تولیدات کشاورزی کشور)

Relationships between
Organic & Sustainable Agriculture

Sustainable Agriculture
Organic Agriculture
Biodynamic
Integrated Pest Crop Management

مجریان مسئول تدوین برنامه راهبردی: علی ابراهیمی و محمدرضا رضاپناه

اعضاء هیئت علمی سازمان تحقیقات، آموزش و ترویج کشاورزی

نسخه ۱۳۸۹- موسسه تحقیقات گیاهپزشکی کشور

[39] **Ebrahimi, A. and Rezapanah, M.** 2011. The strategic program of organic agriculture in Iran. Agricultural Research, Education and Extension Organization (AREEO). 490 p. (in Persian)

***Inspection and certification (control bodies CBs)***

- Soil association of UK directly certified organic rose-water production in fields and through processing in Kerman province since 2001.
- BCS of Germany in two periods of time. Now, via PARS Certifier Company.
- Bio-inspecta of Swiss via BioSunCertifier (It was an only inspector by National Accreditation Center of Iran since 2009 until 2014). The No. of Iranian companies as inspector increased to five companies based on first revision of Iranian standard No. 11000 since 2014.
- Control Union of the Netherlands mostly in Fars province and mostly based on natural harvest products.
- CERES via CERESPARSI.

## Data Collection System for Conventional and Organic Products

There are different data collection systems, such as cadaster system, for conventional products. However, for organic products, it is still based on certifier's data that have been reported in the books of the world of organic. The data in parentheses have been corrected in another issue.

***Primary production (farm data)***

| Year | Certified organic agricultural land (ha) | Certified organic wild collection (ha) |
|---|---|---|
| 2013 | 12156 | 27552 |
| 2012 | 42634 | 38035 |
| 2011 | 43332 | 38510 |
| 2010 | 7256 | 38200 |
| 2009 | 8853 (18353) | 17000 |
| 2008 | 11745 | |
| 2007 | 913 | |
| 2006 | 15 | |
| 2005 | 200 (0) | |
| 2004 | 200 | |
| 2003 | 100 (-) | |
| 2002 | 57 | |
| 2001 | | |

***Processing***

8 organic processors were active in 2013 in the country such as fruit juice produces, tea producer.

***Marketing channels (domestic market, export, import)***

There are domestic markets in big cities via about **40 shops**, supermarkets and yearly organic exhibition in Tehran.

**33 exporters** were dealing with the organic products in **2013.** There are just a few imported organic products in the country too.

***Non-food organic (textiles, cosmetics etc.)***

There is still no producer or processor of organic textiles in the country. But, there is an organic cosmetic product and an organic cosmetic product importer.

## Training and Education

### (i) Environmental Sciences Research Institute, Shahid Beheshti University in North of Tehran;

Established in 2001, the ESRI aims to carry out research on the various aspects of the environment. Many qualified professors in Biology, Chemistry, Law, etc. at Shahid Beheshti University collaborate with the work of the Institute.

ESRI offers Master and Ph.D. degrees in Environmental Sciences. The research objectives of the Institute are:

- Environmental design and programming;
- Study of the bio-diversity of the country and the region (Central and South Asia);
- Ecological studies of the country and the region;
- Studying economic factors related to bioenvironmental research;
- Studying the relationship between the economy and the promotion of environmental enrichment;
- Legal implications of environmental studies;
- Assessment of pollutants and controlling them in the environment;
- Promoting natural resources and environmental education at all levels;
- Encouragement of public awareness of development and environmental protection.

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**Dr. Abdolmajid Mahdavi Damghani**
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### (ii) University of Ferdowsi, Mashhad,

### (iii) Islamic Azad University

### (iv) Iranian Research Organization for Science and Technology (IROST)

**(v) Agricultural Research, Education and Extension Organization (AREEO)** is the largest responsible body for agricultural research and education in Iran. The establishment of some agricultural research institutes in Iran dates back to more than 90 years ago. Among these institutes, Razi Vaccine and Serum Research Institute (1924), Animal Science Research Institute (1933), Iranian Research Institute of Plant Protection (1943), and Seed and Plant Improvement Institute (1959) could be named as pioneer research institutes.

In 1975, the Agricultural and Natural Resources Research Organization (ANRRO) was established as a central entity to formulate policies, make decisions on research priorities and coordinate the activities of the existing research institutes.

In 1990, ANRRO was reorganized and merged with Agricultural Education Organization and Extension Directorate, creating a new organization naming Agricultural Research, Education and Extension Organization (AREEO) with the responsibility in the fields of Research, Education and Extension.

In 2001, the two Ministries of Agriculture and Jihad Construction merged, creating the new Ministry of Jihad-e-Agriculture. Therefore, the responsibility of research institutes of the two Ministries, comprising 28 research institutes were entrusted to AREEO.

In 2002, the Extension mandate of AREEO transferred to a new Deputy in the Ministry of Jihad-e-Agriculture and AREEO restructured to Agricultural Research and Education organization. In 2007, the Extension mandate was transferred back again to AREO and it continues now to its mission as one of the deputies of Agricultural Research, Education & Extension Organization (AREEO).

**(vi) Alborz Province Agricultural Training Centers**

The Alborz province, west of Tehran, has a capacity for training sustainable agriculture nationally and regionally. Recently in the training centers, organic agriculture training has been initiated by CEOA scientific support.

**(vii) Center of Excellence for Organic Agriculture (CEOA)**

### *Formal higher education*

A post graduate course on agro ecology commenced in 2007, which is offered at the University of Ferdowsi (Mashhad), Shahid Beheshti (Tehran), Birjand, Shahrekord, Gorgan, Shahrood, Islamic Azad and Alborz Province Agricultural Training Centers belong to AREEO. In addition, an applied postgraduate course on organic animal production has been conducted in Alborz Province Agricultural Training Center since 2014 too. CEOA is synchronizing them.

### *Training of trainers*

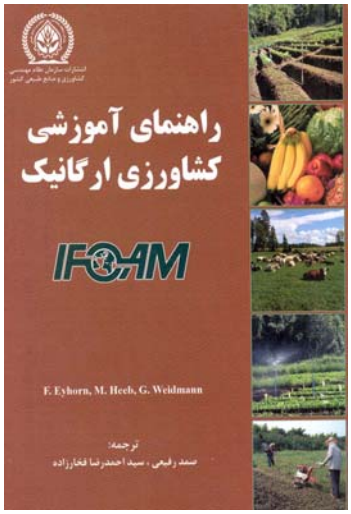
Most of Iranian trainers are member of scientific board of Iranian universities or research institutes that a few persons of them are usually participating in international organic events and workshops.

The CEOA has conducted a series of publication suitable for training of organic agriculture in arid and semiarid countries that help trainers and farmers. For example a translated book of IFOAM training manual for organic agriculture.

## *Training of farmers*

Just via workshops and courses mostly via AREEO, CEOA, IOA and Alborz Province Agricultural Training Center.

Just via workshops and courses mostly via AREEO, CEOA, IOA and Alborz Province Agricultural Training Center. The latest one on Iran's village day has been conducted by CEOA.





## Research on Organic Agriculture

Today, the Center of Excellence for Organic Agriculture (CEOA), as a scientific consortium consisting of the top universities and research institutes, has focused on research. It was approved by the Ministry of Science, Research and Technology in 2012. The goal of CEOA is to promote research focusing on organic agriculture in the country as well as to support the regional organic movements for example via nomad production (Ansari-Renani et al., 2013)[40].

The Biological Control Department of the Iranian Research Institute of Plant Protection (IRIPP) that hosted the secretariat of the research committee of the national project, Chemical Use Reduction Policy, for a decade.

In addition, research programs on organic agriculture production, processing and marketing started recently and are carried out in graduate programs by several institutions, including the Environmental Sciences Research Institute of Shahid Beheshti University in Tehran, Ferdowsi University of Mashhad, Islamic Azad University, Karaj Branch and Alborz Province Agricultural Training Centers, at least.

The Iranian Scientific Society of Agroecology (ISSA), the Iran Organic Association (IOA) as well as Iran's key institutes have conducted regular meetings on organic agriculture. The international and/or regional research and development projects will boost organic farming in Iran due to the capacities that they prepared such as native organic inputs during two recent decades.

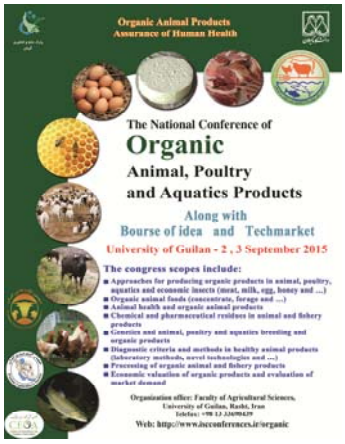
[40] **Ansari-Renani, H.; Rischkowsky, B.; Mueller, J. P. And Moradi, S.** 2013. Cashmere in Iran. Animal Science Research Institute, 91 p.

ARREO: Agricultural Research, Education and Extension Organization
CEOA: Center of Excellence for Organic Agriculture
IRIPP: Iranian Research Institute of Plant Protection
SPCRI: Seed and Plant Certification and Registration Institute
ASRI: Animal Science Research Institute
SWRI: Soil and Water Research Institute
Environmental Sciences Research Institute of Shahid Beheshti University in Tehran;
Ferdowsi University of Mashhad;
Islamic Azad University, Karaj Branch;
Iranian Research Organization for Science and Technology (IROST)

## Meetings on Organic Agriculture

1st National Organic R&D, Shiraz, Iran in November, 2015 for holding 1st Regional Organic R&D, Shiraz, IRAN in October, 2016;

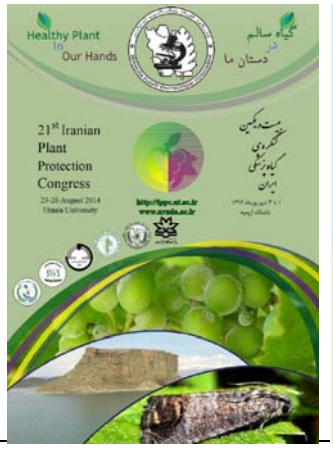
The National Conference of Organic Animal, Poultry and Aquatics Products, in Guilan University, Rasht, Iran, Sept 2-3, 2015[41];



3rd International Conference on Trade and Market Development of Organic Products, Aug. 25, 2015, IOA, Tehran;

CEOA Workshop on organic opportunities for experts of medicine, veterinary and agriculture, April 27, 2015, Zahedan;






41 http://www.organic-world.net/index/events-organic-world/event-organic-world.html?tx_ttnews%5btt_news%5d=1667&cHash=cd243c31a14626991c39cc1ea083af54



Tehran Organic Week Festival, January 31 – February 5, 2015;

Organic Day by CEOA and IASSPP in 21st Iranian Plant Protection Congress, Urmieh, September, 2014;

2nd International Conference on Trade and Market Development of Organic Products, May 11, 2014, IOA, Tehran;

Healthy and organic potato meeting, Feb.25-26, 2014, Ardabil, Iran;


A training course for experts, Nov. 6, 2013, Tehran, Iran;

APO Workshop on Best Practices in Green Productivity in Agriculture, 7–11 December 2013, Tehran, Iran;


Organic Standard Meeting, December 2, 2012, Mashhad, Iran;

6th Organic and Natural Products Exhibitions, September 7-13, 2013 in Tehran, Iran, that usually recognized by this symbol, also hosted conferences and awareness rising programs, as CEOA meetings;

**1st N**ational Workshop on Food Risk Analysis, December 26-28, 2011, beside 3rd and natural products exhibitions, Tehran, Iran, December 2011;

1st International Conference on Trade and Market Development of Organic Products, May 9, 2011, Tehran, Iran;

Organic Agriculture Conference, October 14, 2010, The Academy of Science, Tehran, Iran;

3rd National Conference on the Development in the Application of Biological Products and Optimum Utilization of Chemical Fertilizers and Pesticides in Agriculture, Karaj, Iran, February 21-23, 2004;

2nd National Conference on the Development in the Application of Biological Products and Optimum Utilization of Chemical Fertilizers and Pesticides in Agriculture, Karaj, Iran, February 2002;

1st National Conference on the Development in the Application of Biological Products and Optimum Utilization of Chemical Fertilizers and Pesticides in Agriculture, Karaj, Iran, February 2001;

1st National Conference on Biological Control, Tehran, Iran, January 25-27, 1988 that followed by lots of workshops, seminars, projects and recent meeting such as:

The Conference of Biological Control in Agriculture and Natural Resources, College of Agriculture and Natural Resources, Tehran University, Karaj, Iran, August 26-27, 2013;

The Biological Control Development Congress in Iran, 27-28 July 2011, Iranian Research Institute of Plant Protection, Tehran, Iran.

## Market

***Domestik Market***

The central market in Tehran and big cities usually absorb fresh agricultural products and distribute in different parts of the city via small shops, supermarket and chain of fresh material markets.

About 40 shops distribute about 40 organic products under supervision or out of supervision of IOA. Of course, there are many shops that distribute natural and traditional products and some times in the name of healthy products.

Further, more some of eight organic processors were active in distribution of organic products as a producer. In addition, a few groups of specialist, consumers and/or farmers try to make their own markets with different names.

There is still no producer or processor of organic textiles in the country. However, there is an organic cosmetic product and an organic cosmetic product importer since 2015.

***Export market***

33 exporters were dealing with the organic products in 2013. They are dealing with exports of organic rose water and oil, fig, Saffron, date palm, pistachio, pomegranate, concentrate of pomegranate and grape and so on.

***Import***

There are a few imported organic products in the country, such as olive oil, also a few products that repack inside the country with organic labels. It seems that they are not organic.

## Existing NGOs and Projects

The CENESTA is one of the old NGO in Iran for about half of century that has conducted several projects in Iran on IPM, native seeds, organic agriculture and no to GMOs.

Scientific societies as the Iranian Scientific Society of Agroecology (ISSA) was established by gathering the active agroecologists and other related scientists in the field of sustainable agricultural systems as well as focusing on organic agriculture in 2005.

The Association of Iranian Plant Protection Scientific Societies was established by scientific societies to promote ecologically clean agriculture.

A few related projects, such as IPM in Glasshouses, IPM in Feridoonkenar region, sustainable agriculture in Semnan regions has conducted by GEF, CEP, UN office in Tehran with participating NGOs and governmental institutes such as IRIPP.

## Major Problems Existing in the Country

It is still seems that clear law, by law and regulation about organic products is necessary for the country and the country around in the region.

Organic R&D issues are not balanced in the region, a few research projects needs to characterize the reasons of why organic R&D has ceased in the region; and why has no acceptable percentage of the products.

Just a few persons of organic activists are usually participating in international organic events and workshops. The regional organizations should facilitate such presence and also hosting international workshops, seminars, congress to boosting the presence of experts of this region.

## Additional Remarks

Since recent years ago, lots of vermin-compost has been produced in the country, but there is no enough interest to use them by farmers and even city gardens.

Meanwhile, the qualities of most of the soil in the region need a subsidized regional project to support soil organic material. It must gradually supported by soil characterization in appropriate scale by scientific projects.

Otherwise, not only we will lose our gain soil, but also we will pollute our rare water and deep water soon.

It seems that a regional approach for promoting organic R&D will work better than individual country approaches. The European parliament approach in the organic issues is practical example. The think tanks are the allocated research institutes and worked organization such as TIPI (Technology Innovation Platform of IFOAM).

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# ORGANIC AGRICULTURE in KAZAKHSTAN

**COUNTRY PROFILE (STATISTICS)**

| ***Key indicators, 2015:*** ***(FiBL & IFOAM - Organic International (2017))*** | ***Key statistics, 2014:*** ***(FAOSTAT)*** |
|---|---|
| ***Organic agriculture land (ha)*** | ***Country area*** |
| *303381* | *272490.2 (1000 ha)* |
| ***Organic share of total agriculture land (%)*** | ***Land area*** |
| *0.1* | *269970 (1000 ha)* |
| ***Number of organic producers (No.)*** | ***Agriculture area*** |
| *29* | 216992 (1000 ha) |
| ***Organic retail sales (Mio €)*** | ***Forest*** |
| - | 3309 (1000 ha) |

## Current situation and priorities in organic agriculture

### *Background*

Over the past two decades, the concept of "environmentally clean product" has become widespread on the Kazakhstani market. In addition, manufacturers declare their products as "ecological", "environmentally safe". For now, the market offers at least 10 variants of the names of this product category: natural, ecological, ecologically clean, farm, natural, biological, organic, etc.

It should be noted that at the international level (the UN, in the EU countries) the terms "biological" and "ecological" are used to describe the system of organic production. Accordingly, such terms as "ecological product", "organic product", "biological product" and their various reduction and combination options (e.g. "bio / eco / organic product") are used synonymously to mean a certified organic product. The current practice of applying the above concepts and terms and their interpretations in Kazakhstan is as follows.

***Biological, BIO, Bio or "live" product:***

1. Products enriched with nutrients, vitamins, beneficial bacteria, etc. For example, "БиоКефир" and "Биойогурт" from the company "Фудмастер", "Живое пиво" from the company "Беккер и К";
2. Certified organic products and points of sale. Example, "Биомаркет" in Astana, "Биовино" from the company "БИОТА-УЖЕР";
3. Non-certified products grown using organic fertilizers, without the use of synthetic chemicals, without GMOs. For example, "Биоарбузы" from the company "Технопарк 2030";
4. It is used only as marketing purposes and the product does not differ from traditional products. For example, "БИОМУКА".

**Ecologically clean product, ecologically safe, ecological, ECO:**

1. The product is certified in accordance with ST RK 1618- 2007 "Ecologically clean product". It is marked with the "ECO" sign;
2. Pseudo eco product - is used only as marketing purposes and the product does not differ from traditional products;
3. The product is manufactured without or with limited use of synthetic chemicals. Not certified;
4. A product produced in ecologically clean areas. For example, in areas remote from anthropogenic sources of pollution, in the territories of SPNT.

**Organic product:**

1. The product is certified according to international organic standards. There is a certificate and a corresponding marking;
2. The product is produced without or with limited use of synthetic chemicals, without GMOs. Not certified;
3. Pseudo organic product - is used only as marketing purposes, the product does not differ from traditional products;
4. A product of vegetable or animal origin. For example, organic fertilizer;
5. A brand that has nothing to do with organic farming. For example, Juice "Органик", organic.

**Natural:**

1. A product produced without the use of chemical synthetic substances and GMOs. It is often labeled simultaneously as "Without chemicals", "Without GMOs", "Without preservatives", etc.;
2. It is used only as marketing purposes and the product does not differ from traditional products.

**Farm or country product:**

1. The product is from a small family farm, grown by honest technologies with love and care for the environment. In addition, the possibility of direct contact with the manufacturer and his personal responsibility are assumed. No certification;
2. Used only as marketing purposes, the product does not differ from traditional products. Example, "Деревенское молоко";
3. A product produced by a small or medium farmer. High Quality. Without the use of chemical synthetic substances and GMOs. The desire for organic and natural. Possibility of return of the product by the buyer. Standards and certification are not available;
4. A product produced by small and medium-sized households.

In such a variety of concepts and their interpretations, quality criteria are being blurred and lost, which also hampers the manufacturer, that does not understand what standards to target, and to a buyer that does not understand the difference, for example, between ecological products and organic products. Under such conditions, the groundless labeling of any product with such terms damages the development of the market for products that

actually meet organic requirements. The current situation is due to the underdevelopment of the relevant regulatory framework and the legal consequences of unreasonable use of marking.

Nevertheless, for the present research, four groups of products can be distinguished on the market:

**First group** - certified organic products according to international standards;

**Second group** - products certified in accordance with ST RK 1618-2007 "Ecologically clean product", hereinafter referred to as "Products with an ECO mark";

**Third group -** the products of manufacturers that intuitively or intentionally, are striving to fulfill organic requirements for the production, processing, but not certified processes. Denote this group as "Non-certified products of Biofermenters";

**Fourth group -** this product is not related to organic production, and is a pseudo-organic, pseudo-ecological product that uses marking for marketing purposes only. Further «Pseudo-organic products». Below, the analysis of each group is given, the issues of standardization, certification, control and labeling of these product groups in the Kazakhstan market, as well as production, pricing and distribution channels are considered.


***Transition to Organic Agriculture***

Approved in 2013 by the decree of the President, the Concept on the transition of the Republic of Kazakhstan to the "green economy" for 2013-2020 opened opportunities for the development of environmentally friendly production. The government in the activities for its implementation envisaged the development of standards for organic (ecological) agricultural production in accordance with international requirements. However, the standards themselves did not matter much without the complex system of production and turnover of organic products.

Therefore, during the subsequent period, the Government worked to create a law on environmental production and institutional standards for its implementation. At the end of 2015, the Parliament of the Republic of Kazakhstan adopted the law "On the production of organic products" and signed by the President of the Republic of Kazakhstan. The law contains 4 chapters and 18 articles laying the foundations for regulating organic production.

The law regulates:

- Principles, goals and objectives of legal regulation in the field of organic production;
- Distribution of powers between the relevant state and local executive organizations, state support and stimulation;
- The basic conditions and procedure for the production of organic products: the responsibilities of organic producers, the conditions for the transition and production of organic products, compliance and inspection control, keeping the register of producers, mandatory requirements for the labeling of organic products;
- State control, responsibility and dispute resolution.

The adopted law "On the production of organic products" allows Kazakhstan to integrate into the process of world organic production and take its rightful place in it. The

presence of significant land and other natural resources, as well as the possession of a traditional crop cultivation without the widespread use of synthetic fertilizers and pesticides, offers great opportunities for the development of this market segment. In addition, the centuries-old values of the Kazakh people, historically living in harmony with nature, created social relations adequate to the system of ecological farming and livestock.

Organic land use combines traditional farming methods, innovative technologies and modern scientific and technological achievements that have a beneficial effect on the environment and guarantee their favorable development.

The principles of conducting organic agriculture are a reliable vector of movement towards a real "green economy", initiated by the Head of State in the "Strategy-2050".

The law is based on the rules and regulations of IFOAM, as they are the status of internationally recognized directives, which are followed by the legislation of all countries in the development of national standards and control systems. The law determines the legal, economic, social and organizational basis for organic production, processing, certification, labeling, transportation, storage and sale of agricultural products and raw materials. They are aimed at ensuring the rational use of soils, protecting public health and the environment, state regulation, as well as guarantees for improving the quality of agricultural products and raw materials labeled as organic. The law makes it possible to form an integral policy and organizational structure in the field of ecological agricultural production and a regulatory framework that helps to distinguish products actually grown in compliance with the conditions of organic production from its surrogates.

Practical implementation of the fundamental principles of organic agriculture: Health, Ecology, Justice and Care will help resolve the economic, environmental and social problems not only of the rural population, but also of the inhabitants of the whole country. By the adoption of this law, Kazakhstan demonstrated support for organic production and its perception on the world market, as a country capable of guaranteeing the purity of manufactured food products.

The favorable consequences of the law, first, will affect the economy of agriculture. Farmers who have mastered the rules and standards of organic production have every chance to surpass the indicators of the traditional Agro production system from the standpoint of crop yields, animal productivity, product quality and economic efficiency.

***Manufacture of organic agricultural products***

The transition to intensive agriculture, the widespread use of genetically modified organisms (hereinafter GMOs), pesticides, mineral fertilizers, antibiotics and stimulators of animal productivity, have a negative impact not only on the environment and human health, but also on the economic and social stability of society in whole. With the maximum utilization of the biopotential of soil, plants, animals, organic agriculture is able to minimize environmental, social and economic risks, as well as provide an opportunity for rural residents to raise their incomes and improve the quality of life.

The production of ecoproducts for Kazakh agrarians is promising, but not developed enough, which opens up new opportunities for them. This is an innovative direction, and one of its tasks is the preservation of local traditions and culture, as well as the use of positive experience in farming inherited from older generations.

In addition, the production and sale of organic agricultural products are an objective national competitive advantage of the AIC (agro-industrial complex) of Kazakhstan.

The Law of the Republic of Kazakhstan "On the production of organic products" provides for the refusal to use pesticides, synthetic mineral fertilizers, growth regulators, artificial food additives, and prohibits the use of GMOs. Obtaining organic products is accompanied by the maintenance and improvement of soil health, natural ecosystems, minimizes the threats associated with the developmental instability, creates conditions for the health and well-being of the population.

The national system of production and turnover of organic products must be compatible with the international one and take into account the specificity of Kazakhstan's agriculture.

The formation of an organic farming system does not mean abandoning industrial agricultural production: both organic and industrial agricultural production systems can effectively function in parallel with each other, gradually transforming into an agrarian technology that can meet the current and possible requirements for organic products in the domestic and international markets.

Official statistics as of 2016 do not keep records of enterprises that produce organic products.

According to the Kazakh Scientific Research Institute of Economy of AIC and Agricultural development of rural areas, there are 29 producers of organic products and 19 companies certified for processing, storage, transportation and other operations with organic products. In 2015, the production of organic products amounted to about 300 thousand tons, of which 62 thousand tons worth about 10 million US dollars were exported to Great Britain, Italy, Germany, France, Belgium, the Netherlands, Poland, Russia, Ukraine and other countries.

The development of organic production is constrained by the following problems:

1. Absence in the country of its own system of certification of organic production.
2. Absence in the country of specialized laboratories for determining the quality of products.
3. Low awareness of AP and the population about the benefits of production and consumption of organic products.
4. Inadequate level of waste minimization and reuse in Kazakhstan's AIC.

## Inspection and certification (control bodies CBs)

***Phytosanitary control in action***

Like other countries in Central Asia, Kazakhstan is often exposed to the negative effects of plant pests and diseases, including especially dangerous quarantine pests, which leads to serious economic losses for the agricultural sector. As part of a joint regional project, FAE is assisting Kazakhstan in organizing activities in the field of agricultural production and trade, supporting the revision and modernization of existing phytosanitary legislation and institutional capacity. With the technical support of FAE, leading Kazakh phytosanitary experts were trained in risk analysis and plant pest surveillance, and policymakers, government officials and other relevant public and private entities were familiarized with relevant international conventions and agreements.

***Scaling up the integrated management of natural resources***

With the support of the Global Environment Facility, FAE has prepared a project proposal for the Second Phase of the Central Asian Countries Initiative for Land Management (CACILM-II) to scale up integrated management of the natural resources of drought-prone and salinized agricultural landscapes in Central Asia and Turkey. In Kazakhstan, this project helps the Government integrate the principles of resilience to external shocks into documents on the fundamentals of the political, legal and institutional infrastructure in order to ensure integrated resource management. In addition, the project promotes the use of climate-optimized agriculture methods and the rational use of land resources, which provides socio-economic benefits to local communities and global environmental benefits. To support these activities, the GEF mobilized $ 12 million, including the allocation of funds to Kazakhstan under the System for Transparent Allocation of Resources (STAR).

***Supporting the forestry development program of Kazakhstan***

FAE provides technical assistance to the Forestry and Hunting Committee of the Ministry of Environment and Water Resources of the Republic of Kazakhstan in order to develop the National Forestry Program and the Action Plan for its implementation. The main elements of the project of this program are expansion of the forest fund, conservation of biological diversity, rational use of forest resources, improving the competitiveness of the woodworking industry, institutional development, policy and legislation, and civil society participation in decision-making processes.



***Institutional development***

- The Law of the Republic of Kazakhstan "On the production of organic products" (2015). Developed mainly on the rules and regulatory requirements of IFOAM.
- RSE "Kazakhstan Institute for Standardization and Certification" of the Committee for Technical Regulation and Metrology of the Ministry of Investment and Development of the Republic of Kazakhstan and Technical Committee No. 100 "Organic Products"
- Ministry of Agriculture of the Republic of Kazakhstan and its subordinate organizations.
- Committee for Technical Regulation and Metrology of the Ministry of Investments and Development of the Republic of Kazakhstan

***Some of their most active organizations are:***

- ALE "Coalition for a Green Economy",
- Public Association RPO of the “Association of Organic Agriculture”,
- Kazakhstan Federation of Organic Agriculture Movements KazFOAM,
- Halal Industry Association of Kazakhstan,

- Non-profit organization "International Academy of Ecology",
- Coordinating Committee for Europe Commission of the “Codex Alimentarius”

***Organic standards of Kazakhstan (in development)***

- Requirements for the process of production of organic products
- Requirements for certification bodies for the production of organic products
- National sign of conformity of organic products. Technical requirements (Organic Qazaq)
- Broad discussion of draft standards among stakeholders. Comments and Recommendations

***FAE's activities to support the further institutional development of the organic sector in Kazakhstan***

1. Assistance in obtaining international accreditation of national organic standards
2. Assistance in the training of inspectors in organic materials
3. Assistance in the development of the national system of traceability of organic products

## Data Collection for Conventional and Organic Products

### Information and marketing support

The following specialized organizations were engaged in information-marketing support at the AIC of Kazakhstan: JSC “КазАгроМаркетинг” and centers for the dissemination of knowledge, created based on Institutes for Scientific Research (hereinafter - ISR) and Experimental-Production Farms (hereinafter - EPF).

In 2016, this activity was transferred to the National chamber of entrepreneurs RK "Атамекен" (hereinafter - NCE RK "Атамекен"). In total, information and marketing support annually covers more than 60 thousand subjects of the AIC.

Also, the joint-stock company "National agency for export and investment "KAZNEX INVEST" (hereinafter - JSC "KAZNEX INVEST") annually supports the participation of Kazakhstan manufacturers in exhibitions abroad, establishment of contacts, export by compensating part of the costs of exhibitions and export promotion.

In addition, industry associations of entrepreneurs play an informational and marketing support in the marketing, collection and dissemination of data.

Problems:

1. Insufficient coverage of AIC subjects with qualitative information and marketing support.
2. Undeveloped infrastructure for advanced training systems, consulting and information services in the agricultural sector of the economy.

### Recognition of certificates and test reports

Kazakhstan is a member of international and regional organizations in the field of accreditation, such as the Pacific Accreditation Cooperation (PAC), the European Accreditation Organization (EA), the International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC). Participation in these organizations provides international recognition for the certification or registration of systems, products, services, personnel and other conformity assessment programs.

To date, the Mutual Recognition Arrangement (ILAC MRA) has signed 84 accreditation bodies from 76 countries and 3 regional groups, including the EU, Iran, China, RF and others. This means that signatories within their area mutually recognize the results of accreditation and, accordingly, can recognize the results of the work on assessing the conformity of accredited entities. The final decision on the recognition of these works is taken by the governments of these countries.

Due to the membership of the accreditation body of the Republic of Kazakhstan (NAC) in ILAC, the accredited laboratories of the republic can use the combined ILAC MRA laboratory mark on the issued test reports. Such protocols are considered in countries that have signed the ILAC MRA Recognition Arrangement as the basis for their recognition in whole or in part by conducting additional tests on individual indicators regulated in the country of the importer. Thus, the receipt of test reports with the combined laboratory mark ILAC-MRA helps to reduce the costs and time for additional procedures to confirm the conformity of the goods for domestic exporters.

According to the accounting data for 2016, 187 laboratories of the republic, including 9 calibration laboratories, use the combined ILAC MRA mark. These laboratories issued 521,419 test reports to legal entities of the Republic of Kazakhstan, of which 9,626 test reports are outside the Republic of Kazakhstan. Protocols are issued for fish, meat, dairy, grain products, as well as for honey, natural, mineral, medicinal-table water, flour, sunflower, sheep wool, tannery raw materials and cattle skins.

Thus, the business community has the opportunity to accompany the exported products to the Kyrgyz Republic, Tajikistan, Uzbekistan, Afghanistan, China, Japan, Iran, Serbia, Spain, Russia, Belarus, Azerbaijan, Georgia, and Poland with protocols of tests recognized internationally by the ILAC MRA mark.

In addition, NAC is a signatory of the Multilateral Recognition Arrangement (IAF MLA) for products, which enables accredited bodies under the ISO/IEC 17065 standard for conformity certification to apply the combined IAF MLA mark on conformity certificates accompanying products, including for export.

By Order of the Committee for Technical Regulation and Metrology Ministry of Investment and Development of the Republic of Kazakhstan, dated December 25, 2015 No. 270-pa the application forms are approved for conformity certificates in English.

By December 30, 2016, 54 bodies (including 19 branches) signed the contract and obtained the right to use the combined IAF MLA mark and issued 1,700 certificates of conformity.

On May 29, 2015, an agreement on a free trade zone was concluded between the EEU and Vietnam. One of the elements of this agreement is the elimination of unnecessary obstacles, improving the access of goods in international trade and transparency in the development, adoption and application of standards, technical regulations and conformity assessment procedures.

## Training and Education

**Zhangir Khan West Kazakhstan Agrarian-Technical University**
***Brief info***

- Year of establishment of the university: July 19, 1963
- Establishment: West Kazakhstan Agricultural Institute is the Resolution of the Council of Ministers of the Kazakh SSR No. 571
- Rector of the university: Sergaliyev Nurlan, rector, candidate of biological sciences, associated professor. He is appointed to the post of rector: 12.02.2015.

- The staff capacity include 313 staff teachers, including 22 doctors, 107 candidates of sciences, 10 doctors PhD and 132 masters
- The faculties are followings:
  1. Mechanical engineering faculty 2. Polytechnic faculty 3. Faculty of Agronomy 4. Faculty of Veterinary medicine and biotechnology 5. Faculty of economy and business

***Specialties of the University***

At present, the university has licenses for conducting educational activities in 37 specialties in 7 areas of higher education (including 35 for bachelor's, 2 for higher special education), 31 for specialties in 6 of areas post-graduate education (including 24 specialties for magistracy, 7 specialties of doctoral studies). The range of specialties is interdependent in the features and needs of the priority sectors of the economy of Western Kazakhstan. There are 5 faculties and 21 departments, 16 are graduating departments.

***Internet site:*** http://www.wkau.kz/index.php/en/

**Seifullin Kazakh Agro Technical University (KATU)**

***Brief info:***

KATU is the largest agrarian Higher Educational Institution of Central and North Kazakhstan, the first Higher Educational Institution of Astana.

The establishment of a new educational institution was the answer to challenge of time, the period of developing virgin and long-fallow lands in North Kazakhstan when agricultural experts were necessary for the country. For expansion of training of experts for agricultural production for the northern and central regions of Kazakhstan Akmola Agricultural Institute that included agronomic, mechanization of agriculture and land management departments, was organized by the Decree of Council of Ministers of the USSR on October 3, 1957 and by the order of the Ministry of Agriculture of the USSR on October 9, 1957.

***History of the University*** is a number of its consecutively replacing each other stages of formation and dynamic development. From the institute consisting of only three departments it has turned into the research university, the scientific and educational center of not only the northern region, but also the whole country.

***Educational activity***

Total number of students in KazATU: 10579. Among them 51% is enrolled in state educational grants. 85 educational programs are implemented in KazATU, including 37 bachelor's specialties, 31 magistracy specialties, and 17 doctorate specialties. Total number of professorial teaching staff of KazATU: 888, among them: 1) 60 professors; 2) 84 doctors of sciences; 3) 370 candidates of science; 4) 22 PhD. Within the framework of 48 educational programs, trilingual training was introduced.

- There are 47 departments in 9 faculties of KazATU, including 25 research centers and a military department
- 62418 specialists and bachelors have been trained in KazATU since 1957.
- 516 million tenge are allocated to scientific research in KazATU in 2015. According to the number of projects implemented within the framework of grant financing for 2015-2017, KazATU takes the 4th place among the universities of the Republic of Kazakhstan.
- 29 well-known scientists from 15 countries of the world participate in the research projects of KazATU named after S.Seifullin. Among them are university professors from the USA, Germany, Australia, Italy and other countries.
- Job placement of graduates according to the state center for the payment of pensions: 78%. According to this indicator, KazATU takes the 6th place in Kazakhstan.
- 120 teachers conduct disciplines in English. Since 2012, 45 PTS have been trained abroad under the Bolashak program.

- 123 foreign students from China, Russia, Mongolia, Uzbekistan, Tajikistan, Ukraine, Azerbaijan and the Islamic Republic of Afghanistan are studying at KazATU.
- For 2012-2015 105 foreign teachers from 21 countries of the world read lectures, 180 students passed semester training in 11 foreign universities.
- In terms of the number of holders of state grants, KazATU is consistently in the TOP-5 of the universities of the Republic of Kazakhstan.

***Chairman of the Board of KATU***

**Kurishbayev Akhylbek Kazhigulovich,**

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**Kazakh National Agrarian University (KazNAU)**

The main purpose of Research University is integration of science and industry, creation of conductions for intellectual property and technology products commercialization, training highly qualified scientific - pedagogic staff through participation in basic and applied scientific researches and other scientific technical projects.

University has concentrated its resources and has become the core of educational, scientific and innovative environment of the agrarian-industrial development that significantly affecting the country's competitiveness in that industry. Currently the University is successfully integrating into the world scientific space, cooperating with leading foreign universities and scientific centers, realizing international programs on such global issues of humanity as climate change, environment protection, food safety, deficiency of drinking water and others. High school of farmers, which was established on the base of the University on international model "Extension", renders consulting and educational services for the managers and workers of agro industrial complex farms of our country.

***Brief history***

In 1996, through the merger of the Almaty Zoo-veterinary and Kazakh agricultural institutes, the Kazakh State Agrarian University (KazGUU) was established, the rector of which was appointed academician of NAS RK Sagadiev K.A.

In 2001, by the Decree of the President of the Republic of Kazakhstan N.A.Nazarbayev, the university was granted a special status of the national higher educational institution (KazNAU).

Education is conducted at the following faculties:

- Faculty of agrobiology and phytosanitary
- Faculty of technology and bioresources
- Faculty of veterinary science
- Faculty of forestry, land resources and horticulture
- Faculty of hydrotechnics, reclamation and business
- Faculty of engineering

***Administration***

**Espolov Tlektes Isabaevich,**

Rector of the Kazakh National Agrarian University, academician of NAS RK

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## Meetings

**International Scientific and Practical Conference "Organic Agriculture in the Republic of Kazakhstan: Present and Future", 2016**

JSC "**Kazakh Agrotechnical University named after Saken Seifullin**",
Astana, Republic of Kazakhstan

*Discussion topics:*

- a comprehensive discussion of the problems and prospects of the organic agricultural production sector in Kazakhstan;
- exchange of experience and development of practical recommendations for accelerating the development of the organic agriculture sector in the Republic of Kazakhstan;
- familiarization with the market of organic products of the People's Republic of China and practical recommendations on the promotion of domestic organic products in China.

**Project "Organic Products at Expo-2017", 2016**

Since 2016, the international organization EXPO & WOMEN has recommended the use of the ecological sign KZ ORGANIC for branding ecologically clean products.

KZ ORGANIC is an ecological sign developed by the ALE "Coalition for "green" economy and development of G-Global" and proposed for application in Kazakhstan for organic food products. Confirm that in the product marked with this sign, there are no harmful substances to health, there are no negative environmental effects or are minimized throughout the life cycle of the product.

**The application of this logo to the goods is allowed after signing the contract with the owner of the sign and meeting all the requirements established by law.**

The basic requirements are the existence of its own environmental policy, compliance with all requirements of national legislation, as well as the continuous improvement of the environmental characteristics of the declared products/services and its quality.

*Basic standards requirements:*

***For crop production:***

- Application of natural fertilizers
- The ban on the use of chemical plant protection products (mechanical, biological agents are allowed)
- It is forbidden to treat seeds with artificial chemicals

***For livestock products:***

- Natural fodder (70% organic, 30% organic in conversion are allowed)
- The ban on the use of antibiotics
- Free contain of animals

***For processing products:***

- Organic raw materials - 95%, the remaining 5% - from the allowed list
- The ban on the use of artificial additives

**“People's Academy of Green Technologies” held a training seminar, 2016**

On March 2, 2016, the PF "Green bridge & G-Global" in cooperation with PF "Акбота" in the Knowledge Dissemination Center "People's Academy of Green Technologies" conducted a training seminar for the project: Integrated implementation of 3 water saving technologies in Akmola and Kostanay regions, within the framework of the grant

program of the joint EU/UNDP/UNECE project "Support to Kazakhstan for the transition to a green economy model".

Within the framework of the grant project, three water-saving technologies will be integrated in the household plots of at least 160 families of rural residents in 8 rural areas located in Akmola and Kostanay regions.

**The project “PR on green economy”, 2016**

ALE "Coalition for “green” economy and Development G-GLOBAL" with the support of the United Nations Development Program in 2016 implements the project "Promoting the policy of Kazakhstan's transition to the green economy model by highlighting the implemented" green "projects, covering energy and water issues with the aim of the formation in the public consciousness of a culture of energy and water conservation."

The project is aimed at popularizing the principles of the "green economy" by consolidating the representatives of the republican and regional media working in this direction in a single pool.

ALE "Coalition for “green” economy and Development G-GLOBAL" as an advanced public institution in the "green economy", which has more than 10 sustainable projects, has been actively working with journalists of different levels since the day of its creation. Considering that in obtaining a multiplier effect from implemented projects, a significant role is playing by the provision of information and proper coverage, regular and fruitful work with media representatives is necessary.

First, it is important to achieve a full understanding of the material by journalists, who will disseminate a certain message among the broad masses. Secondly, it is necessary to maintain a spirit of competition between "green journalists" and use of tools that stimulate their activity. Therefore, appeared the idea of implementation of this project, which will allow not only preparing a wave of “green journalists”, but also making a significant contribution to the effective and holistic coverage of all UNDP projects implemented in Kazakhstan to promote the "green economy".

**Project “green supermarket” “KZ ORGANIC”,**

The coalition will present the project "Green supermarket "KZ ORGANIC" aimed at providing Astana with fresh, tasty, organic vegetables and give villagers the opportunity to earn, by developing private farms of Arnasay village of Arshaly region of Akmola region.

The goal of the project is to create a food belt around Astana by developing organic farming and producing ecologically clean food products.

**Objectives of the project:**

Creation of a sustainable model of small business in the countryside with the application of innovative "green" technologies;

Development of the management system of private farmsteads: organization of the process of providing villagers with seeds, organic fertilizers, drip irrigation systems for the purpose of growing organic vegetable products, marketing in the outlets of the city of Astana;

Participation in government programs aimed at the development of agriculture: "Agrobusiness 2020";

Social and economic development of the village.

**OSCE: Organic Agriculture, 2016**

Since March 2016, the Coalition has been implementing the project "Development of the register of green technologies, promotion of the use of ecologically clean technologies for women, and support for legislative initiatives in sustainable organic farming in Kazakhstan" with the support of the OSCE program Office in Astana.

The project is aimed at collection, processing, systematization and automation of existing information on "green" technologies and practices implemented in Kazakhstan.

The project will create a database of producers, suppliers and consumers (facilities that use "green" technologies and alternative energy sources).

Coalition experts will work on collecting and processing information on "green technologies" existing in the world and implemented in the Republic of Kazakhstan to provide local executive bodies of all regions of Kazakhstan.

Also within the framework of this project will be discussed the development of organic agriculture in Kazakhstan. For this, a series of round tables on organic farming in 3 regions of Kazakhstan (in the Kustanai, Aktobe and Akmola regions) will be held. Round tables will focus on clarifying and discussing the Law of the Republic of Kazakhstan "On the production of organic products", adopted in December 2015, raising "organic literacy." At the same time, within the framework of the round tables, the results on the "green" register will be presented. All interested parties, including international experts, LEB, NGOs, entrepreneurs, media, etc. will take part in them. The coverage will be more than 150 people in 3 regions of the Republic of Kazakhstan. The European experience of interaction between the city administration and producers of organic products will be examined.

In the course of the project implementation, seminars will be organized based on the Knowledge Dissemination Center "People's Academy of Green Technologies" for women in Akmola and Karaganda regions on opening and running their own business in the village with the use of "green" technologies.

**"GREEN CAFE" Project, 2016**

**ALE "Coalition for "green” economy and development of G-GLOBAL" with the support of the UN Development Program in 2016 implements the project "Green Cafe"**

The goal of the project is:

- Assistance in the development of the concept on the transition of Kazakhstan to a "green" economy
- Promoting the "green" practices and innovations implemented in the country
- Create a dialog area

**The objectives of the project are:**

- Raising awareness of the population of the Republic of Kazakhstan on the implementation of the Concept for the transition to a "green" economy through media representatives
- Involvement of media representatives in disseminating the best experience in the implemented experiments
- Dissemination of best practices and technologies for a low-carbon economy
- Creation of a pool of media representatives with "green" thinking

**Clean water for rural children**

Description: The purpose of this project is to install integrated water purification filters in all secondary schools in Akkol district, demonstrating approaches and new practices aimed at ensuring access of children and youth to quality drinking water, and also to motivate rural communities to conduct water supply to the house, which will ensure observance of elementary sanitary norms.

Within the framework of the project, it is planned to install water purification filters in 24 schools and 4 kindergartens in Akkol district, covering 25,000 participants, including pupils and school employees. Also 28 ecological clubs will be created based on which there will be open lessons under the motto "Clean water-healthy family".

The project has a health-saving character. As one of the most important results will be demonstration of possible ways of water filtration and reduction of salt load on the drinking source, which will be a good factor in improving the health of children and the entire population of the region!

**The “Green Kazakhstan” project, 2016**

ALE "Coalition for "green" economy and development of G-GLOBAL" with the support of the UN Development Program in 2016 implements the project PR promotion of the "Green Bridge" Partnership Program.

The aim of the project is to work closely with key partners and stakeholders to promote and disseminate the main principles and ideas of the Green Bridge Partnership Program among all segments of the population of Kazakhstan.

***Tasks:***

1. Development and implementation of a strategy to implement an awareness-raising campaign on the Green Bridge Partnership Program and the Green Economy;
2. Increase of knowledge and awareness of the population on the wide application and effectiveness of "green" technologies;
3. Formation of fundamental foundations for improving the quality of life of the population through the development of social and environmental business;
4. Stimulation of youth for the creation of "green business" in the regions, monocities, rural settlements.

**Briefing in the Central Communications Service under the President of the Republic of Kazakhstan, 2016**

On March 15, 2016, it is planned to hold a briefing at the Central Communications Service under the President of the Republic of Kazakhstan. The briefing will be attended by representatives of UNDP, ALE "Coalition for a “green” economy and the development of G-Global."

ALE "Coalition for "green" economy and development of G-Global" within the framework of the grant program of the joint project of the EU/UNDP/UNECE "Support to Kazakhstan for the transition to the Green Economy model" since December 2015 is implementing the project "Promoting the policy of Kazakhstan's transition to the model green economy by highlighting the implemented "green" projects, covering energy and water supply issues with the aim of creating a culture of energy and water conservation in the public consciousness."

**Black Agrofiber for Mulching**

The coalition together with PF "Green Bridge & G-Global" informs about the implementation of the project "Hydrogel and agro fiber".

Black mulch an agro fiber are used as a primer. Passes water and air: the soil does not condense when watering and on it does not start mold. However, the evaporation of moisture from the soil is slower, which reduces the number of watering. Black agro bibber do not let out sunlight, which prevents the growth of weeds. Another advantage of using black mulching agglomerates is the protection of fruits, especially strawberries, from pest damage, in particular, bare slugs. At the same time, the purity of berries and fruits is preserved due to soil isolation.

Use the black agro fiber in this way. The material is laid out on the surface of the earth, and holes are cut in the seeding or seedling sites or crosscuts are made. The edges of the material are sprinkled with earth or fixed with stones/wire. Black agro fiber can also be used as root protection in winter, as well as for early warming up of the soil. Widespread use has been made of black agro fiber in landscape design, as a lining material for marble chips, wood bark, etc.

As we see, the use of agro fiber is recommended at different stages of plant growth and development. What makes him an indispensable assistant in caring for your harvest?

**Coalition together with PF "Green Bridge & G-Global" informs about project implementation, 2016**

On January 23, 2016 employees of PF "Green bridge & G-Global" together with the Coalition and PF "Акбота" within the framework of the project: Integrated introduction of 3 water-saving technologies on the backyards of at least 160 families of rural residents

in 8 rural areas located in Akmola and Kostanay oblasts, started planting seedlings in the KDC “НАЗТ”.

We bring to your attention the video on the introduction of hydrogel in the planting of seedlings.

Recall, that the hydrogel is an environmentally safe product that allows you to save time for watering plants, and money for fertilizers. Granules of hydrogel already contain nutrients, and mineral fertilizing will be required in half.

**Presentations of the Round Table "Transition of Kazakhstan to Organic Agriculture", 2015**

"Coalition for a “green” economy and the development of G-Global" with the support of the OSCE Center in Astana as part of the promotion of the Concept on the transition of Kazakhstan to a "green economy" by consolidating the efforts of the public, business, science and the state to promote the opportunities for a "green" economy in Kazakhstan held a round table on the topic: "Kazakhstan's transition to organic farming", support of the breakthrough and innovative project for Kazakhstan "Vermiculture and organic fertilizer production" Biohumus ".

The round table was chaired by the deputy of the Mazhilis of the Parliament of the Republic of Kazakhstan, the Chairman of the Presidium of the Coalition A.S. Solovieva.

Because of the round table, the “Coalition for "green economy" and the development of G-Global" developed a draft recommendation for the participants.

**"Green" approach to Agriculture, 2015**

Fyodor does not disdain to take manure with his bare hands. Now he is holding live money. Earthworms-miners (“старатели”) work on the beds and turn the waste of agriculture into an ecologically clean fertilizer.

Worms are rapidly multiplying. Just a couple of years ago, here brought one million “старателей”, now here - 80 million. The loan for the development of the farm was repaid ahead of schedule.

Until the end of the year, the farm plans to produce up to six hundred tons of bio humus. No one doubts the effectiveness of this fertilizer. One of the pioneers of vermicultivation Andrey Strelets found partners in almost all cities of Kazakhstan and willingly shares his experience.

This year on the farm decided to experiment. Because of the lack of space in the queen cell, the worms were moved to the street and they want to leave it for the winter. If the “старатель” adapt to these conditions, then Europe will certainly envy.

**Organic Products, 2015**

ALE "Coalition for "green" economy and development of G-Global" in December 2015 became the owner of voluntary eco-labeling "KZ Organic".

The sign confirms that there are no harmful substances in the product marked with this sign, there are no negative effects on the environment or are minimized throughout the life cycle of the product.

The application of this logo to the goods is allowed after signing the contract with the owner of the sign and meeting all the requirements established by law. The basic requirements are the existence of its own environmental policy, compliance with all requirements of national legislation, as well as the continuous improvement of the environmental characteristics of the declared products/services and its quality.

**Consortium on Vermiculture in Kazakhstan, 2014**

On July 5, 2014, Kazakhstan-Russia Consortium for the development of the network of farms for the cultivation of technological earthworms “Старатель” (Vermiculture) in the Republic of Kazakhstan was established in order to assist producers of organic farming products.

The International Consortium Agreement was signed by the Russian Federation Open Joint-Stock Company Concern “ПИКъ” (Konin S.S., General Director), and from the Kazakh side - the Association of Legal Entities "Coalition for the “green” economy and Development of G-GLOBAL" (Rakhimbekova S.T., Chairman of the Board of the Coalition), Limited Liability Partnership "Байтерек" Corporation (Suleimenov A.M., General Director), Limited Liability Partnership "Investment Group "ЭКО-МАРТ" (Kanaybekov R.S., General Director), Solo businessman Strelets A.V.

The Agreement was signed on July 5, 2014 in Kovrov, Russian Federation.

OJSC Concern “ПИКъ” is the leader in the Russian Federation in the application of innovative “green” technologies, including the cultivation of technological earthworms “Старатель”, the production of bio humus, the application of technology of ecological farming, the training of farmers and peasant farms.

**According to the plan for the implementation of the international Consortium Agreement, the Parties agreed on the following tasks:**

- organization of training centers in the Republic of Kazakhstan,
- work on the harmonization of Russian standards and technical conditions in the Republic of Kazakhstan,
- consultations on business Vermiculture,
- supply of technological earthworms for the creation of a breeding stock in the Republic of Kazakhstan,
- Carrying out works to promote the development of Vermiculture, etc.

**Practical Guide: Simple Technologies for Compost and Biohumus, 2014**

In April 2014, the Coalition prepared a practical guide, within the framework of the project "Support of unemployed citizens in the countryside through their training and the provision of business cases for the opening of small businesses on the basis of green technologies" (January-October 2014), carried out by the Association of Legal Entities (ALE) "Coalition for "green"economy and development of G-Global" in partnership with PF "Social Dynamics" within the framework of the program of Coca-Cola Belesteri”.

The manual presents available technologies for composting and obtaining compost using worms (vermicomposting). The stages of "hot" and "cold" composting, as well as obtaining bio humus at home, are described. The manual gives practical recommendations on the use of the obtained bio humus for various types of crops. It also provides a brief overview of the prospects for the development of the business of production and sale of bio humus in the Republic of Kazakhstan.

This publication is intended mainly for the population living in rural areas - large and small farmers, entrepreneurs. However, some of the technologies described in the manual (for example, vermicomposting at home) can be applied and in a city apartment. In addition, this material can be useful for schoolteachers and specialists in the field of agriculture and environmental protection.

## Market[42]

### *Production and export of organic products of Kazakhstan*

[42] https://www.ictsd.org/bridges-news/%D0%BC%D0%BE%D1%81%D1%82%D1%8B/news/%D1%80%D0%B0%D0%B7%D0%B2%D0%B8%D1%82%D0%B8%D0%B5-%D0%BE%D1%80%D0%B3%D0%B0%D0%BD%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%BE%D0%B3%D0%BE-%D1%80%D1%8B%D0%BD%D0%BA%D0%B0-%D0%B8-%D1%8D%D0%BA%D1%81%D0%BF%D0%BE%D1%80%D1%82%D0%B0-%D0%BE%D1%80%D0%B3%D0%B0%D0%BD%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%BE%D0%B9-%D0%BF%D1%80%D0%BE%D0%B4%D1%83%D0%BA%D1%86%D0%B8%D0%B8-%D0%BA%D0%B0%D0%B7%D0%B0%D1%85%D1%81%D1%82%D0%B0%D0%BD%D0%B0

Despite existing barriers and lack of necessary conditions for development, Kazakhstan is the leader in terms of certified organic land in the region.

The manufactured products are mainly export oriented. At present, Kazakhstani organic products are exported to the UK, Italy, Germany, France, Belgium and the Netherlands. The rest of the products are sold as traditional in the domestic market.

The table presents statistics of KAZFOAM on the production and export of organic products as of January 1, 2013.

***Table. Production and export of organic products in Kazakhstan***

| # | Products | Cultivated area (ha) | Harvested crops (products) in tons | Exported crops (in tons) |
|---|---|---|---|---|
| 1. | Alcohol | | 100 | |
| 2. | Barley | 4672 | 7485 | |
| 3. | Camelina | 200 | 300 | |
| 4. | Chick-pea | 2699 | 5000 | |
| 5. | Chick-pea in conversion | 4300 | | |
| 6. | Coriander | 405 | 486 | |
| 7. | Fallow land | 53800 | | |
| 8. | Flax | 16573 | 21888 | 3000 |
| 9. | Flax in conversion | 8600 | | |
| 10. | Green lentils | 6453 | 9146 | 1570 |
| 11. | Licorice | 863 | 60 | 60 |
| 12. | Lucerne | 2723 | 27230 | |
| 13. | Lupine | 402 | 563 | |
| 14. | Maize | 100 | 245 | |
| 15. | Mustard yellow | 3011 | 6000 | |
| 16. | Oat | 1770 | 3944 | 1000 |
| 17. | Pasture | 2481 | | |
| 18. | Peas | 4545 | 7224 | |
| 19. | Rape | 29353 | 37404 | 1650 |
| 20. | Rapeseed oilcake | | | 8410 |
| 21. | Rice | 993 | 3476 | |
| 22. | Safflower in conversion | 4800 | | |
| 23. | Soyabean oilcake | | | 660 |
| 24. | Soyabeen | 6528 | 15014 | 4703 |
| 25. | Soybean in conversion | 2865,9 | | |
| 26. | Spelt | 793 | 1190 | |
| 27. | Sunflower | 10030 | 13053 | |
| 28. | Vodka | | 249 | 249 |
| 29. | Wheat | 94842,4 | 135247 | 41579 |
| 30. | Wheat in conversion | 25000 | | |
| 31. | Wine grapes | 20 | 32 | |
| 32. | Yellow linen | 532 | 692 | |
| 33. | Yellow millet | 2712 | 4000 | |
| | **Total** | **292066** | **299925** | **62881** |

The Kazakhstan organic market is practically not integrated into the global organic market. Farmers, certified companies, consultants and experts of the region are extremely weak or not represented at such annual international venues as BioFach (Germany), BioVak (The Netherlands) and their counterparts in France, China, India and the USA; Organic Marketing Forum (Poland); Natural Products Expo Asia (Hong Kong). At present, the main initiative groups developing the production and export of organic products in Central Asia are public and international organizations.

### *Marketing potential*

The main challenges for the successful development of Kazakhstan's organic market are:

- lack of stable and growing demand from the population;
- absence of state grants and other incentive mechanisms;
- high trade barriers on the organic markets of the region and international markets;
- a small segment of the organic market in the general agricultural commodities market;
- Low growth factors and initially high overhead costs (certification, rotation of fields, etc.);
- absence of organic suppliers, distributors and dealers;
- Undeveloped infrastructure.

Meanwhile, as predicted by IFOAM (International Federation of Organic Agriculture Movement), the global market for organic products will reach $ 200-250 billion by 2020. Now in the world for organic farming 43.1 million hectares are used (0.98% of all sown areas. In addition, according to a number of analysts, the world production of environmentally friendly products in the future may face a number of problems, one of which is currently the physical deficit of agricultural land. In order to meet the growing food needs of the population in the future, European countries are taking a number of measures, one of which is the establishment of links in this area with other countries. Thus, under the patronage of organizations from the EU and the USA, Kazakhstan, Tajikistan, Uzbekistan, Azerbaijan, Mongolia and Kyrgyzstan signed an agreement on cooperation in the development of organic agriculture.

***Production and turnover of organic products***

In order to improve the regulation of production and turnover of ecologically clean (organic) agricultural products, measures will be taken to improve national legislation in the production and circulation of organic products, and in particular, the creation and accreditation of national bodies for the confirmation of compliance and control of ecologically clean (organic) products by national and international norms.

The "**Made in Kazakhstan**" brand will become the standard of organic agriculture products. To implement it within the framework of a separate standard, requirements for brand appropriation, selection criteria for commodity producers will be developed.

In addition, the rules and/or standards for the production, circulation and certification of organic agriculture products will be harmonized, normative, and technical documents for the production and use of biological plant protection products, soil enhancers, growth stimulants and other biologics used in the production of organic agriculture products following international norms and requirements, as well as the legislation of the importing countries of organic agriculture products of Kazakhstan. Statistical reporting on the production, sale, export and import of organic agriculture products will be introduced.

To stimulate demand for Kazakhstani organic agriculture products in the domestic and foreign markets and to popularize products of organic agriculture production, information and advocacy activities will be organized, representing and protecting the interests of the Kazakhstani organic agriculture products sector at the international level, including at international exhibitions, trading platforms and forums on organic agriculture production, will also be assisted in building model farms to showcase technologies, practices, methods, organic agriculture products and cooperation of producers of organic agriculture products.

***Organic products for 2015***

| # | Name of product | Area, hectares | Production, tons | Export, tons |
|---|---|---|---|---|
| 1 | Barley | 4 672 | 7 485 | |
| 2 | Saffron milk cap | 200 | 300 | |

| | | | | |
|---|---|---|---|---|
| 3 | Chick-pea | 2 699 | 5 000 | |
| 4 | Chick-pea (conversion period) | 4 300 | | |
| 5 | Coriander | 405 | 486 | |
| 6 | Hard grounds | 53 800 | | |
| 7 | Linen | 16 573 | 21 888 | 3 000 |
| 8 | Linen (conversion period) | 8 600 | | |
| 9 | Lentils | 6 453 | 9 146 | 1 570 |
| 10 | Licorice | 863 | 60 | 60 |
| 11 | Alfalfa | 2 723 | 27 230 | |
| 12 | Lupine | 402 | 563 | |
| 13 | Corn | 100 | 245 | |
| 14 | Mustard yellow | 3 011 | 6 000 | |
| 15 | Oats | 1 770 | 3 944 | 1 000 |
| 16 | Pasture | 2 481 | | |
| 17 | Peas | 4 545 | 7 224 | |
| 18 | Rape | 29 353 | 37 404 | 1 650 |
| 19 | Rapeseed oil cake | | | 8 410 |
| 20 | Rice | 993 | 3 476 | |
| 21 | Safflower (conversion period) | 4 800 | | |
| 22 | Soybean cake | | | 660 |
| 23 | Soybean | 6 528 | 15 014 | 4 703 |
| 24 | Soybean (conversion period) | 2 866 | | |
| 25 | Polba | 793 | 1 190 | |
| 26 | Sunflower | 10 030 | 13 053 | |
| 27 | Wheat | 94 842 | 135 247 | 41 579 |
| 28 | Wheat (conversion period) | 25 000 | | |
| 29 | Wine grapes | 20 | 32 | |
| 30 | Yellow flax | 532 | 692 | |
| 31 | Yellow millet | 2 712 | 4 000 | |
| **Total** | | **292 066** | **299 679** | **62 632** |

As mentioned, with vast natural pastures, Kazakhstan is extremely well positioned to become a major producer of organic agricultural products. As agriculture demonstrates increasing potential to become a driver of the economy, the government's new legislation on organic farming will boost the country's production and export of quality organic products.

Kazakhstan's agricultural sector is one of the most promising sectors of the country's diversification strategy, yet its potential remains largely untapped. The country is already among the top-five producers of wheat and is one of the largest exporters of flour; however, the government is determined to diversify its agricultural production away from wheat toward oilseeds, fruit and vegetables, corn, sugar beets, livestock, and, in particular, organic production.

In late 2016, the government launched a new State Program of Agro-Industrial Complex Development in 2017-2021 with the ultimate goal of creating competitive products that will be in great demand in global markets. Besides fostering the production of other types of grain and establishing a new exports center to promote the country's agricultural products in new markets, the program also envisages boosting organic production, including grain. Indeed, there was no legal framework on organic products until January 2016, when President Nazarbayev signed a bill on organic farming.

According to the United Nations Food and Agriculture Organization (FAO), organic farming is a system that instead of relying on external agricultural inputs is based on ecosystem management and takes into consideration "potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, veterinary drugs, genetically modified seeds and breeds, preservatives,additives, and irradiation."

The potential for organic agriculture in Kazakhstan is significant, as a large percentage of the country's vast pastures do not require any form of artificial feeding. Kazakhstan currently has over 300,000 ha of agricultural land that is certified as organic. As mentioned by policy makers, promoting organic products should be Kazakhstan's main export strategy for the coming years, which is a direct reflection of Nazarbayev's view: “Made in Kazakhstan should become a benchmark of organic food products," the President said in early 2017.

Kazakhstan's market for organic products at the time was estimated at KZT95 billion in 2015. The demand for organic products has risen steadily in Kazakhstan in recent years, and in 2016 alone, the country exported USD 10 million in organic agricultural products. Of particular note was the organic meat sector, as neighboring China and booming markets such as Russia and Iran have shown increasing interest in “Made in Kazakhstan” organic beef.

Kazakhstan was witnessing growing demand for organic meat from China in 2016. These two countries are cooperating on an agreement under which Kazakhstan will supply organic meat; in particular, Kazakhstan will supply between 50,000 and 60,000 tons of beef and 300,000 tons of lamb. However, meat is not the only promising product for the development of Kazakhstan's organic exports. Organic grain, vodka, and wine as well as organic apples are other highly requested products.

In fact, not many outside of Kazakhstan know that the country, in particular, its former capital Almaty, whose name in Kazakh (Alma-Ata) means “grandfather of apples” is indeed the birthplace of apples, and that all modern domestic apples sold in supermarkets all over the world are most likely descended from a species of wild apple endemic to the Almaty region. Apples are among the most consumed fruit, particularly in Europe and North America, where demand for organic apples now exceeds supply. In addition, China, a net exporter of apples, is in fact a net importer of organic apples.

Kazakh experts argue that all Kazakhstani agriculture was organic until less than 100 years ago and it has sustained itself for thousands of years. Now, greener farming is not only in line with the country's gradual shift to a green economy and sustainability but the new organic farming legislation is a further step toward replanting the organic concept in the country and positioning Kazakhstan as a top international organic producer.




## Existing NGOs and Projects[43][44][45]

***Kazakhstan and FAO***

The partnership between Kazakhstan and FAO has been developing steadily since the country's accession to the Organization in 1997, and recently Kazakhstan has been paying increasing attention to investment in agriculture and forestry and rural development.

Taking into account the country's objectives in the area of modernization and the transition to a green economy, FAO's technical assistance is oriented towards ensuring sustainable intensification of agricultural production, promoting resource-saving agriculture, organic farming and rational use of natural resources, as well as implementing institutional development and capacity building activities.

It is expected that this cooperation will gain a strategic direction in the context of the recent agreement on the deployment of the partnership and communication Office in Kazakhstan and the country's allocation of an annual contribution of $ 2 million to the relevant Partnership Program for country needs. A new FAO representative in Kazakhstan was appointed in March 2016.

Promoting the development of organic agriculture, Kazakhstan regards organic agriculture as one of the most promising tools for increasing the competitiveness and export potential of domestic products. However, the lack of a certification system and labeling requirements hampers the development of both domestic and export markets for ecologically clean products. The current FAO project ***"Supporting the development of organic agriculture and building institutional capacity in Kazakhstan"*** aims to strengthen the country's capacity in this sector by improving legislation, building institutional infrastructure and strategic planning. Activities carried out under this project include the training of farmers, agricultural specialists and policy makers on a wide range of issues related to organic agriculture.

***Use of FAO's expertise to implement Kazakhstan's development priorities***

FAO's assistance to Kazakhstan is organized in accordance with the Country Program Framework for 2014-2017 (CPF), which includes work on five priority thematic areas: Food safety and the production of ecologically clean products to promote food safety and quality at all stages of the food chain, and improve the regulation, control and certification of organic farming products. Animal health and livestock production, rational use of pasture land and phytosanitary measures, including technical assistance to minimize the risk of murrain and other transboundary animal diseases, support appropriate livestock management practices and strengthen national capacity to control plant diseases and pests for development regional trade.

Rational use of natural resources (water, land and forest) to strengthen the capacity of the country and promote policy dialogue and regional cooperation, as well as the integration of transboundary river basins into the agenda.

Fishery and aquaculture, with a special focus on providing assistance for responsible management and conservation of fish resources.

Information technology in the field of agricultural statistics and the collection and analysis of necessary data, including assistance in establishing a coordinating mechanism for information systems and agricultural statistics. Prepared jointly with the Government of the country and other partners, the CPF reflects the priorities set forth in the country's national development plans, including the Kazakhstan-2050 Strategy, in which the main

[43] https://www.greenkaz.org/index.php/component/k2/item/641-organicheskoe-selskoe-khozyajstvo
[44] https://agro-mart.kz/k-voprosu-o-proizvodstve-organicheskoy-ovoshhnoy-produktsii-v-kazahstane/
[45] http://94.126.173.140/index.cfm?module=Projects&page=SearchResults&SearchText=&CountryID=KAZ&RegionID=&FocalAreaIDs=&OperationalProgramIDs=&FullGrant=&RecipientType=&SearchByDate=0&StartMonth=&StartYear=&EndMonth=&EndYear=&ShowMap=No&StartRow=191&MaxRows=10

challenges are global food security and the depletion of natural resources, and one of the key tasks is the modernization of agriculture.

**Organic Agriculture**

***Project on "Development of the register of green technologies, promotion of the use of ecologically clean technologies among women, as well as support of legislative initiatives in the field of sustainable organic farming in Kazakhstan".***

Since March 2016, the Coalition has been implementing the project "Development of the register of green technologies, promotion of the use of ecologically clean technologies among women, as well as support for legislative initiatives in sustainable organic farming in Kazakhstan" with the support of the OSCE Program Office in Astana.

The project is aimed at collection, processing, systematization and automation of existing information on "green" technologies and practices implemented in Kazakhstan. The project will create a database of producers, suppliers and consumers (facilities that use "green" technologies and alternative energy sources). Coalition experts will work on collecting and processing information on "green technologies" existing in the world and implemented in the Republic of Kazakhstan to provide local executive bodies of all regions of Kazakhstan.

Also within the framework of this project will be discussed the development of organic agriculture in Kazakhstan. For this, a series of round tables on organic farming in 3 regions of Kazakhstan (in the Kustanai, Aktobe and Akmola regions) will be held. Round tables will focus on clarifying and discussing the Law of the Republic of Kazakhstan "On the production of organic products", adopted in December 2015, raising "organic literacy." At the same time, within the framework of the round tables, the results on the "green" register will be presented. All interested parties, including international experts, LEB, NGOs, entrepreneurs, media, etc. will take part in them. The coverage will be more than 150 people in 3 regions of the Republic of Kazakhstan. The European experience of interaction between the city administration and producers of organic products will be examined.

In the course of the project implementation, seminars will be organized on the basis of the Knowledge Dissemination Center "People's Academy of Green Technologies" for women in Akmola and Karaganda regions on opening and running their own business in the village with the use of "green" technologies.

**Project on "Supporting the development of organic agriculture and building institutional capacity in Kazakhstan"** is being developed in Kazakhstan since 2015 by FAO, Food and Agriculture Organization of the UN.

The task is to realize the potential of Kazakhstan in the sector of organic production. Envisaged the provision for consulting assistance in improving legislation, supporting the creation of an organic certification system.

Project budget - $338 ths.

**Ecotourism development on the territories adjacent to Aksu-Zhabagly Natural Reserve (Assistance to ecotourism development in the buffer zone of Aksu-Zhabagly Natural Reserve through establishment of Resource Centre of ecotourism independent providers and Ecotourism Training centre in Zhabagly settlement), KAZAKHSTAN (KAZ/06/25)**

**Grant Amount:** $ 9,529.00

**Grantee:** Bugulitor Resource Centre of ecotourism independent providers

Zhabagly village is located at the foothills of Talass Alatau ridge, near the Aksu-Jabagly state natural reserve borders. It is situated in Tjulkubass area of the South-Kazakhstan oblast, which is rich in natural, cultural and historical monuments.

**Dates:** 11/2006 - 4/2008
**Focal Area:** Biodiversity

**Ecotourism sustainable development on the territory of special protected areas (To enable environment for efficient cross-departmental and cross-sector cooperation focused on ecotourism sustainable development within special protected areas), KAZAKHSTAN (KAZ/06/29)**
**Grant Amount:** $ 2,400.00
**Grantee:** Association of Legal Entities "Kazakhstan Tourist Association"
Today in Kazakhstan, a number of attempts for development of ecological tourism around special protected areas (SPA) as a tool for sustainable use of ecosystem elements and biodiversity conservation are undertaken. Despite of that, ecological tourism
**Dates:** 11/2006 - 1/2007
**Focal Area:** Biodiversity

**Planning grant for development of the project proposal «Akmola area local communities involvement into ecotourism development", KAZAKHSTAN (KAZ/06/17)**
**Grant Amount:** $ 500.00
**Grantee:** Young people achievements" Alternative education Centre
Problem of unemployment is critical for rural areas. Despite of perfect conditions for development of tourist business in settlements located near to National parks and Reserves, population faces difficulties with its development and creation of additional
**Dates:** 8/2006 - 11/2006
**Focal Area:** Biodiversity

**Ecotourism development in Kaskasu village (Progressive local community ecotourism development in Kaskasu village), KAZAKHSTAN (KAZ/06/19)**
**Grant Amount:** $ 9,980.00
**Grantee:** Tabigat Tau Klubi NGO
The Kaskasu village location is perspective for tourism development. Village is situated high in the mountains, between Aksu-Zhabagyly State Natural Reserve and Sairm-Ugam National Park. However, local population still has no enough knowledge and experience
**Dates:** 9/2006 - 3/2008
**Focal Area:** Biodiversity

**Restoration of the traditional use of pastures in Kyrash village (Rehabilitation of nomadic paths of traditional cattle breeding in Kyrash village, and ceasing pasture degradation round the village by means of irrigation of the foothills and use of summer pastures in Karatau mountains), KAZAKHSTAN (kaz/06/31)**
**Grant Amount:** $ 6,773.00
**Grantee:** Rural Consumers' Cooperative "Kainar"
Kyrash settlement is located in Kyzylorda area. It has favorable conditions for development of pasturable animal industries as a primary activity of local community. There are 127 homesteads in the settlement. The area of pastures round the village is …
**Dates:** 3/2007 - 11/2008
**Focal Area:** Land Degradation

**Development of pastures in kazakh low-hill area by the local community of Karakol village» (Introduction of rational pasture use system on the eastern part of Kazakh low-hill area, and creation of estuary area in the flood-lands of Karakol river), KAZAKHSTAN (kaz/06/32)**
**Grant Amount:** $ 8,129.00
**Grantee:** Eco-Oasis NGO

Karakol settlement is located in a dry-steppe zone of Kazakhstan. Population is 2685 people (which is 628 homesteads). The area of pastures round the village is 163300 hectares. The total number of the livestock is 12700 sheep, 4312 large horned livestock, ...

**Dates:** 3/2007 - 11/2008

**Focal Area:** Land Degradation

**Fodder base enhancement by the flood and hayfield mowing. (Rehabilitation of degraded pastures round Zhumay village for the purpose of sustainable development of the settlement), KAZAKHSTAN (kaz/06/33)**

**Grant Amount:** $ 11,613.00

**Grantee:** Zhumay NGO

Zhumay settlement is located in a dry-steppe zone of Kazakhstan. Population is 165 people. The area of pastures round the village is 736 hectares. The total number of the livestock is 450 sheep, 300 large horned livestock and 80 horses. Maintenance of ...

**Dates:** 3/2007 - 11/2008

**Focal Area:** Land Degradation

**Organic technologies on pastures, KAZAKHSTAN (KAZ/SGP/OP4/Y3/CORE/2010/01)**

**Grant Amount:** $ 30,349.00

**Grantee:** Zhumay NGO

In North Kazakhstan most productive lands are in use for grain production. Wheat monoculture practice and lack of fertilizers usage have lead to land productivity depletion on 20-25%. Those lands fall out of use and become wastelands. Wastelands usually ...

**Dates:** 6/2010 - 6/2012

**Focal Area:** Land Degradation

**Restoration of the traditional use of pastures adjacent to Korgalzhin village (Establishment of a demonstration scheme for cattle breeding in terms of limited pasturing lands of dry-steppe zone for rehabilitation of the degraded pastures round the settlement), KAZAKHSTAN (kaz/06/34)**

**Grant Amount:** $ 9,303.00

**Grantee:** Atameken NGO

Korgalzhyn settlement is located in a meadow-steppe zone. Population is 4684 inhabitants. The total number of the livestock is 2562 sheep, 4920 large horned livestock. Local people have no opportunity for usage of the remote pastures. The cattle ...

**Dates:** 3/2007 - 11/2008

**Focal Area:** Land Degradation

**Development of ecological tourism based on the local communities to conserve Korgalzhyn lakes ecosystem, KAZAKHSTAN (KAZ/05/24)**

**Grant Amount:** $ 11,790.00

**Grantee:** Rodnik NGO

Tengyz-Korgalzhyn lake system is a unique place where rare species of flora and fauna inhabit. According to the socio-ecological-economic analysis in Korgalzhyn area, only 15% of the entire population are employees of the state budgetary organizations, ...

**Dates:** 12/2005 - 4/2008

**Focal Area:** Biodiversity

**Eco-tourism development in Kokshetau (Conservation and rehabilitation of biodiversity of the forest, mountain and lake ecosystems of the Kokshetau National Park through ecotourism development and stirring up nature protection activities of the local communities), KAZAKHSTAN (KAZ/05/23)**

**Grant Amount:** $ 20,378.00

**Grantee:** ECOS NGO

At present time due to chaotic development of tourism in Akmola area negative anthropogenic impact on the unique lakes of the region has increased, and this may lead to that the Shalkar lake can be lost. The Kokshetau National Park management annually ..

**Dates:** 11/2005 - 6/2007
**Focal Area:** Biodiversity

**Kazakhstan Federation of Organic Agriculture Movements, KazFOAM**

Address: 59-a Amangeldy Str., Almaty, 050000, Kazakstan
Phone: +7-7052141536
Area of activities:

- Other/Agriculture
- Industrial Chemistry and Chemical Process Engineering/Chemistry
- Environmental Health and Safety/Environment

## Major Problems

Kazakhstan has a significant potential in the field of organic agriculture. The production of ecologically clean products is part of the “green economy” development initiative, approved by the government and included in the country's existing framework program, signed with the United Nations Industrial and Agricultural Organization (FAO).

To successfully implement the production of organic agriculture, several areas need to be improved: increase awareness of production and the capabilities of organic products; organize a quality control system, certifications and relevant national institutions; create laws and regulations.

Within the framework of the FAO project, new environmental legislation is being introduced, the institutional capacity of Kazakhstan is being strengthened, a national strategic plan is being created, and a system of environmental certification and rules for the control of organic production is being formed.

In Kazakhstan operating farms, that specialize, in the production of organic products, the most useful for the health of Kazakhstanis. A vivid example can serve as a large agricultural formation of the Akmola region group of companies "Агрофирма TNK".

The products of the group of companies, produced under the trademark "Жаксы", are already fond of the residents of the region, often the products are bought at agricultural fairs or in large supermarkets of the region.

The volume of production is gradually expanding, the map of retail outlets where products can be purchased becomes more and more saturated, and this process implies fulfillment of three mandatory conditions (according to Uygun Aksoy, FAO international consultant for the project).

- First, organic agriculture should be developed as a system with special institutions and their role in the management of the system should be defined.
- Second, it is necessary to support the system with a regulatory and legal framework.
- Third, we need confidence that the system is compatible with the international system and takes into account the specifics of Kazakhstan's agriculture". Currently, work is underway to introduce a national plan for the development of organic agriculture in Kazakhstan.

With the purpose of economic recovery over the past ten years, state and sectorial programs for the development and support of the AIC (agro-industrial complex) and the village, supported by solid financial resources, were adopted. In addition, in order to improve the system of state support to the industry, the National Holding "КазАгро" was established in 2006, including: JSC "National Company Food Contract Corporation", JSC "Мал онімдері корпорациясы", JSC "КазАгроФинанс", JSC "Agrarian Credit Corporation", JSC "Fund for Financial Support of Agriculture", JSC "КазАгроГарант", JSC "Казагромаркетинг".

**Political factors: Organic agriculture**

- in the short term - the adoption of the law on organic agriculture, within which it is necessary to determine what "organic" food products are;
- development of a unified system for certification of organic products based on European and American standards;
- the introduction of mandatory certification of organic products;
- adoption at the state level of a comprehensive program for the development of the agro-industrial complex of the AIC;
- providing financial assistance to farmers (in particular, preferential taxation) at the level of the state and/or region;
- Establishing strong ties with regional and local authorities.

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# ORGANIC AGRICULTURE in KYRGYZSTAN

## COUNTRY PROFILE (STATISTICS)

***Key indicators, 2015:***
***(FiBL & IFOAM - Organic International (2017))***

***Organic agriculture land (ha)***
*7565*
***Organic share of total agriculture land (%)***
*0.1*
***Number of organic producers (No.)***
*1035*
***Organic retail sales (Mio €)***
*-*

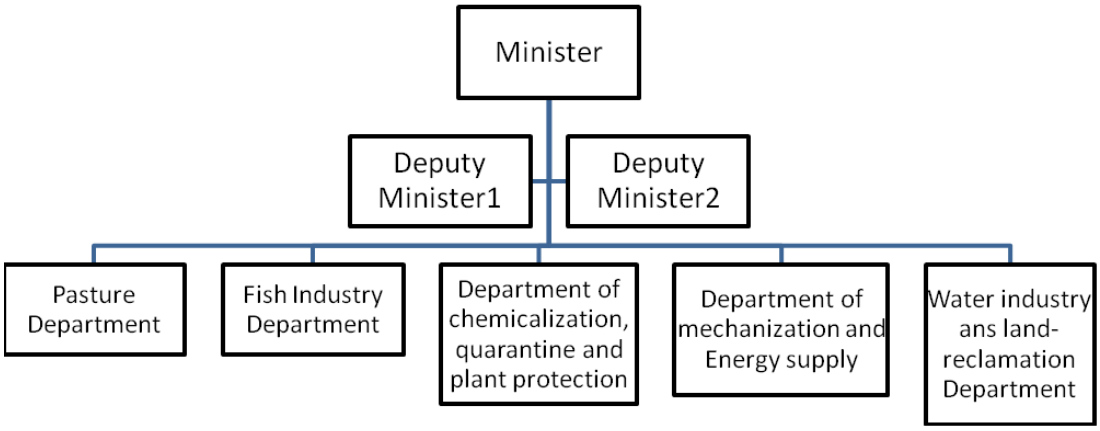
***Key statistics, 2014:***
***(FAOSTAT)***

***Country area***
*19994.9 (1000 ha)*
***Land area***
*19180 (1000 ha)*
***Agriculture area***
*10557.1 (1000 ha)*
***Forest***
*645 (1000 ha)*

## Legal Status

### *Competent authority*

In the Kyrgyz Republic the main body, competent for development of ecologically clean agriculture is the Ministry of Agriculture and land-reclamation of Kyrgyz Republic.



Also there are following Organizations under the Ministry of Agriculture and land-reclamation of the Kyrgyz Republic:

- National center of plant breed and genetic test;
- National seed inspection;
- National center of selection and breeding;
- Veterinary medicine certification center;
- National project institute on Land development "Kyrgyziprozem";
- Seed expertise Center;
- Kyrgyz Agro Bio Center.

## *Legal background*

Now there is no any Law or regulations on Organic agriculture in the Kyrgyz Republic. However, the Federation of Organic Development "BIO-KG" (FOD Bio-KG) in cooperation with the Ministry of Agriculture and Land-reclamation of KR and other experts developing the main Law on Organic Agriculture in KR.

In order to address issues within the development of organic farming, FOD initiated an extended meeting in 2013 with Committees on Agrarian Policy, Water, Environment and representatives of regional development in "Jogorku Kenesh" (Parliament) of Kyrgyz Republic. At the meeting of Parliament of Kyrgyz Republic, it was noted that the development of agricultural production towards organic farming is global trend today. Deputies noted that all major proposals developed by FOD in the draft **Strategy for Sustainable Development of Kyrgyzstan for 2014-2017** in the field of agricultural development was accepted and incorporated in the final version of the document.

Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic in cooperation with the Federation of Organic Movement "Bio-KG" (FOD) initiated the development of **a National Action Plan on organic agricultural production (NAP OAP)** in 2012. By the Order № 280 of the Ministry, from 02.11.2012 there was established an interagency working group to develop KONAP.

The work on the development of KONAP was carried out on several levels since November 2012 - November 2014:

- Initiate/creation of a working group (Ministry of Agriculture and Land Reclamation of the Kyrgyz Republic and FOD)
- Financial assistance (group of donors)
- Support and assistance (IFOAM, Helvetas, the development and revision of KONAP project for KONAP)
- Internal executive working group (an initial discussion of the draft KONAP)
- Extended Executive Working Group, established by order of the Minister of Agriculture №131 from 22.05.2014 (additions and comments on the development of the KONAP)
- Advisory Group (add-on)
- Further development of KONAP in the period from August to November 2014 ("Bio-KG" FOD with the support of Helvetas)
- Public discussion together with the working group of the Ministry of Agriculture and Land Reclamation (additions to be made)
- Submit draft resolutions to the Government of the Kyrgyz Republic (by the end 2014) for the approval of KONAP.

KONAP is a part of Kyrgyz Republic's Government-Program for the country's transition to sustainable development for 2013-2017. It is a Road Map for the development of the organic movement and it has multilateral approach not only for its development, but also for taking various actions towards it. The KONAP aims to achieve goals in social and in organic sector.

The development of organic sector in the country in partnership with public and private sectors in accordance with the NAP for OAP is based on the 5 relevant strategic areas:

1. Creation of favorable environment for public - private partnership for the development of organic agriculture in the country (the development of normative - legal right framework for the development of OA).
2. Empowerment, awareness-raising and providing access to knowledge on organic agriculture (research, training and information).
3. The development of the value chain and create favorable economic conditions for organic agricultural production.
4. Building trust and guarantee system for the development of organic agricultural production (development of standardization and certification of organic agricultural production).
5. Coordination and monitoring of the implementation of the KONAP.

In order to revise and adapt the KONAP (which was developed in 2013 by supporters/advocates of organic movement with the support of IFOAM and working group consisting of members from Ministry of Agriculture and Land Reclamation) in accordance with the Law on "Normative Legal Acts of Kyrgyz Republic", the expert of "BIO-KG" FOD made all necessary changes throughout the text; it was also adapted to official language and public documentation. There were also changes in the wording of 5 strategic directions (of KONAP) without changing its content. The text was revised for duplicate paragraphs and sentences.

In the first half of September and October 2014, the expert hired by BIO-KG FOD made all necessary changes in the Action Plan developed for the realization of KONAP. In original version of the Action Plan, 164 activities were indicated for the development of organic agriculture; they were of declarative character; the mechanisms of how these activities would be fulfilled, within which period and resources were not specified. After the analysis done by the expert, the Table of Action Plan was reformatted; events that were duplicated were removed and its number was reduced to 108; these events were assigned to the main 5 strategic directions; which mechanisms and resources would be used to fulfill them were indicated; deadlines were set up and responsible people to each task were assigned. Without making indicated changed in the Action Plan towards the realization of KONAP in accordance with relevant laws and regulations of the Government of Kyrgyz Republic, we would not be able to submit the document for Government's consideration.

In the second half of October 2014, after analyzing and making necessary changes in the text of National Action Plan for the development of organic farming in Kyrgyz Republic and in the Action Plan developed for the realization of KONAP, the expert made a presentation of revised-draft version of it. The purpose of presentation was to organize a meeting of Interdepartmental Working Group (IWG) to discuss the KONAP for the development of organic farming and Law on "Organic Agricultural Production" which was established by the Order #131 of Ministry of Agriculture and Land Reclamation in May 22, 2014. The meeting was held in October 22, 2014 in the small hall of the Ministry of Agriculture and Land Reclamation. The working group of the Ministry, staff members from various departments, attended it: agriculture, livestock, science, food safety and agro-marketing, organic-agriculture center, center for Meteorology and standards

developed by Kyrgyz Republic. At this meeting in October 22, 2014, the expert of BIO-KG made a presentation of draft version of National Action Plan for agricultural farming (FOD for KONAP). There was a discussion for further refinement of the objectives and activities of the Plan with members of working group and participants of the meeting (before the Ministry of Agriculture and Land Reclamation submits the revised version to the Government of KR). All participants of the meeting were distributed printed version of draft KONAP and the Action Plan together with necessary stationary.

After the meeting, there was a dinner-buffet for the members of working group and participants.

Also in November 5, 2014, the expert of BIO-KG FOD participated in the Third International Forum for Organic movement organized by BIO-KG. Government and Parliament of Kyrgyz Republic, international organizations, farmers and peasants from all regions of the country, scientists and agricultural experts, attended the Forum.

During the Forum, in November 5 the expert of BIO-KG made a presentation of revised-draft of National Action Plan for the development of organic farming. November 6, 2014 there was a further discussion of KONAP in three sectional working groups with the participants of the Third International Forum.

***Content***

As there is no Law on Organic agriculture in KR, no information about legislation of plant production, wild harvest, aquaculture, processing and marketing)

***Inspection and certification***

Agriculture in Kyrgyz Republic is doing its little steps toward development of Organic farming and agriculture. Now we do not have any certification body in our country.

However, there is the service provider group that connects farmers and international certification bodies and helps to get International certificate.

Public Foundation "Bio Service" was founded in 2007 and is a professional service provider, created with the support of donor organizations - Helvetas, the Swiss Association for International Cooperation, ICCO (ICCO), Hivos (Hivos) Holland and SECO, the Swiss Secretariat for Economic Affairs. Our vision: PF "Bio Service" is the leading service provider for organic agriculture in Central Asia. PF "Bio Service" provides a competitive business development services and quality control partner in organic commodity chains. "Bio Service" is a professional service provider for the partner value chain of organic production in Kyrgyzstan. Bio Service provides a complete package of services to farmers, ranging from providing training to farmers to sales of goods manufactured for export markets. Operating Area BS 2013 covers 5 regions of the Kyrgyz Republic: Jalal-Abad, Batken, Issyk-Kul, Naryn and Talas.

## Data Collection System for Conventional and Organic Products

The main body, responsible for data collection for organic products is **Federation of Organic Development "BIO-KG".**

In 2012, the Federation of Organic Development of the Kyrgyz Republic – FOD "BIO-KG" was set up by cofound ants of 10 Associations, working in agriculture and forestry fields.

FOD "BIO-KG's" Mission – preservation and development of bio-cultural diversity.

FOD "BIO-KG's" Vision laid the groundwork for systematic approach to the preservation and development of the Kyrgyz Republic's bio-cultural diversity through the implementation of the Organic Agriculture principles (HEALTH, ECOLOGY, and FAIRNESS AND CARE).

GOAL: Promotion of OA as the strategic thrust of the Kyrgyz Republic's economics growth.

Social tools: Via public and private partnership development, active communication with and live feedback from farmers and rural communities, extensive cooperation with civil society (NGOs), international and grantmaker organizations.

Currently a total of 24 project staff, including FOD "BIO-KG" staff members are involved in the project activities.

***Primary production (farm data)***

There is no any primary organic production in Kyrgyz Republic. First steps to get first organic production are hold.

Since 2013, the process of "Organic Aymaks" setting up has been started as a holistic model to achieve sustainable development in rural and mountain communities through the promotion of organic principles and technologies.

In March 2013, model of "Organic Aymaks" set up in the first two villages:"Kopuro-Bazar", Talas district, Talas oblast, and in June – "Dobolu", Naryn district, Naryn oblast. By the end of 2014, a total of 9 villages covered within the activity supported by the Christensen Fund in this area in Talas and Naryn oblasts:

- A total of 14029 villagers,
- A total of 2717 households,
- A total of 9095 farmers,
- A total of 6886ha bogharic farm field,
- A total of 1497ha grazing land.

This model has a high potential of chain value development that is "affordable" for farmers, especially, in the component of vegetables, fruit and berry products, as well as the simple processing of meat and dairy products. Namely, PGS systems begin to be implemented in the Aymaks, taking into account the country-specific and locality circumstances. By so doing, the number of farmers, villages and communities, recognizing that model the most promising for the Kyrgyz Republic and the their numbers, willing to pass into the model grows constantly. The entire regions and locality are wishing to pass into this model.

In February 2014, FOD "BIO-KG" delegation visited Aksy district, located in Jalal-Abad region, consisting of 9 Heads of Aiyl Okomotu headed by the Akim of the district with the proposal on passing into this model.

Since the autumn of 2014, the model "Organic Aymak" is being fulfilled in a total of 10 villages in 5 Ayil Okmotu, located in Issyk-Kul region, funded with grantmaker ICCO. Organic principles and approaches are the most consistent met with the principles and approaches of "green economy" and "sustainable development", as well as "OA" can become in place model there. "Organic Aymaks" allow making full use of the available opportunities due to a comprehensive approach to increase the volume of products and to solve "food security", and at the same time, solving a set of questions to establish

production discipline, compliance technologies, standards and requirements, generate framework conditions for ensuring quality products. Thus, the "Organic Aymaks" have a real opportunity to systematize and consolidate the entire process of organic production the fastest and the most effective way in all components – training, production, processing, certification, PGS, marketing, cooperation and coordination – setting up economic, environmental and social sustainability.

***Processing***

***Marketing channels (domestic market, export, import)***

***Non-food organic (textiles, cosmetics etc.)***

From non-food organics, we export only bio-cotton every year. In 2014, about 300 tones of bio-cotton were exported to Germany.

## Training and Education

***Formal Higher education***

Kyrgyz National Agrarian University is the only University in Kyrgyz Republic that gives education on agriculture, natural resources management, forestry etc.

***Training of trainers***

Trainers study organic agriculture at the IFOAM leadership courses and IFOAM courses for ASIA countries.

The memorandums of cooperation FOD "BIO-KG" signed with the government-administration offices in all areas, Agricultural University, National academy of Science of the Kyrgyz Republic, with 5 ayil okmotu (village administrations)-in the framework of the project ''Establishment of organic aymaks in Issyk Kul region", with representatives of "halal" industry and with the Agency of technical and vocational education.

In addition, training programs for vocational schools had been developed together with APTE (Agency for Professional Technical Education).

## Meetings on Organic Agriculture

Carrying out a national organic forum is a component of implementing Federations' Objective #1: consolidation of advocates/supporters of organic movement; create of possibilities for active cooperation with civil society and partners in this field. Within the framework of this objective ''BIO-KG" FOD held International Organic Forum under the slogan "The experience of Organic movement in Kyrgyz Republic and possible cooperation with the network of IFOAM Euro-Asia" from November 4-6, 2014. Over 250 representatives of various organizations, including international (from United Kingdom, Kingdom of Bhutan, Moldova, Ukraine, Belarus, the Russian federation, Georgia, Armenia, Azerbaijan, Kazakhstan, Uzbekistan, and Tajikistan) representatives, attended the forum. The forum participants discussed issues and possibilities in regards the development and promotion of OA in Kyrgyzstan and regions.

The forum provided a platform for the discussion of socio-economic, environmental, legal and institutional issues in relation to organic agriculture (OA) for local and foreign experts, representatives of government agencies, international and donor organizations. The Forum became an example of a long-term initiative among representatives from

farmers and peasants. Forum consisted of two parallel sessions: exhibition-fair and conference.

Farmers, experts, representatives of government agencies and donors discussed a possibility of country's transition to organic farming in order to develop a green economy in the country.

According to the program of the Forum, participants were divided into 5 groups to discuss the following topics:

1. Organic “Aimak” - as a comprehensive model of sustainable development for rural communities on the basis of synthesis of organic technologies and experience traditional culture;
2. Organic Standards of FOD, certification of organic products;
3. National Action Plan - Road Map for promoting organic agricultural products;
4. The structure of the new regional body IFOAM Euro-Asia;
5. Farmer Platform: Common problems and challenges of organic production.

At the end of the discussions, the Forum participants decided to seek appeal to the Government, Parliament, all the structures and people of all representing countries participating in the International Organic Forum.

The event was widely covered in the media and online resources.

## Market

***Domestic market***

In domestic market, only several products that have international certification are positioning in the market. One of them is Batken apricot.


There is internet shop or ecological and organic products www.biomart.kg

***Export market***

Doesn’t exists (except - biocotton)

## Existing NGOs and Projects

Federation of Organic Development "BIO-KG"
Public Fund "Bio-service"
"Bio Farmer" cooperation
Association of experts "Agrarian Platform"
Forest and land users Association

## Major Problems Existing in the Country

- *Absence of the Law on Organic Agriculture*
- *People awareness on "what means organic?"*
- *Marketing*
- *Undeveloped public –private partnership*
- *Fertilizers provision to farmers (lack of organic fertilizers)*

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# ORGANIC AGRICULTURE in PAKISTAN

**COUNTRY PROFILE (STATISTICS)**

***Key indicators, 2015:***
***(FiBL & IFOAM - Organic International (2017))***

***Organic agriculture land (ha)***
*34209*
***Organic share of total agriculture land (%)***
*0.1*
***Number of organic producers (No.)***
*111*
***Organic retail sales (Mio €)***
*-*

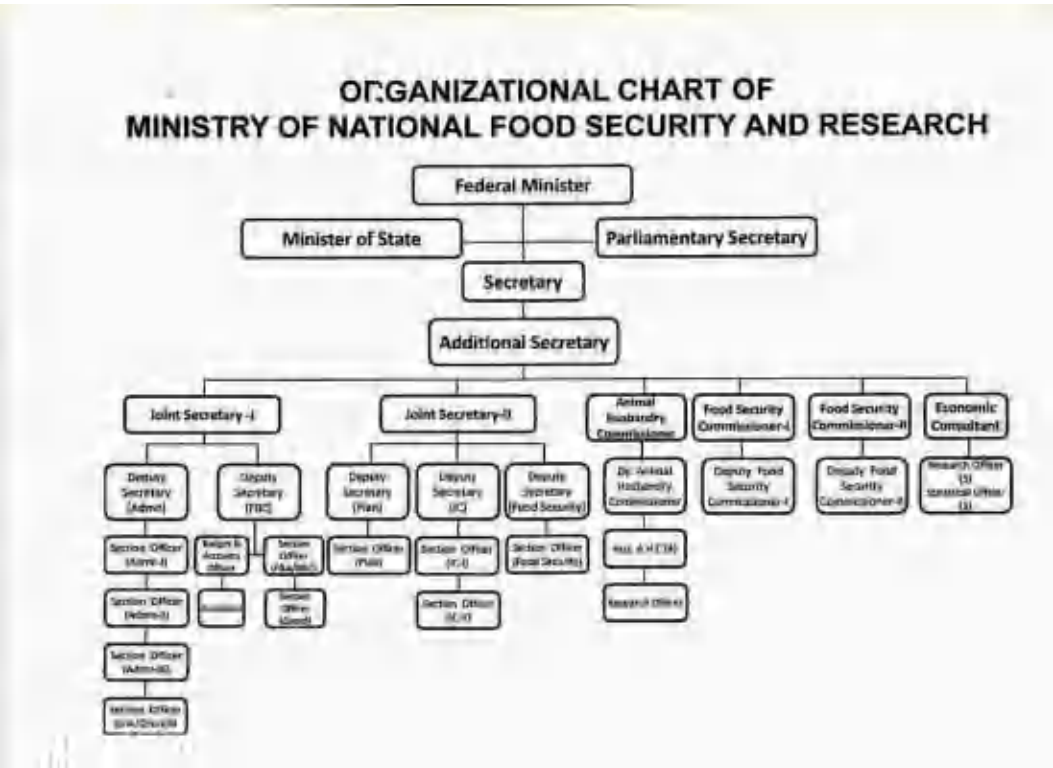
***Key statistics, 2014:***
***(FAOSTAT)***

***Country area***
*79610 (1000 ha)*
***Land area***
*77088 (1000 ha)*
***Agriculture area***
*36252 (1000 ha)*
***Forest***
*1515 (1000 ha)*

## Legal Status

### *Competent authority*

The Ministry of National Food Security & Research (MNFS&R), Government of Pakistan (GoP) is responsible at national level for implementing, enforcing, developing, and executing the policy on agriculture, livestock, fisheries and farming. The ministry is governed by the agriculture minister, who must be a member of the Parliament of Pakistan.




The ministry governs following departments:

**Attached departments**

1) Agricultural Policy Institute (API)
2) Federal Seed Certification & Registration Department (FSC&RD)
3) Department of Plant Protection (DPP)
4) Animal Quarantine Department (AQD)
5) National Veterinary Laboratory (NVL)

**Autonomous body**

Pakistan Agricultural Research Council (PARC)

**Corporation**

Pakistan Agricultural Storage & Services Corporation Limited (PASSCO)

**Boards**

1) Pakistan Oilseed Development Board (PODB)
2) Livestock and Dairy Development Board (LDDB)
3) Fisheries Development Board (FDB)

**Company**

1) Pakistan Dairy Development Company (PDDC)

**Cell**

***1) Federal Water Management Cell (WMC)***

After 18th Amendment in constitution of Pakistan in 2010, the provinces are overall responsible for agriculture, rural development, to formulate their own polices, and strategies, as well as investment plans for both the public and private sectors. It includes a

set of actions related to federal and inter-provincial issues in agriculture and food security related to international and domestic coordination, upstream and strategic research. It also covers minimum standards for food safety, seed certification, and pest and animal health surveillance. However, MNFS&R at federal level have to address critical issues that need a national approach and political backing to be successful.

***Legal background (law, by law, regulation)***

Government of Pakistan encourages Clean/Organic Agriculture but no specific law or regulation exists so for.

***Content***
***(plant production, animal production, wild harvest, aquaculture, processing, and marketing)***

There are recommended procedures and policies for production of crops, animals, poultry and aquaculture as well as marketing. These disciplines are taught at the universities as well as there are extension & promotion programs in the field by government and NGOs.

***Inspection and certification (control bodies CBs)***

Two major private companies (SGS Pakistan and Control Union) inspect and assure the quality standards of commodities. SGS Pakistan was established in 1952 and have a quality verification, supported by state-of-the-art testing laboratories and advanced technology. Control Union (Netherland based company) with its sub-office at Karachi also have a wide range of certificatation programme. However, there are no National Standards but follow some overseas standards.

## Data Collection System for Conventional and Organic Products

***2.1. Primary production (farm data)***
***2.2. Processing***
***2.3. Marketing channels (domestic market, export, import)***
***2.4. Non-food organic (textiles, cosmetics etc.)***

***No such system or mechanism exists at present. However, privately some farmers produce and sale in local markets. Some foreign companies also procure organic stuff directly from farmers.***

## Training and Education

***Formal higher education:***

There are five public sector universities producing agriculture graduates and post graduates in agriculture disciplines i.e., Soil Science, Agronomy, Plant Protection (Agri. Entomology and Pathology), Plant Breeding and Genetics, Food Technology, Agri-business, etc. but no one offering degree in organic farming expect one subject (3 hour credit) approved by Higher Education Commission on organic agriculture in Agronomy discipline. The contact information of the universities is given below:

***1) University of Agriculture Faisalabad (UAF)***
Prof. Dr. Iqrar Ahmad Khan, Vice Chancellor
Phone: 0092 41 9200161-70
Fax: 0092 41 9200764
Email: vc@uaf.edu.pk
Website: http://www.uaf.edu.pk/

***2) Sindh Agriculture University, Tandojam (SAU)***
Prof. Dr. Memon Mujeeb-u-ddin Sahrai, Vice Chancellor
Phone: 0092 22 2765870
Fax: 0092 22 2765300
Email: vc@sau.edu.pk
Website: http://www.sau.edu.pk/

***3) Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (PMAS-AAUR)***
Prof. Dr. Rai Niaz Ahmad, Vice Chancellor
Phone: 0092 51 9290466
Fax: 0092 51 9290459
Email: vc@uaar.edu.pk
Website: http://www.uaar.edu.pk/

***4) The University of Agriculture Peshawar (AUP)***
Prof. Dr. Zahoor Ahmed Swati, Vice Chancellor
Phone: 0092 91 9218390
Fax: 0092 91 92183342
Email: vc@aup.edu.pk
Website: http://www.aup.edu.pk

***5) Lasbella University of Agriculture, Water and Marine Sciences (LUAWMS)***
Dr. Dost Muhammad Baloch, Vice Chancellor
Phone: 0092 853 610847
Fax: 0092 853 610903
Email: vc@luawms.edu.pk
Website: http://www.luawms.edu.pk

Being research universities their students are conducting experiments on various aspects of organic related production and protection techniques (i.e. Composting, Biological control of pests and diseases, Botanical pesticides etc.) but not as a whole organic farming.

There are some institutes established in each province offering two years post school diploma courses in agriculture as well as livestock. Unfortunately, they are also not offering any subject related to importance of organic agriculture.

***Training of trainers:***

National IPM Programme of PARC, CABI-Pakistan, WWF-Pakistan, LEAD-Pakistan and some other organizations including provincial governments are conducting Training of Facilitators and Training of Trainers for capacity building of existing Agriculture Staff and NGO personnel with special focus on reducing the reliance on pesticides and limited use of chemical fertilizers in agriculture sector.

***Training of farmers:***

The manpower trained through Training of Facilitators and Training of Trainers are further giving season-long practical trainings to producers/farmers for profitable and sustainable agriculture production. Training focused on less use of chemical inputs mainly pesticides on different crops.

# Research on Organic Agriculture

Pakistan Agricultural Research Council (PARC), National Institute of Biotechnology and Genetic Engineering (NIBGE) Faisalabad and Provincial Agricultural Research Institutes are carrying out work on biological fertilization. PARC in collaboration with Engro Chemical Pakistan Limited commercialized rhizobium specific for chickpea in the name of Biozot. NIBGE is also marketing its bio-fertilizer for rice in the brand name as Biopower. Provincial Research Institutes are also providing inoculums to the farmer's formers for leguminous and non-leguminous crops.

At National level, Directorate of Organic Farming was established at NARC Islamabad on August 22, 2008 and within a short period of time the directorate introduced/developed numerous innovative technologies like bio-fertilizers, bio-pesticides and bio-herbicides. Keeping in view its achievements, the directorate was upgraded to "National Institute of Organic Agriculture". The institute is involved in identifying new production technology and disseminating new knowledge to the small farmers across the country. The major achievements of the institute are demonstration of organic crop production at NARC, overcoming the indicated deficiency of micronutrients in citrus orchards by successful application of organic salts at NARC, Management of major pests (aphids and armyworms) demonstrated through application of bio-pesticides at farmers' fields. The Institute has also achieved establishment of organic farms across the country and training of about 5000 farmers and students in organic farming. A Network of Organic Agriculture in Pakistan (NEOAP) under National Institute of Organic Agriculture (NIOA), NARC has been established and launching a campaign for registration of organic farmers and traders. Yet, no policy or legislation cover is there, however the WHO/FAO maximum residue limits (MRLs) in food items are referred for comparison.

Besides this, Pakistan Agricultural Research Council is implementing a mega project namely Research for Agricultural Development Program - RADP (2007-2015). Through its sub-projects, PARC has taken following initiatives to promote organic farming in Pakistan.

**Fabrication of liquid bio-pesticide and micronutrient formulation unit:**

Bio-pesticide and micro nutrient plants fabricated at NARC for formulation of bio-pesticide and organic salt. Different organic pesticide formulations have been tested against different insect pests. Products have been standardized and are being sold for insect pest control. The most effective bio-pesticides are derivatives of garlic, turmeric, hot chillies, *akk* and some others weeds.

**Fabrication of liquid bio-herbicide processing unit:**

Bio-herbicide processing unit has been fabricated at NARC. Bio-herbicide is formulated from natural plants and weeds. Some plants have been identified like *Casia fistula, Lintana, Chinopodium, Calotropis, and Euphorbia* etc. This is the new intervention for organic growers in the country.

**Development of bio-fertilizer processing unit:**

Bio-fertilizer processing unit has been fabricated at NARC. The processing unit has capacity to manufacture 200 bags of organic fertilizers per day. The raw material used for organic fertilizer are farmyard manure, poultry manure, sugarcane press mud, rock phosphate, sulphur mud, blood and mountains coal.

**Establishment of vermiculture and vermi-composting research unit:**

Collection and multiplication of indigenous earthworm species. Standardization of conditions (substrate, temperature, moisture) for earthworm rearing/multiplication.

Vermicompost analysis for physical and nutrient content from *Pheritima* spp. as well as from *E. fetida*.

**Establishment of Insectary-Biological Control Laboratory:**
Efficient and economical rearing and multiplication of quality bio-control agents on various factitious and natural hosts in laboratory and releases to farmer fields to manage harmful insect pests in natural way.

**Production of organic baby corn:**
Produced disease free organic baby corn in 2010-11 at NARC Islamabad but only on experimental basis to demonstrate the technology.

## Meetings on Organic Agriculture

No information or record can be traced

## Market

***Domestic market:***
**Currently,** Pakistan organic farms are certified by Control Union Certifications Zwolle, The Netherlands, for organic production methods according to regulation (EEC) No. 2092/92 and USDA-NOP standards.
They grow organic rice, organic sesame seeds, organic cotton, organic wheat and other agriculture commodities (http://www.pakof.com/).

Lok Sanjh Foundation an NGO helps local farming community grow and sale their organic products i.e., Millet flour, Corn flour, Wheat flour, pulses, rice, lemon grass, eggs and honey through their e-shop (http://loksanjh.org/project-3/e-shop.html).

The organic products of wheat and spices branded by *Dali* sold at Green Valley Bahria Town Islamabad.

***Export market:***
Northern areas of Pakistan like Chitral, Gilgit, Hunza etc are popular in producing apple, pear, almonds, nuts etc which are naturally organic and have great potential of these fruits in value addition and export market.

***Import:***
**None so far, to information and knowledge!**

## Existing NGOs and Projects

As mentioned in section 6.1 above, Lok Sanjh is a non-profit, NGO working with the rural communities particularly with women farmers in Pakistan. The Lok Sanjh promotes strategies for socially and environmentally sound agriculture through focused research, policy advice and advocacy. Lok Sanjh is trying hard for diversion of conventional farmers to organic farming.

In phase I (2004-06) Lok Sanjh implemented a project entitled, "Transforming traditional agriculture to organic farming" in North Punjab province targeting Barani (Arid) area in Attock district to Central Punjab targeting rice based agriculture system in Shekhupura district.

In phase II (2007-09) Lok Sanjh implemented another project namely "Regenerating rural economy through organic farming" by adding Kashmir for rice, wheat and vegetables and Toba Tek Singh & Jhang for cotton.

In phase III (2010-onwards) Lok Sanjh Foundation is implementing "Climate smart organic agriculture" targeting vegatables, poultry, honey, cotton etc. Lok Sanjh Foundation is also e-marketing the organic vegetables in a form of basket (Personal communication}.

Rural Business Development Center (RBDC) in Pakistan is also working with Lok Sanjh on garment product named *'Kato-Rani'* produced from clean cotton, through "All Women Cotton Value Chain" project supported by Oxfam-novib. The major objective of this project is to empower women through creating a value chain of 'cotton craft' engaging women farmers from cotton production process following clean cotton production principles to final product.

## Major Problems Existing in the Country

- Energy crises
- Lack of policy related to organic agriculture
- Lack of enabling environment and marketing
- Lack of awareness among consumers
- Poverty mindset (even people who can pay for organic- a bit expensive stuff will go for cheaper items including food)
- Low organic matter contents in Pakistani soils

## Additional Remarks

***Steps to Follow . . .***

- To initiate soil survey to identify the potential areas (the most productive and fertile areas) for organic farming
- Formulation and approval of organic farming production and marketing policy
- Establishing national standards and Certification mechanisms
- Educational campaign to create cliental for organic consumer products starting from primary schools- upwards
- Campaigns to promote organic farming and convincing the farmers (large or small), to follow the guidelines of organic farming
- Strict surveillance by the International Organic Certifying Agency
- Creating a think tank to provide vision and patronage

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# ORGANIC AGRICULTURE in TAJIKISTAN

## COUNTRY PROFILE (STATISTICS)

| ***Key indicators, 2015:*** ***(FiBL & IFOAM - Organic International (2017))*** | ***Key statistics, 2014:*** ***(FAOSTAT)*** |
|---|---|
| ***Organic agriculture land (ha)*** | ***Country area*** |
| *12659* | *14137.6 (1000 ha)* |
| ***Organic share of total agriculture land (%)*** | ***Land area*** |
| *0.3* | *13878.6 (1000 ha)* |
| ***Number of organic producers (No.)*** | ***Agriculture area*** |
| *10486* | *4745 (1000 ha)* |
| ***Organic retail sales (Mio €)*** | ***Forest*** |
| - | *411.6 (1000 ha)* |

## Legal Status

### *Policy and legislation*

The Government of Tajikistan aims to develop agriculture and identify new areas for strengthening food security and improving livelihood. One of these priority areas is support to development of organic production.

In this regard, on 22 July 2013 the **Law On Biologic Farming and Production** that aims to regulate the production, processing, storage, transportation, packaging, labeling and sale of organic products was adopted. However, the implementing regulations are not developed and adopted and the gaps in the Law and the lack of regulations assisting the efficient implementation of the law are not developed and adopted.

There is also a need to amend the institutional framework to address issues arising from the adoption of the organic regulatory system, especially regarding activities targeting the inspection and certification system, data collection and processing, training and extension and marketing (export-import) systems of organic products.

***Content (plant production, animal production, wild harvest, aquaculture, processing, and marketing)***

Tajikistan is one of the ECO countries that still have food security problems, migration due to lack of employment opportunities and very low levels of income per capita. One of the main reasons was the political instability since 1997 during the post-soviet era and the mountainous terrain that cover more than 93% of the surface area.

Tajikistan geographically is divided into four natural zones: northern Tajikistan, characterized by Tien Shan mountain range, southern Tajikistan, central Tajikistan, and the Pamirs (Western Pamir and Eastern Pamir). The mountain heights range between 300 and 7495 m above the sea level.

Agricultural practices vary according to the topography and availability of the climatic conditions.

***Animal husbandry*** is the main source of income for the mountainous rural population. On the other hand, plant production ranging from cold temperate to subtropical is practiced at the foothills, steppes, and lowland along the river valleys in southwestern and northern Tajikistan. Fergana valley in the north, and Vakhsh, Hissar and other valleys are very well known for their productivity. Surface waters mainly from rivers make Tajikistan a water rich country. The population is more concentrated in the valleys and in the western part of the country.

Agriculture is the main income source for rural population that comprises 70 % of the total. 81 % of the agricultural land is utilized as pastures for animal grazing. Animal husbandry especially cattle, sheep, and goats is the second most important economic activity after cotton. After the independence, number of cattle and sheep has declined by 27 and 17 percent, respectively, but the number of goats, yaks, and horses increased.

Accept few products and fertile valleys; agriculture is practiced as subsistence farming in especially mountainous regions. Every family has few animals and a small (< 1 ha) land area. Low-income levels and lack of employment opportunities forced men to go to other countries especially Russia as temporary workers.

In Tajikistan, ***wheat and wheat based products*** are the main source of consumption leading to malnutrition. Fruit and vegetables are grown in the country but some are imported from neighboring countries.

***Cotton*** is an important crop accounting for 60 percent of agricultural output and 45 percent of irrigated land. The government supports Cotton production since it is a major crop with export value. Both plant and animal production is practiced as a low-input system thus making the yields per unit area low. Despite low input-use, wrong practices especially overgrazing have led to land degradation further promoting erosion and land loss.

***Table 1. Plant production as area sown/planted (1000 hectares) in Tajikistan (TAJSTAT, 2014)***

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| Grains and legumes | 942,9 | 1294,5 | 1261,1 | 1098,2 | 1232,6 | 1392,6 |
| (Raw) Cotton | 353,1 | 296,0 | 310,6 | 416,5 | 417,9 | 392,8 |
| Potatoes | 679,8 | 690,9 | 760,1 | 863,1 | 991,0 | 1115,7 |
| Vegetables | 908,2 | 1046,9 | 1142,6 | 1242,0 | 1342,3 | 1490,6 |
| Melons And Gourds | 285,3 | 424,6 | 482,4 | 423,3 | 465,0 | 495,3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Fruits And Berries | 262,4 | 213,9 | 224,8 | 263,1 | 313,2 | 328,5 |
| Grapes | 117,9 | 138,7 | 124,3 | 154,7 | 167,1 | 175,3 |

Tajikistan because of its geographic location and diverse topographic and climatic conditions is very rich in biodiversity, consisting of approximately 23,000 species of flora and fauna, of which about 1,900 are endemic mainly determined by the alpine environment. The flora bears wild fruit species in addition to numerous species of medicinal and aromatic plants, which are widely used by the population.

## Training and Education

***Higher Education***[46]

Higher education in Tajikistan is provided by a total of 40 institutions, including universities (*donishgoh*), academies and institutes (*donishkada*). Although Tajikistan is not a Bologna signatory country, most HE institutions have now introduced 4-year Bachelor degrees and 2-year Master's degree in line with the EU system; some 5 or 6-year Specialist Diplomas are still offered in professional fields such as medicine, veterinary medicine, pharmacy and engineering. In 2015, there was a 26.37% gross enrolment ratio in tertiary education (UNESCO).

***Vocational Education and Training (VET)***

Since 2014, VET has been the responsibility of the Department of the Ministry of Labour Migration and Employment (MoLME). The sector currently includes 61 institutions of initial vocational education and 73 vocational training centers for adults (5 centers, 38 branches and 30 representative offices), preparing skilled workers in 96 different specialties (MoLME, 2017).

### *Tajik Agrarian University Shirinsho Shotemur (TAU)*

**Faculty of Agronomy**

Dean of Faculty

**Komilzoda Anis Davlatjon,**

Assistant professor, candidate of agriculture science

***Faculty of Agronomy*** is the oldest in TAU named after Shirinsho Shotemur, and all its history is inextricably linked with the history of the University. The idea of establishment of higher agricultural education in Tajik Republic was implemented in 1934.

Faculty of Agronomy has released more 8000 highly qualified specialists in agronomy industry. Among them, 2000 graduated from the part-time and 6000 from the full-time department. The learning process of students of the faculty of agronomy inextricably linked to scientific work.

In February 1991 on the base of 2 specialties: 310300-food growing, vegetable growing and viticulture, 310400-plant protection. New faculty is opening, horticulture and biotechnology of agriculture.

Full-time and part-time department students are trained in specialties - agronomist, agro-ecologist, agro chemist soil scientist, seed breeder. The Faculty has modern laboratories of quality seeds, phytopathology, chemistry, chemistry labs, which are at the basis of the educational sector of TAU.

[46] http://www.tajagroun.tj/ru/agronomicheski-fakultet.html
http://www.tajagroun.tj/ru/fakultet-mekhanizatsiya-selskogo-khozya-stva.html
http://www.tajagroun.tj/ru/fakultet-plodovodstva-i-biotekhnologii-selskogo-khozya-stva.html

***Faculty of Mechanization of Agriculture***

Dean of Faculty

**Ahmadov Bahromdzhon Radzhabovich**

Candidate of the technical sciences, associate professor

The faculty established on September 1, 1946. In those years, 30 students, who were the first professional agricultural engineers, were admitted to this faculty in accordance with the specialty. Currently, the faculty trains highly qualified engineers in three specialties - mechanization, electrification and automation of agriculture. If in the years of the faculty's formation, the number of students was 30, in recent years 200-250 students have been accepted.

In 1994 at the request of the time, a new specialty was formed - the processing of agricultural products for a new processing infrastructure that would meet modern requirements for processing products and services from the producer to the consumer. At the years of formation, there were only two departments at the faculty: "Agricultural machines, tractors, and cars, in which only four professors were working.

At present, 100 experienced teachers are engaged in training and education of students, from which 34 are professors and assistant professors.

The faculty scientists are the author of more than 70 patents and certificates, as well as 200 rationalization proposals. They released more than 1600 scientific and methodical works, manuals; published 34 textbooks, 146 methodical 628 scientific articles. Over the years, the graduates of the faculty have defended 12 doctoral and more than 50 Ph.D. theses.

Until now, the faculty has trained more than 7,000 highly qualified specialists - agricultural engineers and sent to work in various branches of agro-industry of the Republic of Tajikistan.

**Faculty of Horticulture and Agricultural Biotechnology**

Dean of Faculty

**Kholmumin Abdushukurovich Emomov**

Candidate of Agricultural Sciences, the associate professor

Central Asian University with departments Horticulture, Viticulture and Plant Protection founded in 1931 in the city of Khujand. Faculty of Horticulture was established in 1939, which was later combined with the Agronomy department. Since February 1991 again began to operate as an independent faculty.

Faculty prepares specialists in the following specialties: horticulture, forestry, plant protection, landscaping, agronomist and economist, horticultural manager.

From 1991 to present, the faculty has trained more than 2500 professionals that were focused on production. On the faculty, study more than 500 students. Smart students have the opportunity to continue their studies abroad and practical training. Every year, they are encouraged to enroll in graduate school.

Currently, in the faculty is one member of the Academy of Sciences of the Republic of Tajikistan, 7 Ph.D., professors, 12 associate professors, senior lecturers and assistants.

In the structure of the faculty acts ***Research Institute of Biotechnology***. For the first time in the country, teachers and faculty members introduced the cultivation of virus-free potatoes by the method of micro clonal propagation. For scientific inventions, they were given 27 copyright certificates. Since the creation of the faculty until now, faculty teachers have defended 8 doctoral and 12 candidate dissertations. We can be proud of the fact that the inventions of scientists in the fields of horticulture, citrus, plant protection, physiology and plant biotechnology were awarded high awards at national and international exhibitions. Now, scientific research works are carried out for the development of industries, such as horticulture, viticulture, vegetable growing and forestry. The faculty is provided with laboratories, classrooms and an area for experimental research. They are equipped with technical devices and visual aids.

In the structure of the faculty also operates a laboratory of bioinseptics, floriculture, citrus and plant protection, which are designed for teaching and practical classes. There are 5 departments at the faculty: horticulture, viticulture, forestry, landscape design, plant protection, plant physiology and biotechnology. In these departments, there are scientists and experienced teachers who are engaged in the upbringing and training of students and the training of highly qualified specialists in the field of agro-industrial complex.

Graduates of the faculty of Horticulture and Viticulture after the completion of the TAU can work as specialists in dean and joint stock farms under the contract. Our republic has a need for highly qualified personnel in the field of horticulture and viticulture. In addition, they can work as leading experts in the agro-industrial complex, in the sectors of the city government, districts, villages as specialists in gardening.

Specialty "Forestry" is one of the most important branches of our country and needs young specialists. In all regions of the republic, there are forestry enterprises, where the graduates of the faculty are sent to work. In addition, graduates of the faculty of TAU can work in different positions, forestry in the place of residence. Specialty "Plant protection" is one of the main branches of agriculture. Specialists of this branch are trained for the activities of state, dean, private farms. The activity of the specialty "Silk worming" is directed to the branches of management of cooperative and state organizations, work in the state APS, which effectively manages the technology of cultivation and harvesting of a high silk crop. Creation of a new specialty "Landscape design" prepares specialists for improvement and land management in the places of residence of the population, industrial enterprises and for the improvement of gardens and recreation parks in towns and cities. Graduates of this specialty can further work in forestry, in various structures of forestry and ecology in the improvement and land management of the regional and city governments.

## Center for advanced training of personnel of AGRO[47]

The Center for advanced training of AIC of the **Tajik Agrarian University named after Sh.Shotemur** supported by the **University Management** on the basis of the approved plan under the decree of the President of the Republic of Tajikistan, Resolution of the Government of the Republic of Tajikistan, the Ministry of Education and Science, Agriculture of the Republic of Tajikistan and the decisions of the Scientific Council of the University, operates with the aim of professional development and retraining of teachers for all AIC using scientific achievements of local and foreign scientists, interactive teaching methods. Responding to the needs of the modern labor market, which makes high demands on a new type of specialist (the ability to make their own decisions, high awareness, insights, knowledge of modern technical means, etc.), there is a need for improvement and retraining of AIC and self-study students production conditions.

The Teachers of Training Center of TAU consider their primary responsibility to educate specialists in the field of AIC in different regions and districts of the republic.

**Preparation of highly skilled specialists who meet the latest requirements for new production conditions mainly depends on the necessary changes of retraining and advanced training of specialists in AIC.**

**The listeners of advanced trainings are acquainted with the achievements of modern science and technology, professional practice** *different branches of agriculture, the latest methods of production management, planning, implementation methods of the lease, the organization of farms, joint stock companies, management,*

[47] http://www.tajagroun.tj/ru/tsentry/329-tsentr-povysheniya-kvalifikatsii-kadrov-apk.html

*marketing, tax, customs law, psychology, teaching experience, property privatization and ways of transition to a market economy.*

In addition, listeners are able to *improve knowledge of the effective use of land, increasing the productivity of crops, livestock, mechanization, production technology and agricultural reclamation* and in the learning process; listeners are introduced to the practice of developed countries.

Highly qualified university professors are involved in the Center for advanced trainings, as well as scientists from the **Tajik Academy of Agricultural Sciences** (RI of Crops, Forestry, Land Management, Horticulture, Veterinary Medicine, Livestock), **Academy of Sciences of Tajikistan**, **National University of Tajikistan, State Pedagogical University** named after S. Aini, employees of the **Ministry of Agriculture of the Republic of Tajikistan** and leaders of production.

In 2015, 50 listeners of teaching staff were trained to improve their professional qualifications. Including 45 persons completed a course at the Center for advanced training of the university and 5 people at the **National University of Tajikistan.**

As part of the cooperation agreement and international projects students, undergraduates, graduate students and young scientists are sent for practical training and experience exchange (for a year). ***In academic 2010-2014 year,*** as winners of the competition, students, masters and young teachers were directed to higher education institutions and international organizations in order to pass the practical training, the exchange of experiences for one year, and young teachers on retraining courses.

| | Projects | Academic year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2005-2006 | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 |
| 1 | LOGO "Agriculture and ecological balance with Eastern Europe" (production practice)<br>Master (manufacturing practice)<br>Postgraduates (manufacturing practice) | -<br>-<br>- | -<br>-<br>- | -<br>-<br>- | 5<br>-<br>- | 6<br>-<br>- | 2<br>-<br>- | 6<br>-<br>- | 3<br>-<br>- | 21<br>1<br>3 | 21<br>2<br>3 |
| 2 | Weihenstephan -Trizdorf University<br>a) Magistracy<br>b) Master (manufacturing practice) | 1<br>4 | 2<br>2 | 4<br>5 | 5<br>3 | 5<br>4 | 5<br>4 | 5<br>2 | 5<br>- | -<br>1 | 1<br>- |
| 3 | ERASMUS MUNDUS | - | - | - | - | - | - | 1 | 1 | - | - |
| 4 | CASIA | - | - | - | - | - | - | - | 2 | 1 | - |
| 5 | TOSCA | - | - | - | - | - | - | 1 | - | 1 | 1 |
| 6 | eAstana | - | - | - | - | - | - | - | - | 1 | - |
| 7 | TEMPUS FEEP №544293 | - | - | - | - | - | - | - | - | 2 | - |
| 8 | University of SCO, Russian Federation, magistracy | - | - | - | - | - | - | - | 2 | - | - |
| 9 | St. Petersburg national research university of information technologies, mechanics and optics<br>a) Postgraduate<br>b) Magistracy | -<br>- | -<br>- | -<br>- | 1<br>- | 1<br>- | -<br>- | -<br>- | -<br>11 | -<br>11 | -<br>2 |
| 10 | State agrarian university of Saint-Petersburg, Magistracy | - | - | - | - | - | - | - | - | - | 1 |
| 11 | Moscow agricultural academy named after K.A. Timiryazev, exchange | - | - | - | - | - | 2 | 1 | - | - | - |
| 12 | Moscow state university of environmental engineering, Magistracy | - | - | - | - | - | - | - | 2 | 2 | 3 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Ryazan state agrotechnical university named after P.A. Kostychev, Magistracy | - | - | - | - | - | - | - | - | - | 13 |
| 14 | Kazan state academy of veterinary medicine, Magistracy | - | - | - | - | - | - | - | - | - | 3 |
| 15 | Xinjiang agrarian university, Magistracy | - | - | - | - | 2 | 4 | - | - | - | - |
| **Total** | | **5** | **4** | **9** | **13** | **18** | **18** | **16** | **26** | **44** | **50** |

***In the academic 2010-2014 year*** the university staff actively participated in 17 international programs. Currently the university collaborates with 15 international organizations:

1. **TEMPUS EPASAT № 517 313 (2011-2014)** - Development of a curriculum for international Master's "Irrigation agricultural technology and water provision agriculture" for Tajikistan.
2. **TEMPUS CIBELES № 511172 DE - 2010 (2010-2013)** - Development of a curriculum for undergraduate "Environmental protection and efficient use of natural resources" - for Tajikistan.
3. **TEMPUS TiSANEA №530786 (2013-2016).** Using the method for determining the competence of the Tuning specialist.
4. **TEMPUS MFQSE №544529 (2013-2016)** «Modernization of higher education in the field of food quality safety" in Tajikistan.
5. **TEMPUS FEEP №544293 (2013-2016)** Foreign Language for Business Communication.
6. **Project UniNet - «Eurasian – Pacific network of universities" (2011-2014).** The participation of the teaching staff at conferences and seminars.
7. **Erasmus Mundus - APKIA (ERASMUS MUNDUS - CASIA) - cooperation with the countries of Central Asia and Kazakhstan (2011-2014).** The program for the exchange of students and teaching staff for training.
8. **Erasmus Mundus - TOSCA (ERASMUS MUNDUS - TOSCA) - cooperation with the countries of Central Asia and Kazakhstan (2011-2014).** The program for the exchange of students and teaching staff for training.
9. **Erasmus Mundus - Astana (ERASMUS MUNDUS - eASTANA) - cooperation with the countries of Central Asia and Kazakhstan (2011-2014).** The program for the exchange of students and teaching staff for training.
10. **Project LOGO (Germany)** - Industrial and educational practice for students (2014).
11. **Project of Weihenstephan University - (Germany)** - practical training and training in the magistracy. (2014).
12. **The impact of climate change on the environment in Tajikistan and China (2014).**
13. **Use of Land and Food Security in conjunction with the reform of land use in Tajikistan (2013-2014).**
14. **The United Nations Project (2013-2014)** "Improvement of veterinary education to meet the needs of farmers and other stakeholders."
15. **Improving the capacity, management and use of pastures. (2013-2014).**
16. **The World Bank №R132652 (2014) "Commercialization of agriculture".**
17. Cooperation Agreement with the Company scientific technology of agriculture, Xinjiang Agricultural University, China (2014). Joint Research Centre of high yielding varieties and hybrids of cotton in Tajikistan.

It should be noted that in 2014, 23 foreign scientists from the countries of the Near and Far abroad in various fields, including in the field of reclamation, veterinary medicine, agronomy, representatives of the Food and Agriculture Organization of the United

Nations, LOGO, Weihenstephan - Trizdorf, World Bank specialty departments held lectures, seminars and round tables with the participation of students, and young scientists, participated at scientific conferences.

In recent years cooperation with universities of the near and far abroad develops. Over the past four years, every year, 75-80 university staff has business trips to the CIS and foreign countries. The teachers, the graduate students and the undergraduates on the basis of a bilateral agreement, namely Xinjiang Agricultural University (China), Swedish University of Agricultural Sciences, Moscow Agricultural Academy named after Timiryazev K.A. (Moscow), Agrarian State University of St. Petersburg, LOGO and Weihenstephan - Scientific practical University of Trizdorf (Germany), University of Shanghai Cooperation Organization (SCO), an international organization "JICA" (Japan) had retraining courses and advanced trainings that were paid by international organizations.

During the year there are training courses in foreign languages at the university. With the support of the "Services of scientific exchange of the Federal Republic of Germany" held courses of German, after which each year from 4 to 7 students are sent to the Federal Republic of Germany in order to have the technological and industrial practice and training in the magistracy.

## Training of farmers[48][49][50][51]

- **JICA supports Tajik farmers through dissemination of organic agriculture technology**

On Saturday February 26, 2011 ***a seminar on organic agriculture technologies*** conducted in the city of Norak, according to the Japan International Cooperation Agency (JICA) Country Office in Tajikistan.

Organized by JICA in cooperation with the Boghparvar association of dehqon (peasant) farms, the seminar was held in the framework of the JICA FU Project, the source said, noting that the main objective of the seminar was in promoting improvement of the agriculture productivity through the dissemination of organic agriculture technologies that allow reducing negative impacts on soil.

JICA organizes a training course "Organic Agriculture Technology for Central Asian Countries" in Japan for agricultural specialists annually. The course is dedicated to increase the agriculture productivity while decreasing deteriorative impacts on soil through the spread of low-cost as well as environmental friendly agriculture technology.

Early, JICA has assisted Boghparvar with the construction of compost yard and provided it with front loader and tractor-trailer for transportation compost materials, the source added.

- **Seminar on the formation of legislation on organic agriculture was held in Dushanbe**

On Febriary 04, 2015, in Dushanbe took place an introductory seminar of the FAO office in ***Tajikistan "Support in the formation of national legislation on organic agriculture in Tajikistan."*** This was reported by the press office of the FAO office in Tajikistan. The workshop was attended by FAO partners in Tajikistan, including representatives of relevant ministries and departments, government agencies, international and non-governmental organizations. The participants got acquainted with

[48] https://news.tj/en/news/tajikistan/economic/20110228/jica-supports-tajik-farmers-through-dissemination-organic-agriculture-technology
[49] http://tjinform.com/ru/news/20150204/12197.html
[50] http://agroinform.tj/index.php?option=com_content&view=article&id=3717%3Aconference-dedicated-to-the-closure-of-giz-ffpsdgreat-program-held-in-dushanbe&catid=1%3Aagri-news&Itemid=77&lang=en
[51] https://news.tj/en/news/tajikistan-will-take-place-festival-honey-and-melon

the importance of organic agriculture in Tajikistan, and also discussed the tasks and forthcoming activities of the project.

Earlier, in July 2013, the Government of Tajikistan adopted the law "On Biological Management and Production", aimed to the production, processing, storage, packaging and sale of biological products.

According to the representative of FAO in Tajikistan Viorela Gutsu, the republic has a huge potential in the field of organic farming. Thus, FAO will provide technical assistance to the Government of Tajikistan in developing a national regulatory system and an institutional framework for organic farming.

- **Conference dedicated to the closure of GIZ FFPSD/GREAT program held in Dushanbe**

On June 30, 2016, GIZ Program ***"Framework and Finance for Private Sector Development in Tajikistan/ Growth in Rural Economy and Agriculture in Tajikistan" (FFPSD/ GREAT)*** is nearing completion.

On this occasion, a formal closure event took place at the National Library in Dushanbe yesterday, GIZ Office in Tajikistan said.

Commissioned by Germany's Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the UK Department for International Development (DFID) since 2011, the program is coming to its logical end. Program Director, Hagen Ettner opened the event with a presentation outlining major achievements made and challenges encountered in the course of the five-year program.

The outcomes reached in three key thematic areas, in particular Business Enabling Environment, Commercial Approaches to Value Chain Development and Inclusiveness in Value Chain Development, were in the focus of presentations and discussions among the participants.

The format of the conference foresaw that both program specialists and implementing partners would split into thematic groups, to present their experience and impressions on cooperation with the program. Each of the thematic sessions yielded feedbacks from partners on what has and has not worked well, and what needs to be replicated or improved. In the course of vivid discussions, the participants highlighted the need to strengthen cooperation with the regions, since this is the level for practical activities aimed at translating reforms into action.

Deputy Governor of Sughd province, Anvar Yoqubi summed up: "Activities need to be more focused on the regions, as it is the regions where reforms are being implemented, farmers are working and products are being produced. Therefore, field works should be in the focus and local successes need to be enhanced and disseminated throughout the country. This, I hope will be the next stage of our cooperation."

Recommendations will be formulated from the proceedings of the conference to be taken into account for planning future activities.

The Framework and Finance for Private Sector Development Program (FFPSD) in Tajikistan was commissioned by the Federal Ministry for Economic Cooperation and Development (BMZ) and is co-financed by DFID. The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) is implementing the program in cooperation with the Ministry of Economic Development and Trade (MoEDT) and the Ministry of Agriculture (MoA) of Tajikistan and other national and international partners. The Program contributes to improving the framework for sustainable and pro-poor growth in the Tajik economy, especially in rural areas.

- **Annual Festival of Honey and Melon**

In Tajikistan every year at the end of August, when the most delicious melons are ripening, with particular pomp celebrates the holiday of honey and melon. According to the Ministry of Agriculture, this year the festival will held on **29th of August 2015.**

For conducting these events at a high level, was formed a working group, that includes the Deputies of the Minister of Agriculture. Each member of the working group is attached to a specific area, city and region. In the capital the honey and melon, 2015 Festival will take place in the shopping center "Poytaht-90," on the markets "Shohmansur", "Sahovat" and "Dehkon", as well as near the "Kara Bolo" market. The Ministry noted that the buyers would be able to purchase the best varieties of melon and honey at these fairs.

According to the developed plan of Ministry of Agriculture, in the shopping center "Poytaht" will be presented the products of Sogd region farmers, the market "Shohmansur" - from the Kulob area of Khatlon region, the market "Sahovat" - Kurgantube groups of Khatlon districts, the market "Dehkon" - Western districts of republican subordination, and in front of "Kara Bolo" - the eastern regions of republican subordination.

The winners will receive special prizes, established by the Ministry of Agriculture. Visitors of the events will be able to visit festival concerts.




## Meeting on Organic Agriculture[52][53]

- **Workshops on corporate responsibility and occupational safety and health held in Tajikistan**

The International Trade Center (ITC) raises the attention of the Tajik textile industry stakeholders to the occupational health, safety and social responsibility.

Two workshops on Corporate Social Responsibility (CSR) and Occupational Safety and Health (OSH) for the representatives of the textile and clothing companies were held in

[52] http://agroinform.tj/index.php?option=com_content&view=article&id=3408%3Aworkshops-on-corporate-responsibility-and-occupational-safety-and-health-held-in-tajikistan&catid=3%3Anovosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en

[53] http://agroinform.tj/index.php?option=com_content&view=article&id=3455%3Aeu-supports-development-of-fruit-and-vegetable-processing-sector-in-tajikistan&catid=3%3Anovosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en

Dushanbe on May 14-15 and in Khujand, the capital of Sughd province on May 19-20, 2015.

Initiated and organized by ITC and funded by the Government of Switzerland within its Trade Cooperation Program (TCP) in Tajikistan, the workshops were reportedly planned and conducted by the ITC international consultant, Ms. Oxana Gerasimova.

According to ITC Tajikistan, main approaches in corporate social responsibility and occupational safety and health in the textile and clothing sector and its elements, economic benefits of good working conditions, communication and cooperation in workplace, risk assessment and risk factors were in the focus of the workshops and were accompanied with a practical exercise on risk assessment.

Ms. Gerasimova says the topic is very important for Tajik enterprises working in the new market economy conditions. Nowadays employers should understand that investments in good working conditions, development of preventive culture are beneficial for the company and improve its sustainability and productivity. Still, there is plenty of room for work in this area. The International Trade Centre will continue its focus to assist the Tajikistan textile and clothing sector in improving corporate social responsibility and occupational safety and health.

The present project is component FOUR of the Trade Cooperation Program (TCP) in Tajikistan and aims to increase the export competitiveness of the textile and clothing (T&C) sector, by providing sector specific support to SMEs and relevant trade support institutions (TSIs), as well as supporting respective stakeholders in taking a strategic approach to the sector's development. It will also explore the challenges and development potential of the tourism and handicraft sectors in Tajikistan, outlining relevant trade related technical assistance priorities.

Within its Cooperation Strategy for 2012-2015, Switzerland focuses on four sectors in Tajikistan; Health, Rule of Law, Drinking Water Supply and Sanitation, and Private Sector Development. The overall goal of Swiss Cooperation in Tajikistan is to support the transition process in the country through contributing to economic development and by helping build institutions and systems which are responsive to the population's needs.

- **EU supports development of fruit and vegetable processing sector in Tajikistan**

The 5th (final) capacity building session on food safety/HACCP (Hazard Analysis and Critical Control Points) and marketing in the framework of the "Development of Fruit and Vegetable (F&V) Processing Sector in Kyrgyzstan and Tajikistan" project is taking place in conference room of the Ministry of Economic Development and Trade of Tajikistan in Dushanbe on July 7-8, 2015.

In the framework of this capacity, building session the field visit to Khatlon province by all training participants will be organized.

According to the Delegation of the European Union to Tajikistan, the event is organized by the National Association of Small and Medium Business of Tajikistan (NASMB, the Project Partner) together with non-governmental organization "British Expertise" (UK, the Applicant) and the Association of Food Industry Enterprises of Kyrgyzstan (The Project Partner) with the financial support of the European Union within the Central Asia Invest (CAI) III Program.

The project is aimed at the development of small and medium enterprises (SMEs) involved in F&V processing sector in Tajikistan and Kyrgyzstan, and on strengthening the capacity of the Business Intermediate Organizations (BIOs) providing consulting services to these enterprises, in order to strengthen their positions in the national, regional and international markets.

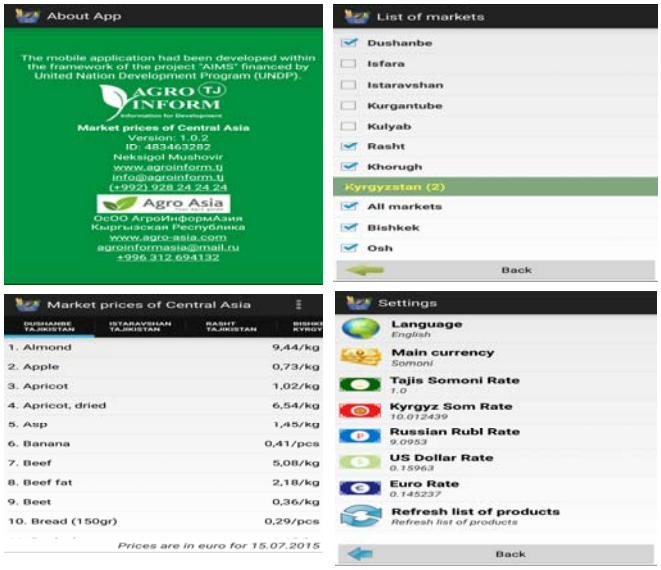
Representatives of SMEs, consulting companies, academic and governmental institutions involved in F&V processing sector generally and in food safety control in particular take part in this capacity-building program.

The European Union is committed to sharing its achievements and its values with countries and peoples beyond its borders. To this end, the EU is active in Tajikistan since 1992 and provides approximately EUR 25 million annually in development assistance.

## Market[54]

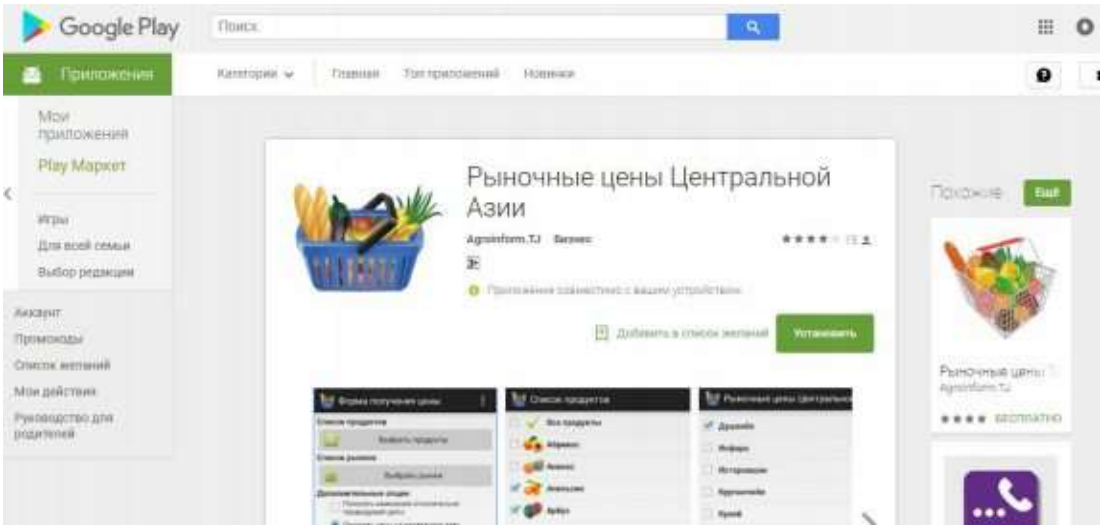
- **Mobile APPS for Agribusiness: Central Asia market prices[55]**

Neksigol Mushovir together with Agro-Asia (Kyrgyzstan) has developed mobile application "Central Asia Market Prices". The app is especially useful for producers, processors and sellers of fresh vegetables, fruits and berries. The app provides information on market prices of 23 kinds of agricultural products in two markets of Kyrgyzstan (Bishkek and Osh) and more than 70 kinds of agricultural products in eight markets of Tajikistan (Dushanbe, Khujand, Kurgan-Tube, Khorugh, Istaravshan, Kulob, Isfara and Rasht). Using the app settings you can get information on prices in KGS, TJS, Russian rubles, USD and Euros. The number of markets and list of agricultural products in Kyrgyzstan will be extended. In addition, in the near future we will extend coverage and add market prices of other Central Asian countries.




The app runs on the Android platform and can be downloaded from Google Play:

[54] http://agroinform.tj/index.php?option=com_content&view=article&id=3463%3Amobilnoe-prilozhenie-rynochnye-ceny-centralnoj-azii&catid=34%3Anovosti-agroinform-tj&Itemid=141&lang=en
[55] https://play.google.com/store/apps/details?id=tj.agroinform.marketprices.ca




- **Market Place**[56]

This trading platform was developed and managed by partner companies "Nesigol Navovar" and "Nesigol Musovir" in Tajikistan and "Agroinformazia" in Kyrgyzstan. The companies have many years of experience working together at the level of the two countries and the Central Asian region as a whole.

The companies jointly developed various tools for various participants of the agricultural sector:

- this electronic trading platform allows you to place and view ads through computers, tablets and smartphones;
- more than 10 mobile applications for growing various agricultural products, livestock, market prices for agricultural products. Applications are free and available for download on the **Play Market** and **company sites**;
- maps of production of agricultural products, processing enterprises, border points for the export of agricultural products and others at the district level for Kyrgyzstan and Tajikistan. Maps are available for free to view at **map.agroinform.tj**;
- database of agricultural producers in Kyrgyzstan and Tajikistan. The database is an internal tool for companies and is not accessible to the public.

АГРО TJ ИНФОРМ
Информация для развития

Agro Asia

NEKSIGOL NAVOVAR

In 2014 Tajikistan's agricultural sector produced nearly USD 4 billion worth of goods, comprising 23.5 percent of the country's GDP. The food-processing sub-sector produced USD 632 million worth of goods, comprising roughly 7 percent of the country's GDP. A late frost in 2015 wiped out 95 percent of the apricot harvest in northern Tajikistan, largely eliminating its dried fruit export potential for the year.

[56] http://trade.agroinform.asia/

Tajikistan has the potential to develop its agriculture and agro-processing sectors due to its comparative advantages including soil, water and weather conditions. Roughly, 70 percent of the population lives in rural areas, and the availability of inexpensive field labor exceeds demand, even for labor-intensive crops.

The majority of small farmers lack access to farm machinery and, although some machinery service providers (MSPs) exist, their equipment is often old and outdated. Farmers compete for machinery at planting and harvest time, limiting their ability to realize full production potential. Expanding existing MSPs and developing new ones will help to overcome this production bottleneck.

Agribusiness value-added chains in Tajikistan are fragmented and disjointed due to low levels of farm production and a lack of raw materials for processors. Farmers often have difficulty obtaining seeds, fertilizer, and pesticides. Farmers are often unfamiliar with modern business management practices. Post-harvest losses are significant due to antiquated or non-existent transportation equipment and a lack of climate-controlled storage facilities. The majority of domestically harvested food is consumed through the fresh market, leaving food-processing plants to operate at a fraction of their capacity. Quality control, certification, marketing, packaging, and branding of Tajik products is weak.

The Rural Investment Climate Assessment (RICA, 2013) study reports that only one-third of crop producers currently sell their output, and, of those, more than half (52 percent) sell at the farm gate. An estimated 32 percent sell in local markets and 15 percent in national or export markets. Farm input markets are also weak.

Development of value-chains would help Tajik agribusinesses overcome some of these obstacles. Businesses all along the value-chain have reported difficulty-gaining access to credit and problems with high interest rates, especially for loans denominated in Tajik somoni. Processors and other agribusinesses need assistance to develop and strengthen their businesses, adopt international quality standards and certification, form cooperatives to build and operate storehouses, and invest in new processing and packaging equipment.

Demand for products in Tajikistan's traditional markets, such as Russia and Kazakhstan, remain strong. However, Tajikistan represents only 3 percent of Russia's fruit and vegetable imports, and significant investment in transportation infrastructure and output enhancement would be necessary to significantly increase export volumes. New export opportunities are also emerging, such as China, Turkey, India, and Afghanistan, which are becoming the country's main processed food export partners. Tajik agri-business enterprises are poorly placed to respond to these opportunities, and command low prices for exported products. It is very important that the country improve its capacity to identify and respond to market opportunities, in particular, since the regional export markets are expected to grow strongly in response to improved rail links through Kyrgyzstan into China and through southern Tajikistan into Turkmenistan, a route that also affords access to markets in the Caucasus, Middle East and Europe. A new transit trade agreement will also enable Tajik goods to travel by truck through Afghanistan to Pakistan, enabling them to reach new markets by sea via the port at Karachi.

### *Overall statistics and marketing analysis*

In 2014, Tajikistan's food processing industry was valued at over USD 632 million, 31.8 percent of Tajikistan's USD 1.98 billion total industrial output. The food industry is one of the largest contributors to gross industrial output, processing domestically harvested fruit, wheat, tobacco, and other agricultural products.

The food-processing sector in Tajikistan has 21 sub-sectors, including canned vegetables, canned fruits, fresh and dry fruits, meat and dairy processing, feed and

confectionary production, organic (animal) oil, vegetable oil, pasta, liquor, wine, beer, non-alcoholic drinks, salt, and tobacco production. There are 337 companies in the sector. Once wholly government-owned, the industry is now largely private, and has a strong demand for capital equipment. Most enterprises are small seasonal operators, selling to local markets. The three main State Owned Enterprises (SOEs) in the food sector are "Hurokvori," "Zerno," and "Myaso and Moloko."

Following the break-up of the Soviet Union in 1991, the output of the food processing sector sharply declined, reaching an all-time low in 1999 as a result of the collapse of the centralized planning and sales system and the lack of operating capital, coupled with political and economic instability.

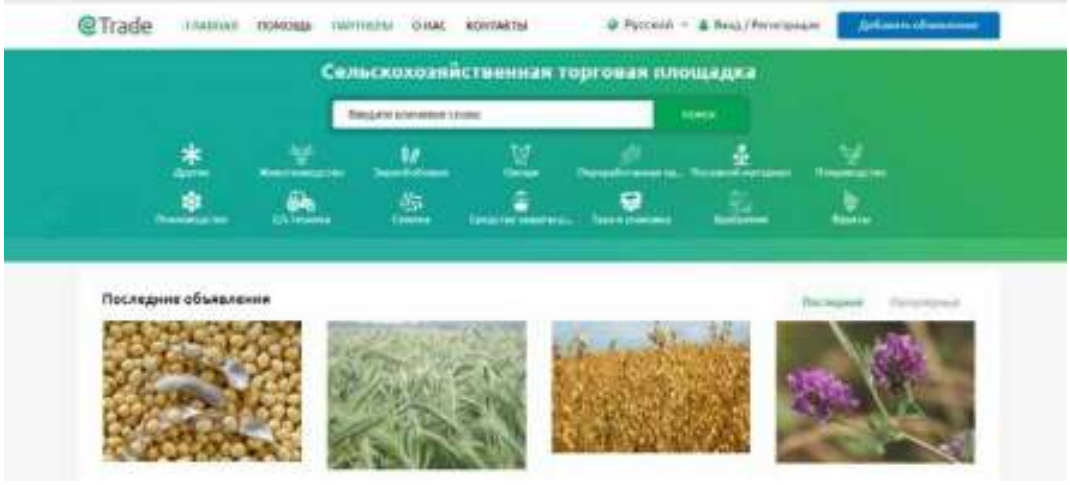
Tajikistan was a major producer of fruits and vegetables in the former Soviet Union, with annual exports reaching 200,000 tons (100,000 tons of fruit, 60,000 tons of vegetables, and 30,000-40,000 tons of canned food) prior to 1990. Although more acreage is now in food production than during the Soviet era, lower per-hectare agricultural yields have limited overall production.

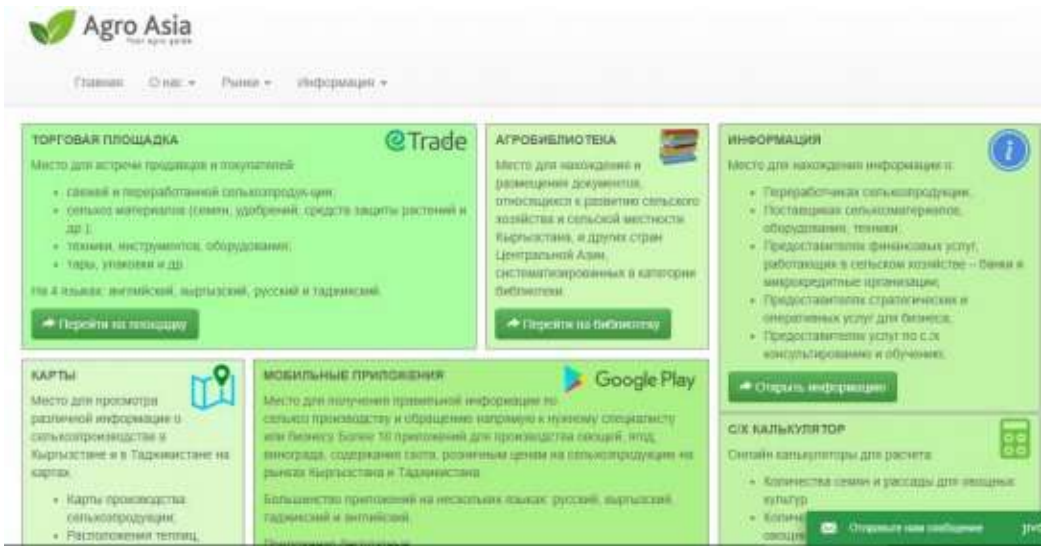
Small packaging facilities in Tajikistan mainly use Chinese equipment. In general, however, most processing and packaging equipment in the country is obsolete, with some machinery dating back to the 1930s.

The amount of land used to cultivate fruits and vegetables in Tajikistan increased by 40,000 hectares between 2008 and 2014, but investment into food processing and packaging has been negligible. Tajik firms can process up to 20 percent of Tajikistan's fruit and vegetable output, but sometimes have trouble obtaining even that much, as they compete directly with the fresh market for supplies.

## Existing NGOs and Projects

▪ **ОО «Хамкори бахри тараккиёт» (Cooperation for development)**
Maxmadzamon Culangov
Executive Director
Email: smahmadzamon@yahoo.com
Address: Republic of Tajikistan, Kulyab city,
Ismoili Somoni Street, 107, ap. 6
Phone: (+992 3322) 2-24-86
Established: 2003
Number of employers: 10
Area: Agriculture sector
Services: Advisory services in the field of agriculture, training of farmers in the methodology of seed production and organization of the system of seed production of vegetable crops and potatoes


- **Local organizations**

**Neksigol OJSC**

***(Center of Development of Organic Production, "SAS Consulting")***

"SAS Consulting", with the assistance of the "Partnership for the Development of Private Enterprise" project of the International Finance Corporation and the Swiss State Secretariat for Economic Affairs, established on April 4, 2002 by "Sugdagroserv" Public Corporation.

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- **International organizations**

**Helvetas (Swiss Interco operation) Program Office Tajikistan**
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HELVETAS is an international network of independent affiliate member organizations working in the field of development cooperation and emergency response. As a network, we promote the fundamental rights of individuals and groups and strengthen governments and other duty bearers in their service provision.

The HELVETAS network builds upon six decades of development experience. With 1400 collaborators, it is engaged in more than 30 countries. The affiliated members share a common vision and mission and subscribe to common working principles and policies. The members implement joint development programs and adhere to a common strategy including defined working approaches and thematic areas of intervention.

- **Projects**[5758596061626364]

In Tajikistan, with the support of international organizations, since 2008, a number of projects implemented to form the organic sector of agriculture.

**Certification of Organic Products**

In the Sughd region, the International Non-Governmental Organization HELVETAS, with the participation of India (2009) and IMO Switzerland (2010), which have an international license to certify organic products, has introduced the cultivation of organic cotton.

In 2009, according to the results of cotton certification in 38 farms, the products of four farms were recognized as pure bio products, and cotton in 34 farms was transitional.

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[57] http://agroinform.tj/?option=com_content&view=article&id=335
[58] http://agroinform.tj/index.php?option=com_content&view=article&id=3699%3Afao-zapuskaet-novyj-proekt-po-modernizacii-orositelnoj-sistemy&catid=3%3Anovosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en
[59] http://agroinform.tj/index.php?option=com_content&view=article&id=3692:nacionalnye-konsultacii-fao-prizvany-razrabotat-regionalnyj-proekt&catid=3:novosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en
[60] http://agroinform.tj/index.php?option=com_content&view=article&id=3458%3Atadzhikistanu-nuzhno-2-mlrd-i-80-let-dlja-polnogo-obespechenija-naselenija-pitevoj-vodoj&catid=3%3Anovosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en
[61] http://agroinform.tj/index.php?option=com_content&view=article&id=3413%3Aproektom-hilsfwerk-austria-razrabotany-rukovodstva-v-pomosch-agrobiznesu&catid=3%3Anovosti-agro-projects-i-meropriyatiya&Itemid=78&lang=en
[62] http://agroinform.tj/repository/en/HWA_project_leaflet_EN.pdf
[63] https://tajikistan.helvetas.org/en/projects_tajikistan/agromarkets/
[64] http://vegaalliance.org/our-programs/farmer-to-farmer-program/

In 2010, 35 out of 75 farms received certificates. Preliminary assessment of the results of organic agriculture shows that there is a large development potential for the future.

**Organic Agriculture Projects**

Several donor organizations did and still implement projects on agriculture mainly focusing on value chain management and sustainable land and water resource management. The Foreign Aid Report stated that 70 projects were financed by 29 donors on agriculture and irrigation in 2013. The Project durations were: 16 projects (22.9%) 1 year; 35.7 % of the projects (25) were 2-3 years; 17 projects (24.3) for 4-5 years, and 17.1 % (12 Projects) for more than 5 years.

The initiatives of FAO, HELVETAS, USAID and GIZ focused on environment friendly management systems in Tajikistan. FAO through a TCP-TAJ 3501-Baby 3 supported the formulation of the national legislation and initiate awareness among the decision makers.

In terms of promotion of organic farming, Helvetas Swiss Inter-cooperation initiated the Organic Value Chain Development (OVCD) Project in 2008 with the aim to facilitate the development of certified organic and fair-trade value chains centered on cotton (as mentioned above). Currently, the farmers in the project established a cooperative and Helvetas and GIZ are still supporting this initiative.

On 22 July 2013, the Government of Tajikistan adopted **the Law on Biologic Farming and Production**. The law aims to regulate the production, processing, storage, transportation, packaging, labelling and sales of biological products. However, the gaps in the Law and the lack of regulations assisting the efficient implementation of the law are not developed and adopted.

There is also a need to amend the institutional framework to address issues arising from the adoption of the organic regulatory system, especially regarding activities targeting the inspection and certification system, data collection and processing, training and extension and marketing (export-import) systems of organic products.

Project on **"Feasibility Study Potential of Organic Products Produced in Tajikistan"** in 2012 financed by the European Union under the Program of **EU "Central Asia-Invest II"**. However, the material developed in the framework of the Project "Integrated Approach to the Promotion of the Central Asian Small and Medium-Sized Enterprises for Processing of Nuts, Dried Fruit and Honey". Project implemented by Public Organization "Sugdagroserv Consulting" and Hilfswerk Austria International in cooperation with HELVETAS Swiss Inter-cooperation.

The **United Nations Development Program (UNDP)** in the framework of the project **"Promotion of Trade"** in 2010 in Sughd supported the production of organic cotton and facilitated dean farms in the development of this initiative.

PO «Saodat» implemented the project "Durandesh", funded by **Oxfam Novib** (the total amount of project 350 thousand euros) from November 2008 to November 2011**.** The project implemented with the advisory support provided by the Biological Management Association "Elkana" with the active participation of the international consultant Zurab Karbelashvili. In the second phase of the project, more than 80 members of farmer households have been trained to the principles of organic agriculture.

Since 2009, "Saodat" also has been actively involved in the successful implementation of the project **"Development of Production of organic origin» Helvetas / ICCO**.

**UNDP-UNEP Initiative "Poverty and the Environment"** prepared a report on the topic **"Land degradation economy for the agricultural sector in Tajikistan - a survey study".**

Published: May, 2012
Prepared by: UNDP-UNEP Poverty and Environment Initiative in Tajikistan
Authors/Researchers: C.Bunn, R.Shukurov, L.Boziev, D.Rakhmatova

**The Poverty and Environment Initiative (PFD)** of the United Nations Development Program (UNDP) and the United Nations Environment Program (UNEP) is a global joint UN initiative supporting efforts at the country level to integrate environmental management into the national planning process. The PFD initiative provides financial and technical assistance to partner countries to develop institutional strengthening and capacity building programs, and measures taken to address issues in the context of poverty and the environment.

The PFD initiative is funded by the Governments of Belgium, Denmark, Ireland, Norway, Spain, Sweden, the United Kingdom, the United States of America, and the European Commission, with core funding from UNDP and UNEP.

**USAID: Tajikistan**

(Economic Growth and Trade, Project Timeline: 09.01.2009-09.01.2014, Total obligation: $9,500,000)

The project helps farmers increase production and processing of agricultural products in Western Khatlon, around Dushanbe, and the Sughd Region. This work aims to address the basic needs of farmers in food-insecure areas of Tajikistan and increase their incomes.

The project: 1) Helps farmers access better quality inputs - fertilizers, seeds, equipment, livestock, and technologies; 2) Supports processing, packaging, warehousing, transport, and marketing of agricultural products for local and regional markets; 3) Expands the use of quality standards and certifications; 4) Increases access to finance for farmers, support service providers, and processors; 5) Strengthens market linkages between farmers and consumers.

**Project "Integrated Approach towards Promoting Central Asia Nuts, Dried Fruits and Honey Processing SME (CANDY)", 2011-2012. EU Program, Central Asia – Invest II**

You can find publications, information and training materials developed by the project.

Materials are available for free use to all interested organizations, enterprises, institutions and

Individuals. When using a reference to the **EU project "Integrated approach towards promoting Central Asia Nuts, Dried fruits and Honey processing SME (CANDY)"** is required. Views expressed in the materials do not necessarily reflect the opinion of the European Commission.

| Name of publication | Download |
|---|---|
| Exporter's handbook. Terms for agriculture products admittance to the customs territory of Customs Union. | Download in Russian |
| Booklet of the project "Integrated approach towards promoting Central Asia nuts, dried fruits and honey processing SMEs" | Download in English |
| Monitoring report for import and export of shipments at two customs checkpoints in Kyrgyzstan and Tajikistan | Download in English<br>Download in Russian |
| Report on a study of small and medium enterprises processing fruit and vegetables in Tajikistan and Kyrgyzstan | Download in English |
| Access to markets | Download in Russian |
| Marketing and distribution channels | Download in Russian |
| Resources and forecasting | Download in Russian |
| Warehouses and packaging | Download in Russian |
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|---|---|
| Terms of delivery and payment | Download in Russian |
| Strategy and organization of logistic | Download in Russian |
| Information brochure on admittance to the markets of Customs Union (Russia, Kazakhstan and Belarus) | Download in Russian<br>Download in Tajik<br>Download in English |
| Distribution Channels for dried fruits, nuts and honey | Download in Russian<br>Download in Tajik<br>Download in English |
| Potential of the organic products produced in Tajikistan | Download in Russian<br>Download in English |
| Manual on safety control system "GLOBAL GAP" for producers of horticultural sector<br>Annexes for individual farmers<br>Annexes for the farmers' associations | Download in Russian<br>Download annexes 1<br>Download annexes 2 |
| Export-Brochure. Export from Tajikistan and Kyrgyzstan to Europe step by step | Download in Tajik<br>Download in English<br>Download in Russian |
| Strategic plan of the public organization "quality management center" to achieve food safety in the region for 2012-2017 | Download in English<br>Download in Russian |
| Problems in the area of production, processing and sale of agricultural produce, and recommendations for their elimination | Download in English<br>Download in Russian |
| Promoting local products - direct marketing with travel agencies | Download in Russian<br>Download in English |
| Concept of food cluster in free economic zone “Sughd” | Download in Russian<br>Download in English<br>Download in Tajik |
| Proposals for adjusting development strategies in the fruit and vegetable processing sector in Tajikistan | Download in Russian<br>Download in English<br>Download in Tajik |
| Report on the results of a joint conference dedicated to the regional integration of Central Asia into the global economy | Download in Russian<br>Download in English |
| Study on High Value Agricultural Products | Download in English |

**Project on “Irrigation System Modernization Project in Tajikistan”, 2016, FAO**

FAO’s Project on Service-Oriented Management on Irrigation, aimed at increasing productivity and modernizing irrigation system of Tajikistan.

According to FAO Tajikistan, the direct beneficiaries of the 2-year project with a budget of $468 000 will be private (dehqon) farmers, also members of local Water Users Association (WUA) and the Water Users Associations’ Federation in the Govkush canal irrigation system, in the Vahdat district, in the Kofarnihon River basin, and in the Fayzobod district.

The aim of the project was to enable water users of pilot regions to enhance knowledge capacity on water management and to adopt best FAO practices in increasing profitability-irrigated agriculture in Tajikistan.

Under this project, events organized for policy development and approaches, measures to adopt FAO innovative technologies on irrigation modernization.

There will be conducted Training for trainers’ workshop on water management issues for farmers, and On-the-job training of hydro-technicians of WUAs and WUA Federation

on operation and maintenance of the irrigation and drainage system. To ensure the success of the project, FAO will purchase techniques and related equipment, including two excavators, Handheld GPS Map and GPS application, special agricultural instruments, and computer equipment. Partnerships will be established with selected NGOs and cooperatives for the provision of advisory services to water users and the private sector for their participation in the development of 'business plans'. FAO will collaborate with the WUA Federation, National Agrarian University, Extension Services, NGOs working in this area, and involve best national experts.

After Tajikistan achieved its independence, most of the irrigation systems were neglected with a resulting loss of their designated capacity. Since then, water delivery services have not been provided satisfactorily to private (dehqon) farmers and about 39 000 hectares of arable land have been taken away from agricultural production.

With about a one-fifth share of GDP and more than 50 percent employment, agriculture remains a key sector for Tajikistan's economy. Agriculture is highly dependent on irrigation with more than 80 percent of cultivated area under irrigation. However, the current performance of the irrigation and drainage subsector is poor, with an efficiency of national irrigation systems at only 40 50 percent.

In this context, Agency for Land Reclamation and Irrigation requested FAO's technical assistance to support capacity development in irrigation modernization and on farm water management.

**National Consultations to Develop Regional Project in Tajikistan, 2016, FAO**

National consultations organized by FAO in Tajikistan held today will assist local and international partners to integrate resilience strategies into their policies and action plans, and adopt and expand the use of climate-smart agriculture practices.

According to FAO CO in Tajikistan, the project corresponds to achieving one of its five Strategic Objectives – namely to "make agriculture, forestry and fisheries more productive and sustainable" in Central Asia and Turkey.

The national consultations were reportedly held under the project **"Integrated natural recourses management in drought-prone and salt-affected agricultural production landscapes in Central Asia and Turkey"** financed by **Global Environment Facility (GEF),** aimed at development of mechanisms to minimize pressures and negative impacts from drought and salinity, reduce risks and vulnerability to climate change, and enhance capacity to cope with or adapt with environmental changes.

This project will assist Central Asian countries, including, Tajikistan in tackling challenges related to desertification, land degradation and drought, climate change, and biodiversity. The main objective is to scale up the best land use practices, developed in the region, and to integrate these approaches into the existing government mechanisms.

"In particular, adoption of integrated landscape management approaches and practices should help to stabilize and even reverse trends of soil salinization, reduce erosion, improve water capture and retention, increase the sequestration of carbon and reduce loss of agro-biodiversity," said Mr Viorel Gutu, FAO Representative in Tajikistan.

In salt-affected landscapes, where conventional crops fail to achieve satisfactory yield rates, production systems and markets need to be adjusted, and effective government policies can make a difference in ensuring food security and sustainable livelihoods.

The project will also reinforce cooperation and partnership among countries in the region, in particular in the area of policy and investment decisions for drought-prone and salt-affected landscapes.

**Project on "Community Driven Water Supply and Sanitation – 'CoDWSS'", 2015, Oxfam GB in Tajikistan**

Oxfam GB in Tajikistan and the administration of the Ayni district signed on Wednesday a Memorandum of Understanding (MoU) for the implementation of the "Community Driven Water Supply and Sanitation" - 'CoDWSS' project.

According to Oxfam GB in Tajikistan, 'CoDWSS' project is funded by the Ministry of Foreign Affairs of Finland through the program FinWater WEI, administered by the Finnish Environmental Institute (SYKE). Oxfam will implement the project in cooperation with Local Authorities and Civil Society Organizations in Ayni and Roudaki districts.

The initiative aims at increasing people's capacity and opportunity to realize their rights and responsibilities towards Water Supply and Sanitation (WSS) and enhance their participation in WSS governance in rural areas in Tajikistan. By the end of the project, approximately 6,000 people will have improved their access to safe drinking water and sanitation.

The 'CoDWSS' project reportedly focuses on: setting up of transparent, decentralized decision making mechanisms, Water Trust Fund (WTF) in particular, for the development, operation and maintenance of drinking water supply and sanitation systems in rural areas, with extensive participation of communities and the development of Water Safety Plans; improved cooperation /transparency & increased participation of rights holders in the governance of Water Supply and Sanitation services; and effective rehabilitation/construction of drinking water supply and sanitation facilities.

Since 2001, Oxfam's WASH program contributed to the institutional and policy reform in Tajikistan, enhanced collaboration between key stakeholders and provided sustainable access to safe drinking water supply to more than 70,000 people in Tajikistan.

**Project on "Economic Development in Central Asia through promotion of Business Intermediary Organizations and Small and Medium Enterprisers in the food-processing sector", "Central Asia Invest" Program, 2015, Hilsfwerk Austria International**

Austrian non-governmental international organization Hilfswerk Austria International in cooperation with a group of regional and international partners implements the project "Economic Development in Central Asia through promotion of Business Intermediary Organizations and Small and Medium Enterprises in the food-processing sector". The European Union finances the project within the third phase of "Central Asia Invest" program.

The objective of the project is to contribute to the stimulation of private sector development with an emphasis on the growth and expansion of export-oriented processing SMEs and promotion of Central Asian integration into the global market. Special attention is paid to the food safety issues through promotion of internationally recognized quality standards.

Within the framework of the project the guides have been developed, which are aimed at awareness improvement of export-oriented enterprises in the area of business operations.


**HELVETAS Projects in Tajikistan, Agro Markets (AM) Program**

The main objective of the AgroMarkets (AM) Program is to support farmers in the improvement of their income and livelihoods and the diversification of their nutrition intake through adapted agricultural concepts and services. The Project aims to strengthen linkages between small family-run or craft-based local businesses, local and national markets and buyers abroad. AM comprises two projects: Markets for Mountains (M4M) in Rasht Valley, and Organics to Markets (O2M) in Sughd Province.

Project Approaches

**M4M** intends to work in eight districts of Rasht, Tajikobod and Jirgatol districts and plans a three-year first project phase starting on 1 January 2017. During the first year, the focus will be on farmers' mobilization, in particular women groups and building capacities of all stakeholders involved for successful project implementation. The second and third year will focus on Market System Development (MSD) aspects in order to achieve sector change and to reach first impact by the end of phase 1 (31 December 2019).

**O2M** uses an MSD approach to build stable business linkages among all stakeholders in the market system of organic apricots from buyers via processors and farmers to inputs suppliers. O2M aims at building a buyer-led market system and will place strong emphasis on identifying lead firms among the local processing companies and the buyers in the international organic and Fair Trade market.

**Project Outcomes: within O2M** apricot farmers

- ..adopt ecologically sound agricultural practices, manage orchards actively and thus increase productivity and quality of their dried apricots.
- ...have stable access to high-priced markets for organic or naturally dried products, while buyers in this market invest in strengthening the value chain.
- ...are organized, empowered and capacitated enough to get an adequate share of the additional benefit from increased production, quality, certification access to new markets.
- ...start diversification of their income sources.
- ...have technical and business capacities to sustain a structured and organized organic apricot value chain.

**Within M4M**

- ...people in particular the poorest, increase their income through improved cash crop production are aware of the needs of balanced dietary habits, and adapt their subsistence farming accordingly.
- ...providers of agricultural inputs and extension services meet the needs of the farming communities, offer a wide range of quality seeds, environmentally compatible inputs and advice at affordable prices.
- ...women groups engaged in small-scale processing and greenhouse production diversify their products, expand their market based on demand, and establish new small-scale processing enterprises.
- ...target groups acquire improved capacities with regard to agricultural production practices, entrepreneur skills and marketing.



**EU-Tajikistan bilateral programs**

The four priorities for the €128 million allocation for EU-Tajikistan bilateral programmes, 2011-13, are social protection (including social sector reforms and health), public finance management, and trade and small and medium-sized enterprises (SMEs).

EU development activities in Tajikistan target also, in the 2007-10 period, health and social protection, including public finance management and public administration, as well as developing the private sector in the area of agriculture.

***Social protection***

Since 2007, the social protection sector policy support program has provided assistance for reforms in social assistance (targeted social benefits) and for the development of both social services for disabled and elderly people and labor market policies.

Launched in 2011, the €26 million human development support program – disbursed in the form of budget support – is a comprehensive package for both health and social protection. It also provides capacity development for the Government and support to civil society organizations.

**Public Finance Management**

The EU has helped develop a new public finance law – effective since June 2011, which incorporates the World Bank's (WB) Medium-Term Expenditure Framework (MTEF). The EU has also provided technical assistance for macro-economic forecasting.

**Enhancing trade, business climate & SME**

In 2007, the EU re-activated a policy dialogue for agriculture and has been involved in developing an agricultural strategy and implementation plan. Land reform and associated laws and regulations are being addressed.

Since 2008, the EU has supported a €7 million private sector development project for the agricultural sector. The related Tajik Agricultural Finance Framework Phase II (TAFF II) component–implemented by the **European Bank for Reconstruction and Development** – has improved access to finance for farmers for the purchase of supplies, and has been advising on efficiency measures. The EU has allocated €2 million to establish a single window for export, import and transit procedures to simplify foreign trade operations for businesses. Further, a €16 million enhanced competitiveness of Tajik agri-business program is promoting agricultural diversification and competitiveness of agro-food enterprises through support to specific value chains in the sector.

**Promoting local decision making among Non-State Actors for sustainable decentralized pasture management in Murghab**

Duration: 26 August 2014 - 25 August 2017
Total Cost: 481602.00 €

**Enhanced Competitiveness of Tajik Agribusiness Programme (ECTAP)**

Duration: 30 December 2014 - 29 May 2019
Total Cost: 42000000.00 €

**Development of the Fruit and Vegetable Processing Sectors in Kyrgyzstan and Tajikistan (DFVP)**

Duration: 1 January 2014 - 31 December 2015
Total Cost: 588235.00 €

**Enhancing living standards and food safety of rural people through access to improved veterinary services**

Duration: 1 January 2013 - 31 December 2014
Total Cost: 250000.00 €

**Farmer-to-Farmer Program: FY14 – FY18**

USAID has awarded cooperative agreements to six organizations for implementation of the core F2F volunteer programs for international agricultural development for fiscal years 2014 – 2018. The program will extend services to 26 core countries, providing over 3,000 volunteer technical assistance assignments averaging three weeks each. An additional Special Program Support project will fund volunteer activities with new implementing organizations and special activities.

The six program implementing organizations will work closely with overseas USAID Missions and local partner organizations, supporting a variety of development programs

aimed at reducing poverty and stimulating sustainable and broad-based economic growth. The core program agreements allow USAID country programs to provide additional funding for agricultural development projects using F2F volunteers.

Each F2F award is global in nature but implements core country programs in a specific region or technical area:

- Asia – **Winrock International**
- Caribbean Basin – **Partners of the Americas**
- East Africa – **Catholic Relief Services**
- Europe, Caucasus and Central Asia – **ACDI/VOCA**
- Middle East/North Africa – **Land O'Lakes International Development**
- Southern Africa – **CNFA**
- West Africa – **ACDI/VOCA**
- Agricultural Education and Training – **Winrock International**
- Special Program Support Project – **Volunteers for Economic Growth Alliance**

Volunteers typically work with medium and small agro-enterprises, cooperatives, individual producers, agricultural extension and research agencies, and financial institutions. Major areas of program focus are horticulture, dairy and livestock, staple food crops, producer organization development, financial services, marketing and processing, agricultural education and training, and natural resources management.

**Europe, Caucasus & Central Asia: Tajikistan Orchard Management**

Akmal Dekhan Farm sits on 21 hectares in Sughd province, producing sweet apricot varieties that are in high demand in local markets. It is located in Tajikistan's portion of the Fergana Valley, a large triangular and very fertile valley in what is an often-dry part of Central Asia. Sughd province is the country's breadbasket, with the most productive farmland in a country with only six percent arable land. However, agricultural practices remain antiquated, leaving productivity well below its full potential. F2F staff analyzed Akmal Dekhan Farm and determined that its major challenge was low productivity because of outdated orchard management techniques, which kept sales and income for the farm low. F2F volunteer Brian Flanagan, an international agriculture and rural development specialist from New York, visited Sughd province for two weeks to train a group of orchard farmers on proper pruning and grafting techniques. Mr. Flanagan also trained owners on the importance of soil testing and collected a number of soil samples from Akmal Farm, sharing the results and recommendations on proper fertilization once tests results returned. Finally, the volunteer demonstrated an inexpensive, non-toxic dormant oil spray that can be easily mixed using readily available ingredients and is highly effective at controlling many diseases and pests that afflict fruit trees. Mr. Flanagan's time with Akmal was well spent. Over the course of one growing season, gross sales increased 32 percent, while productivity jumped nearly 30 percent to 66,800 kilos. F2F assistance in orchard management and improved production practices has helped farmers satisfy local demand while increasing incomes and sustainability for their businesses.

## Major problems existing in the Country

World experience shows that the problems of sustainable development of agriculture have become an urgent necessity; therefore, the concepts of traditional cropping technology should be substantially revised not only from the point of view of nature management, but also improvement of the economic situation in the industry.

In a modern democratic society, there is going a real awareness of the environmental shocks taking place in the world. As a result, over the past twenty years, interest in the environmental problems of agriculture has increased, that contributes to the natural

restoration of soil fertility and the maintenance of a balance of nature, on which the economy of agriculture depends.

However, the choice of organic agriculture does not mean a return to extensive technology. Formation of organic agriculture in many countries provides for the search and introduction of new technologies from a scientifically based position and laws of optimal nature management.

Therefore, the choice of new directions in the development of the industry and the provision of the necessary rights in using the opportunities of various forms of management can ensure a steady increase in agricultural production. In this context, the formation and development of the organic sector of agriculture makes it possible to seriously change the mechanism of the functioning of the republic's industry under market conditions.

Tajikistan is a republic with many environmental problems. There is also deforestation, land degradation, melting of glaciers, and increasing extreme weather phenomena along with temperature changes and constant natural disasters. All this takes place against the backdrop of a shortage of energy sources and the growth of cities. The negative consequences of anthropogenic activities are exacerbated and intensified both because of the geographic location of the country and its complex mountainous relief, and because of the ongoing global climate change.

Over the past 50 years, the area of glaciers in the republic has decreased by 1/3. However, according to existing forecasts, a significant number of small and medium glaciers may completely disappear in Tajikistan by the end of the century. Melting glaciers are already causing significant problems for a small mountainous country, and the emerging picture of the future is even more depressing. Mountain river runoffs ceased to be predictable. Now in the spring, floods began to occur more often, and by the end of summer, the rivers on the contrary dry up. We can only assume that what lies ahead of us because of the melting of glaciers. Nevertheless, one thing is certain - if the glaciers continue to melt with the same intensity, then the entire Central Asian region will face a catastrophic water shortage, because about 50% of the water drains feeding the region are formed in the mountains of Tajikistan. In turn, this will negatively affect the agriculture, the development of which in the republic is occupied by 2/3 of the population. Cold winters and hot summers, water scarcity and frequent droughts are constant reminders of climate change that damage agriculture, ruin crops and provoke a food crisis.

Practice shows that the national traditions of the Tajik people themselves determine the needs for the development of those crop and livestock sectors that are based on rational use, natural resource potential for the production of products demanded by the market. It is the natural and climatic features of Tajikistan on the one hand and the solution of problems in organizing highly efficient agricultural production on the other, are the most important arguments for the formation of a competitive organic agricultural sector.

The solution of this problem requires the development of the concept of environmentally sustainable socio-economic development of Tajikistan.

## Additional Remarks[65]

***Maksudzhon Buzrukov: "Tajikistan is switching to organic agriculture"***

The lands of Tajikistan are so stuffed with pesticides and mineral fertilizers that they almost lost their former reproduction. They became "drug addicts" and cannot give a good harvest without the use of mineral fertilizers, cannot fight pests and diseases without pesticides.

According to the opinion of the director of the Public Organization of the Center for the Development of Organic Products "Сугдагросерв Органик" Maksudzhon Buzrukov, it

[65] *https://latifundist.com/novosti/9667-tadzhikistan-perehodit-na-organicheskoe-selskoe-hozyajstvo*

was people who brought the land to such a state, and they should bring it to life. For this, it is necessary to switch to organic farming, - informs Arpo XXI

*"Let each farmer think before he buys mineral fertilizers and pesticides for big money, that he poisons many people with these cultivated poisonous cultures, and eventually himself, his children and grandchildren," – M. Buzrukov underlines.*

The expert notes that organic farming is a whole complex of principles of human-land interaction with the most effective use of natural resources. In organic farming, the natural cycle is faithfully observed: a person feeds the earth - the earth feeds the plant - the plant feeds the person.

*"For 3 years of PDOP activity in Tajikistan, we from all organically produced products were able to export only cotton fiber. Other organic products, such as wheat, legumes, melons and vegetables, did not meet the requirements of the world market, and accordingly were not sold in foreign markets. Our bio-products are of a different sort: not processed, because of the lack of processing equipment, there is no proper calibration, marking and packaging. In addition, we were not able to collect the necessary number of cars - the norm, at least 1 container - 20 tons. This year we intend to export the first 20 tons of organic mache" - the expert said, adding that bio-products may eventually become one of the growing sectors of Tajikistan's national market.*

The main thing is that this segment, producers and suppliers working in it, has been given sufficient attention, both from the state and the business community.

M.Buzrukov underlines that the main task of organic farming is the preservation of the environment and the increase of soil fertility. In general, organic farming will solve problems at the ecological, agrotechnical, micro and macroeconomic levels. The strongest feature of organic farming is its reliance on independence from the producers of chemicals and locally available means of production.

*"Perhaps you will think that, in fact, organic farming means a return to the ancient methods of farming, which our ancestors used from time immemorial, when no chemical industry was yet. In addition, in many respects you are right. Organic farming is based on these ancient principles, but it has been significantly improved by modern research and new methods. The purpose of organic farming is to organize the farming like natural ecosystems to conserve resources that can be depleted if irrationally used" - M.Buzrukov added.*

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# ORGANIC AGRICULTURE in TURKEY

**COUNTRY PROFILE (STATISTICS)**

***Key indicators, 2015:***
***(FiBL & IFOAM - Organic International (2017))***

***Organic agriculture land (ha)***
*486069*
***Organic share of total agriculture land (%)***
*1.3*
***Number of organic producers (No.)***
*69967*
***Organic retail sales (Mio €)***
*4 (2009)*

***Key statistics, 2014:***
***(FAOSTAT)***

***Country area***
*78535 (1000 ha)*
***Land area***
*76963 (1000 ha)*
***Agriculture area***
*38561 (1000 ha)*
***Forest***
*11612.6 (1000 ha)*

## History of organic agriculture in Turkey

In Turkey, organic agriculture displays a top-down approach based upon the demand of the growing European market. Turkey has been known as the homeland for many sun-dried fruit and nuts throughout the centuries. This advantage brought organic traders in Europe to Turkey after the enlargement of the market in 1980s. These companies and foundations either established branch offices or cooperated with Turkish processors/exporters. These structures in Turkey made so called 'Projects' that comprised organic farmers either on commodity basis or at village basis.

The first organic products demanded were dried grapes 'Sultanas' and dried figs 'Smyrna figs' in mid-1980s even before the EU legislation was enforced. Since 1990s, Turkish organic products were limited to dried fruit, hazelnut and cotton. Organic cotton projects initiated in the south and western provinces were the first in the World. Following the EEC 2092/91 regulation, Turkey, as a country exporting to EU markets, adopted a similar regulation in 1994 that was further updated and aligned with that of the EU.

In 1995, Turkey sent an application to the EC for inclusion in the third country list. The file and application was renewed in 2005 and is still in progress (as of December 2014). With the strong impulse from the European market, 1990s marked various important initiatives in regards organic movement as the formation of grass-root organizations as ETO (1992,) a unit at the Ministry of Agriculture (MoA) responsible for organic

agriculture (1993), issuing of the 1st regulation on organic plant system (1994) and a research group at the MoA, international meetings (3rdAgribiomediterraneo'92; Agrophoria Workshop'96), 1st National Symposium on Organic Agriculture (1999) and a series of training programs for trainers and technical staff for capacity building (started in 1996). Since the top-to-down development was based on plant production especially of dried produce with longer shelf life (e.g. dried fruit, pulses, cotton, medicinal and aromatic plants) supply chains were established for specific products. Contracted farming was the tool that provided continuity in marketing of these traditional Turkish goods. Thus, animal and fresh fruit and vegetable production and domestic market development could be developed only during the last decade.

## Current State of Organic Agriculture

According to the legislation in Turkey, the term 'organic' is synonymous to 'biological' and 'ecological' agriculture. Consequently, the terms 'organic', 'bio' or 'eco' cannot be used for non-certified products even if no chemicals were used in production and/or processing not to mislead consumers.

## Regulatory and Institutional Framework

The first regulation on organic agriculture in Turkey, as an important exporter to the EU, has adopted a national regulation (24 December 1994/22145), which basically complies with EU Regulation 2092/91. This regulation was extensively amended and replaced, in 2002, by the Regulation on the Principles and Application of Organic Agriculture (July 2002/24812). This regulation was an amalgamation of the EU and IFOAM regulations and created problems at the implementation stage. A major revision was made and a regulation entitled 'Principles of Organic Agriculture Law and its Implementation (August 18, 2010 dated and 27676 numbered Official Gazette) was issued to implement the 5262 numbered 'Law on Organic Agriculture', enforced in December 1, 2004 (published in December 3, 2004 dated and 27676 numbered Official Gazette; ***Annex 1 and 2***).

There were some amendments mainly parallel to the revisions and amendments made at the European Union or to ease the implementation. The Ministry of Agriculture (since 2011, named as Ministry of Food, Agriculture and Livestock (MoFAL)) is the competent authority (Figure 1). The MFAL's major activities related to organic agriculture are preparation of the strategic and action plan, day-to-day management of the activities arising from, the law and regulations (including awareness rising), training and extension, research and support for organic operators. The regulation states that the inspection and certification services can be taken over private sector with the authorization of MoFAL.

According to the structure of the Ministry, the Department for Good Agricultural Practices and Organic Agriculture (GAP&OA) under the General Directorate of Plant Production is the body responsible for execution of activities on organic food and farming. There are two committees, 'Organic Agriculture National Orientation Committee (NOC)' and 'Organic Agriculture Committee (OAC)' established in 2004 by the organic law to support functions of the Department. NOC has the mandate to monitor trade, public relations and research activities, to determine strategies related to organic agriculture and to coordinate and monitor cooperation with organizations outside MFAL. OAC executes out activities to develop organic agriculture, coordinates and evaluates in-house activities of the MoFAL and monitors activities performed by CBs, operators, inspectors and certifiers. Additional members can be invited without voting power.

It meets every month and takes decisions regarding authorization of inspection and certification bodies (CBs), actions to be taken in cases of non-conformity or training programs. The composition of the OAC is presented in Table 1. NOC comprise minimum of 10 members representing ministries other than MFAL (e.g. Ministry of Development, Economy, Customs and Trade, Science, Industry and Technology, Health, Environment and Urban, Forest and Water, European Union Affairs), professional organizations, non-governmental organizations, universities and private sector. In case required, sub-committees can also be formed. NOC acts as a stakeholder consultant group and composed of representatives of different institutions involved in organic agriculture. It meets once every year and discusses major issues and gives recommendations to the MoFAL.

The Department of GAP&OA handles all the day-to-day work and functions as the Secretariat of OAC. The Ministry has 81 Provincial Directorates; there is an organic unit in each province composing of experts/trainers trained on organic agriculture. These trainings are continuously being offered to update the experts on recent changes in regulations or on any other related developments.

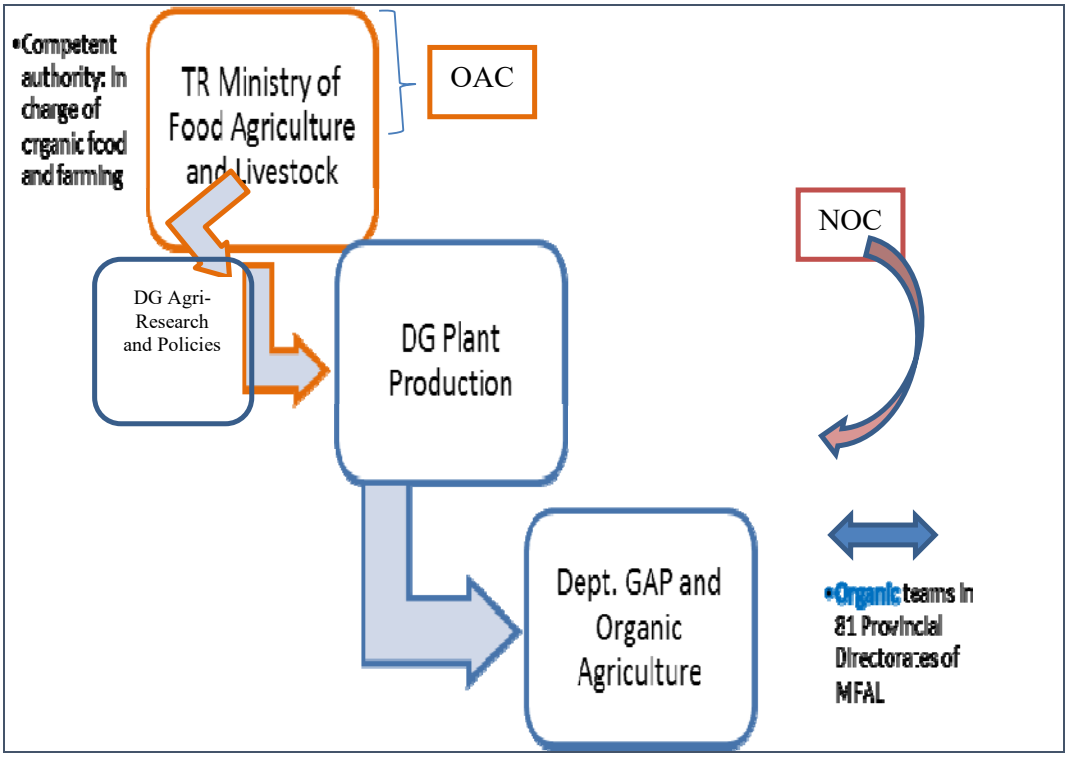


*Figure 1. The institutional structure of organic agriculture at the MFAL*

*Table 1. Composition of the Organic Agriculture Committee*

| Number of representatives | Office at the MFAL |
|---|---|
| 1 | Deputy General Director of Plant Production |
| 1 | Head of the Department of Good Agricultural Practices and Organic Agriculture (GAP&OA) |
| 1 | One representative from GAP&OA Department |

| | |
|---|---|
| 1 | DG Animal Production |
| 1 | DG Fisheries and Aquaculture |
| 1 | DG Food and Control |
| 1 | Legal Department |
| 1 | Guidance and Inspection Department |
| **8 (TOTAL)** | |

## Data Collection System

Between 1990 and 1995, ETO gathered unofficial production data directly from CBs and shared with stakeholders. The Ministry of Agriculture collects official data since 1995 through CBs. An on-line data collection system is established between CBs and MFAL Department of GAP&OA through the support provided by the EU-funded Project entitled 'Project on Development of Organic Agriculture and Alignment of Related Turkish Legislation with the EU Acquis (2005-2007)'. The system is linked to the farmer registry system to cross check the farm data. The system is also allows to check the information related to the farmers' application to receive direct payment subsidies for organic agriculture. The major drawback of the system lied in the alphabetical classification of crops in plant production. Such a classification resulted in higher number of crops due to synonyms, had problems in identifying the product type (e.g. Bean as fresh or dried; rose as dried petals or potted plants) and did not allow harmonization with trade data (Kon, 2012).

Starting from 2015, MFAL took the decision to use EUROSTAT format in classification of organic plant and animal products. Within the system, organic units in provincial directorates, the Aegean Exporters' Associations (AEA) and other related MFAL offices may have limited access.

The system is known as OTBIS (Organik Tarım Bilgi Sistemi) in Turkish and OFIS (Organic Farming Information System) in English (Figure 2) Production and farm data as well as import data are made public yearly through the MFAL website (www.tarim.gov.tr). The data collection system has deadlines for data entry for CBs has traceability for cross checks and thus able to deliver updated reliable farm data. The problem lies in availability of market data.

Since 1996, the AEA a semi-governmental organization working under the Ministry of Economy has the mandate to coordinate collection of export data on Turkish organic exports. 12 Exporters' Associations distributed throughout the country collected the data for exports (e.g. product name (classified according to HS code), quality, company, destination, buyer etc. manually and then the data was collated and classified by AEA in Izmir. However, when the customs system was transformed into an electronic format, the exporting companies had to tick a box, which identified that the good is organic. Because of this change, not all exports were included in the data system. Thus, MFAL is working on a system to deliver market data through the product certificates issued by CBs.

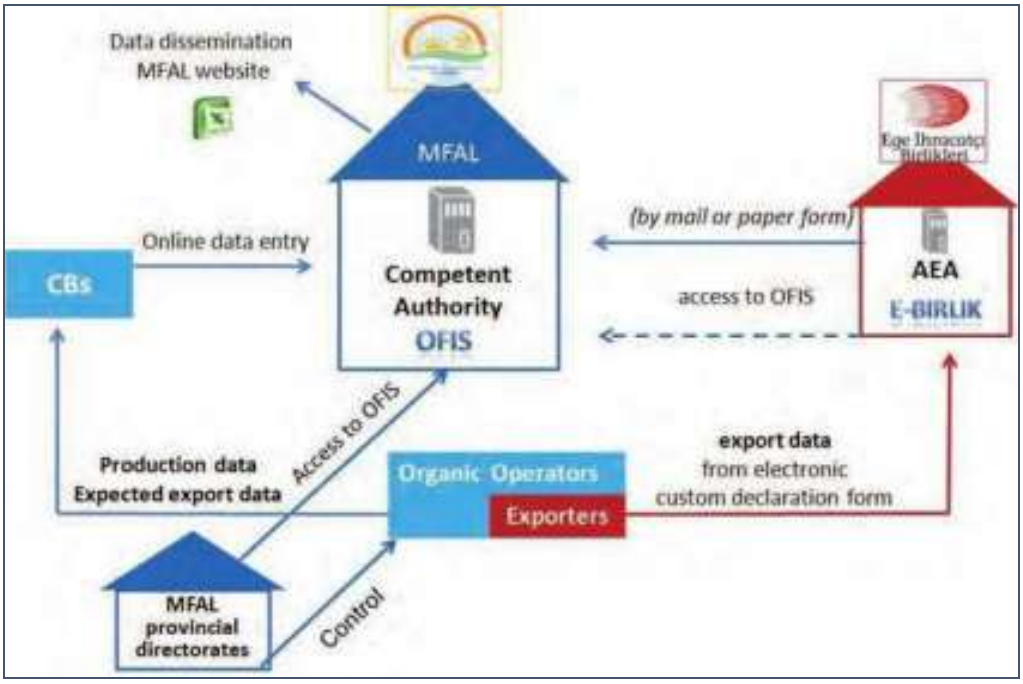


*Figure 2. Data collection system (OFIS) in Turkey (Source: Sungu and Kon, 2014).*

## Inspection and Certification Bodies

According to the Turkish Law on Organic Agriculture, CBs have to take authorization from the MoFAL in order to carry out inspection according to the Turkish legislation. They have to submit a file enclosing detailed information on the office infrastructure, human capacity, and quality management system of company for approval. Once approved they are obliged to get TS EN ISO 17065 accreditation from TURKAK, the Turkish Accreditation body or any other internationally recognized accreditation body. As of December 2014, there are 28 CBs that are authorized (Table 3). The Treasury also obliged all CBs to establish companies according to the Turkish laws and regulations. Thus, even if there are European CBs authorized by the MoFAL to do inspection and certification in Turkey, they are all established as Turkish companies. Acting as a branch or Office is allowed only for a certain period.

According to the current legislation, companies are allowed to function only as inspectors or as certifying agents however all CBs listed perform both inspection and certification. In addition to the Turkish legislation, many of the Turkish CBs have the authorization to do inspection and certification according to EU, NOP or JAS regulations. Few of them can do inspection and certification of some private labels as Demeter, Naturland.

*Table 3. List of inspection and certification bodies authorized by the Turkish MoFAL (as of December 2014; www.tarim.gov.tr)*

| No | Name of the Inspection and Certification Body | Contact address and website |
|---|---|---|
| 1 | ETKO Ekolojik Tarım Kontrol Org. Ltd. Şti. | 160.Sokak No:13/3 35040 Bornova/İZMİR<br>+90 232 3397606,<br>http://www.etko.org |
| 2 | ECOCERT Denetim ve Belgelendirme Ltd. Şti. | 184. Sok. No:60 Kat:2 Daire:3, Bornova/ İZMİR<br>+90 232 3434360,<br>http://www.ecocert.com |
| 3 | TURKGAP Tarım Uygulamaları Kontrol ve Sertifikasyon Hizmetleri Ticaret Ltd. Şti. | Barbaros Mah. 2174 sk. Kordon Apt. Kat:1 No:1 Daire:1 33110 MERSİN<br>+90 324 327 41 91,<br>http://www.turkgap.com |
| 4 | NİSSERT Uluslararası Sertifikasyon ve Denetim Hizmetleri Ltd. Şti. | Anadolu Bulv. Gıda Toptancılar Sitesi Gimat 3. Blk No: 29 Macunköy/Yenimahalle/ANKARA<br>+90 312-397 60 09,<br>http://www.nissert.com |
| 5 | EKOTAR Ekolojik Tarım Ürünleri Üretim, Kontrol, Sertifika, Sanayi ve Ticaret Ltd. Şti. | Adnan Menderes Bulvarı Denis Apt. 36/1 33110 MERSİN<br>+90 324 325 49 64,<br>http://www.eko-tar.com |
| 6 | CONTROL Union Gözetim ve Belgelendirme Ltd. Şti. | Kazım Dirik mah. 372/20 Sok. No:19 Bornova/İZMİR,<br>+90 216 469 75 57,<br>http://www.controlunion.com |
| 7 | ORSER Organik Ürünler Kontrol ve Sertifikasyon Ltd. Şti. | Paris Cad. No:6/15 06550 Çankaya/ANKARA<br>+90 312 4381560,<br>http://www.orser.com.tr |
| 8 | ANADOLU Ekolojik Ürünler Kontrol ve Sertifikasyon Ltd. Şti. | Süleymanbey Mah. Ezgi Sok. No: 3 77200 YALOVA,<br>+90 226 812 21 00,<br>http://anadoluekolojik.com |
| 9 | KALİTEST Belgelendirme ve Eğitim Hizmetleri Ltd. Şti. | Zorlu Center Levazım Mahallesi Koru Sokak Teras Evler Kat:3 D.No: 11 Beşiktaş/İSTANBUL,<br>+90 212 269 37 41,<br>http://www.kalitest.com.tr |
| 10 | EGETAR Kontrol ve Sertifikasyon Hizmetleri Ltd. Şti. | Manavkuyu Mah 238/2 Sok. No: 9 Başaran 10 Apt.Zemin Bayraklı/İZMİR,<br>+90 232 388 54 12,<br>http://www.egetar-cert.com |
| 11 | BCS ÖKO-GARANTIE Organik Tarım Sertifikalandırma Hizmetleri Ltd. Şti. | Kazım Dirik Mah. Gediz Cad.Kadri Dağüstü Apt. No:21 B Blok Daire:2 35040, Bornova /İZMİR,<br>+90 232 3390581,<br>http://www.bcs-oeko.com.tr |
| 12 | IMO Control ve Sertifikasyon Ltd. Şti. | 225.Sokak Dündar Apt. No:29 Kat:7 Daire:7 Bornova/ İZMİR<br>+90 232 3474705,<br>http://www.imo-control.org |

| | | |
|---|---|---|
| **13** | ICEA İNSTİTULO PER LA CERTİFİCAZİONE ETİCA E AMBİENTALE Türkiye İzmir Şubesi | Mustafa Kemal Cad. Halil Bey Apt. B Blok No:166/2 Kat:7 Daire: 13 35040 Bayraklı/İZMİR<br>+90 232 3426068,<br>http://www.icea-tr.com |
| **14** | CERES CERTIFICATION OF ENVIROMENTAL STANDARTS Türkiye İzmir Şubesi | Korutürk Mahallesi Ahlat Sok. No: 39 Balçova/İZMİR,<br>+90 232 2472022,<br>http://www.ceres-cert.com.tr |
| **15** | IMC Ltd. Şti. | Serçeönü Mh. Ahmet Paşa Cd. Çiçek İş Merk. No:14/28, Kocasinan / KAYSERİ<br>+90 352 232 5432,<br>http://www.imcturk.org |
| **16** | ANKA GLOBAL Kontrol ve Sertifikasyon A.Ş. | Meşrutiyet Caddesi 16/8, Kızılay /ANKARA<br>+90 312 4256055,<br>http://www.ankasertifikasyon.com |
| **17** | BİO İNSPECTA Kontrol Ve Sertifikasyon Limited Şirketi | Mansuroğlu Mah. 286 Sok: Çolakoğlu Sitesi A-1 Blok No: 16/16 35535 Bayraklı/İZMİR,<br>+90 232 347 48 68,<br>http://www.bio-inspecta.com |
| **18** | ECAS Belgelendirme Denetim Ltd. Şti. | Pınarbaşı Mh. Atatürk Bul. Gül Sitesi No:3/3, 0707, Konyaaltı/ANTALYA,<br>+90 +90 242 3215556,<br>http://www.ecas.com.tr |
| **19** | ORTAR Kontrol ve Sertifikasyon Hizmetleri Ltd. | Hürriyet Mah. Atatürk Cad. No:12 Ulaş/ SİVAS<br>+90 346 781 28 28,<br>http://www.ortar.com.tr |
| **20** | KAYOS Uluslararası Sertifikasyon ve Denetim Hizmetleri Ltd. Şti. | Tahıl Pazarı Mah. Çatalköprü Cad. Yaşar Çöpelci İş Merkezi 9/14, Muratpaşa / ANTALYA<br>+90 242 247 99 27,<br>http://www.kayos.com.tr |
| **21** | Biobel Sertifikasyon Denetim Gözetim ve Eğitim Hiz. Ltd. Şti. | Cumhuriyet Mah. Libadiye Caddesi Çimen Sokak Esma Apt. No:6/3 Üsküdar/İSTANBUL<br>+90 216 505 50 66,<br>http://www.biobel.com.tr |
| **22** | Mehmet BIYIK-TUSCERT Organik Ürünler Kontrol ve Sertifikasyon Hizmetleri | Kazım Karabekir Cad.Sütlüoğlu İşhanı NO:37/51 İskitler, Altındağ/ANKARA<br>+90 312 384 12 06,<br>http://www.tuscert.com |
| **23** | BAŞAK Ekolojik Ürünler Kontrol ve Sertifikasyon Hiz. | Atatürk Mh. 1014 Sk. No:9/5 Selçuk/İZMİR<br>+90 232 239 45 44,<br>http://www.basakksk.com |
| **24** | CTR Uluslararası Belgelendirme ve Denetim Ltd. Şti. | Anadolu Bulvarı ATB İşmerkezi G Blok No:160 Macunköy Yenimahalle / ANKARA<br>+90 312 397 82 00,<br>http://www.ctr.com.tr |
| **25** | ICCS Kontrol ve Sertifikasyon A.Ş. | Atatürk Bulv. No:2 Ekinoks İş ve Yaşam Merkezi E2/7, Beylikdüzü/İSTANBUL<br>+90 212 872 73 74,<br>http://www.iccs-tr.com |

| | | |
|---|---|---|
| **26** | Likya Organik Uluslararası Organik Ürünler Kontrol ve Sertifikasyon Hizmetleri Ltd. Şti. | Şeyh Mah. Naipler Sk. 15/2 48000 MUĞLA,<br>+90 252 212 64 48,<br>http://www.likyaorganik.com.tr |
| **27** | EKOİNSPEKT Uluslararası Belgelendirme Denetim Gözetim Teknik Kontrol ve Eğitim Hiz. Ltd. Şti. | Reşatbey Mah. 5 Ocak Cad. No:7 Naşal Apt. K:2 D:6, Seyhan/ADANA,<br>+90 322 458 78 98,<br>http://www.ekoinspekt.com.tr |
| 28 | TMENA Uluslararası Denetim Gözetim Sertifikasyon Hiz. Ltd. Şti. | Adalet Mh. Haydar Aliyev Cad. No:36 B Bl. Kat:3 Daire:10 Manavkuyu/Bayraklı/İZMİR<br>+90 232 4365373-74,<br>http://www.tmena.com |

## Organic Plant and Animal Production

### *(i) Plant production*

In Turkey, organic production started in 1984-85 saeson with dried fig and dried grapes, the two traditional Turkish products for export. The product range further included dried apricots, hazelnut and cotton.

Until 1990, there were only 8 products produced organically. Today after 30 years of history, the plant product range expressed as raw material exceeded 210. This number shows mainly the crop and does not include processed products based on this raw material. As an example, tomato is stated as 1 product however tomato is sold as fresh, dried, processed as tomato paste, catchup, diced tomato juice, dried tomato in olive oil or mixed with other vegetables. During the first 20 years, the major strength of organic plant production in Turkey was to produce dried or processed goods that have long shelf lives under ordinary conditions thus allowed elasticity in marketing. Fresh products as fresh fruit and vegetables and processed ones as bread started only with the development of the local market. As could be seen in Figure 3, there was a sharper increase in 2009 with the direct payments given by the Government.

The total production figures do not reflect the real situation completely since it is an overall sum of estimates for different crops ranging from very extensive wheat or fodder production to intensive grape or vegetable production. The number of crops gives the number of raw matter and does not include processed food and non-food products (Figure 5).

According to the data of MFAL, organic production is widespread throughout the whole country. Every region and every province has organic production. However, as could be seen in Figure 5, there is a higher concentration in the east and west Turkey. The eastern Anatolia Region has 61.8 % of certified land and 37 % of organic farms. The main production pattern is based on organic animal production and thus feed and fodder crops and extensive (and mostly rain-fed) production of wheat characterize the Region. The western Aegean Region comprises 20 % of all organic certified land and 26 % of the farms. Main production relies on olives, dried fig and dried grape (Sultanas) production as well as vegetable and fruits for the local markets or for processing industry. Animal production based on organic milk, meat, eggs and honey display an increasing trend. The Black Sea Region possesses organic hazelnut and tea production as the backbone of organic agriculture. Due to small farm sizes, the Black Sea Region has 25.4 % of farms on only 4.7 % of the total certified land.

In 2013, the total organic certified land reached to 769 014 ha out of which 461 395 ha (60 %) are devoted to cultivation and 307619 ha to wild harvest. If figures of 2002 and

2013 are compared, the share of wild harvest remains ca 36 to 40 % of organic certified land. This area is mainly for organic MAP, bee keeping and berries. The total agricultural land is reported as 24 294 thousand hectars. Based upon this figure, in Turkey 3.1 % of agricultural land is certified as organic in 2013. The number of farms has reached to 60 797. A significant change occurred in average farm sizes. Until 2000, the average organic farm was ca 3.00 ha, in 2002 4.61 ha and in 2013 7.59 ha. The main reason is the increase in the area of field crops as wheat, barley and other feed and forage crops (Table 5). The average organic vegetable farm size remains as 1.14 ha (Table 6).

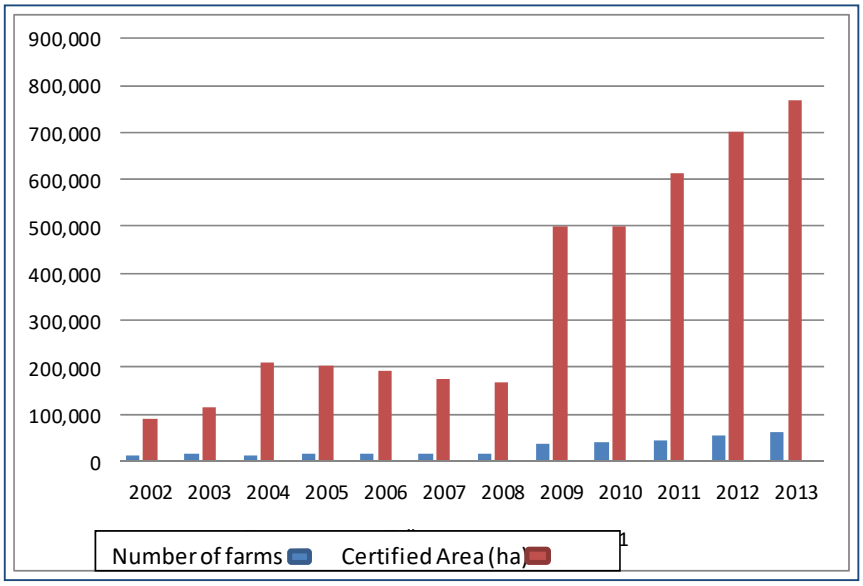


*Figure 3. Evolution of organic farming (number of farms, and certified area (ha) between 2002 and 2013 (Source: Official figures of MoFAL;www.tarim.gov.tr)*

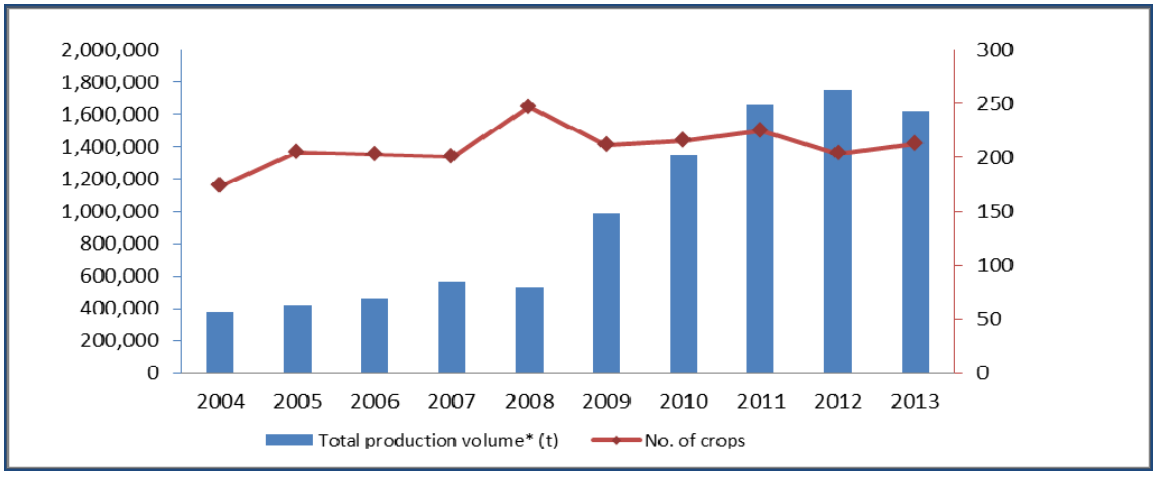


*Figure 4. Total organic production (t) and number of crops (Sungu and Kon, 2014 based on official data).*

*Wild collection and in conversion productions are included, livestock production/products are excluded.

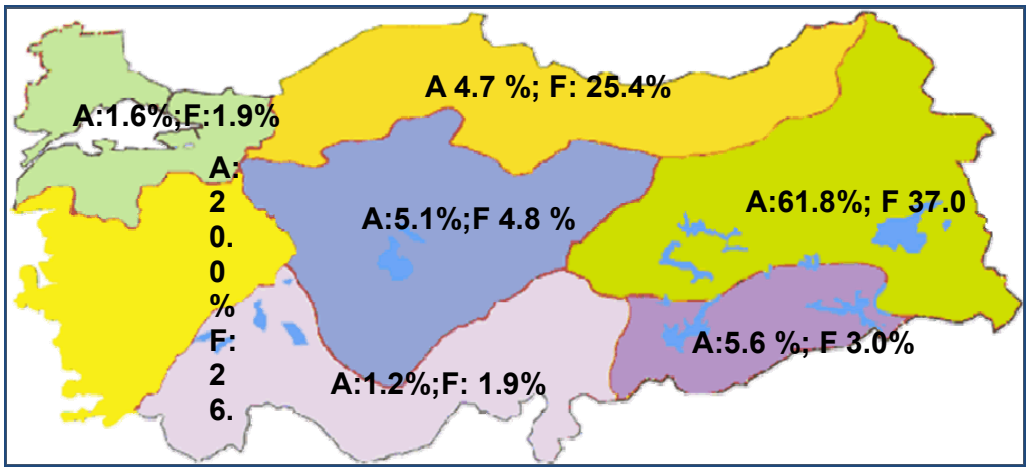


*Figure 5. Distribution of area certified as organic (A) and organic farmers (F) as % of total organic in Turkey*

*Table 4. Change in organic plant production between 2002 and 2013 (www.tarim.gov.tr)*

| Plant production (Including conversion period) | | | | | | |
|---|---|---|---|---|---|---|
| **Years** | **Number of crops (as raw matter)** | **Number of farms** | **Area certified as organic (ha)** | **Wild harvest (ha)** | **Total certified area (ha)** | **Total production (MT)** |
| **2002** | 150 | 12 428 | 57 365 | 32 462 | 89 827 | 310 125 |
| **2013** | 213 | 60 797 | 461 395 | 307 619 | 769 014 | 1 620 466 |
| *Change (as fold)* | 1.42 | 4.89 | 8.0 | 9.47 | 8.56 | 5.22 |

*Table 5. Field crops produced organically (figures of 2013; www.tarim.gov.tr)*

| Crop | Number of farms | Area (ha) | Production (MT) |
|---|---|---|---|
| Barley | 3 266 | 13 676 | 27 626 |
| Sunflower | 113 | 915 | 1 487 |
| Wheat | 9 150 | 80 643 | 169 287 |
| Grass | 1 941 | 8 351 | 30 657 |
| Vetch | 2 111 | 13 030 | 47 175 |
| Trefoil | 3 898 | 21 788 | 81 944 |
| Lentil | 410 | 3 204 | 5 867 |
| Corn | 338 | 3 089 | 28 818 |
| Chickpea | 495 | 3 008 | 4 640 |
| Cotton | 220 | 4 435 | 20 602 |
| Clover | 6 775 | 42 456 | 196 031 |
| **TOTAL** | **28 717** | **229 312** | **813 446** |
| **Share in total organic (%)** | **47.23** | **49.70** | **50.20** |

*Table 6. Vegetables produced organically (figures of 2013; www.tarim.gov.tr)*

| Crop | Number of farms | Area (ha) | Production (MT) |
|---|---|---|---|
| Pepper | 164 | 187 | 3 141 |
| Tomatoes | 223 | 262 | 9 003 |
| Beans (including dry beans) | 231 | 211 | 671 |
| Carrot | 30 | 119 | 6 804 |
| Spinach | 43 | 36 | 665 |
| Cabbage | 55 | 44 | 208 |
| Squash | 63 | 23 | 192 |
| Potatoes | 96 | 54 | 968 |
| Eggplant | 92 | 52 | 378 |
| Soybean | 5 | 151 | 665 |
| **TOTAL** | **1 002** | **1 139** | **22 695** |
| **Share in total organic (%)** | **1.65** | **0.25** | **1.40** |

The tables 6 and 7 display organic production of vegetables and fruits. Organic fruit orchards cover and area of 41 905 ha compared to 1139 ha of vegetables. Fruits that are grown as low-input cover the major part of organic certified land. In the decreasing order olive groves (42 % of organic fruit area), hazelnut, fig, grape, apricot and apple orchards cover most of the certified organic perennial land (Table 7). Organic apples are mainly destined to processing industry. The others are the traditional Turkish products fort he export market.

*Table 7. Fruit species produced organically (figures of 2013; www.tarim.gov.tr)*

| Crop | Number of farms | Area (ha) | Production (MT) |
|---|---|---|---|
| Pistachio nut | 69 | 1 260 | 1 653 |
| Almond | 136 | 572 | 649 |
| Pine nut | 149 | 1 551 | 627 |
| Walnut | 438 | 605 | 1 182 |
| Apple | 1 567 | 1 824 | 37 291 |
| Hazelnut | 2 007 | 5 901 | 9 865 |
| Fig (including dried fig) | 2 064 | 5 753 | 22 477 |
| Apricot | 682 | 2 857 | 32 598 |
| Grape (including dried grapes) | 1 274 | 3 851 | 24 355 |
| Olives | 3 348 | 17 738 | 39 661 |
| **TOTAL** | **11 734** | **41 905** | **165 358** |
| **Share in total organic (%)** | **19.30** | **9.08** | **10.20** |

### *(ii) Animal production*

In 2004, there were only 6 animal farms however the number increased rapidly to 3270 in 2013 due to the enlarging domestic market. The highest increase rate occurred in poultry production both for eggs and for poultry meat (Table 8). In 2013, the share of laying hens is more than the broilers (Figure 6). Organic animal production started first in Kelkit (Gümüşhane) as a social responsibility project and for a short period, even concentrated feed was imported to satisfy the demand. However today animal farms are increasing in number and there are few farmers' cooperatives both in the east and west of the country that are working in various stages of the supply chain.

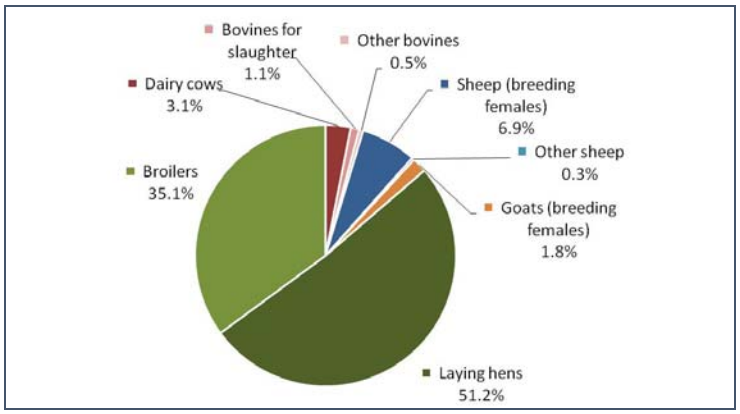


*Figure 6. Breakdown of organic livestock in Turkey by type (Sungu and Kon, 2014).*

*Table 8. Organic animal production between 2004 and 2013 (www.tarim.gov.tr).*

| **Total organic production of animal origin (including those in transition)** | | | | |
|---|---|---|---|---|
| **Years** | **Number of animal farms** | **Number of cattle** | **Number of sheep and goats** | **Number of birds** |
| 2004 | 6 | 1 953 | 10 060 | 890 |
| 2013 | 3 270 | 100 217 | 174 737 | 893 864 |
| Change (x fold) | 545 | 51.31 | 17.37 | 1004.34 |

In Turkey, organic honey is the first product produced as an animal product. The number of bee keepers and farmers' cooperatives producing organic honey is increasing (Table 9). The total production value was significantly reduced in 2013 due to a bad season.

*Table 9. Organic beekeeping between 2005 and 2013 (www.tarim.gov.tr).*

| **Organic Beekeeping (including in transition)** | | | |
|---|---|---|---|
| **Years** | **Number of beekeepers** | **Number of beehives** | **Honey production (MT)** |
| 2005 | 370 | 50 486 | 573 |
| 2013 | 750 | 95 186 | 344 |
| Change (%) | 50.67 | 46.96 | -39.97 |

### *(iii) Processing*

As presented in Figure 7, fruit and vegetable processing (mainly processing of dried fruit and nuts) facilities have a crucial role in processing of organic agri-food commodities. Among vegetable or animal based oils and fats, olive oil almost dominates this sector. Beverages are mainly fruit juices and concentrates anda re sold both at the domestic and export markets.

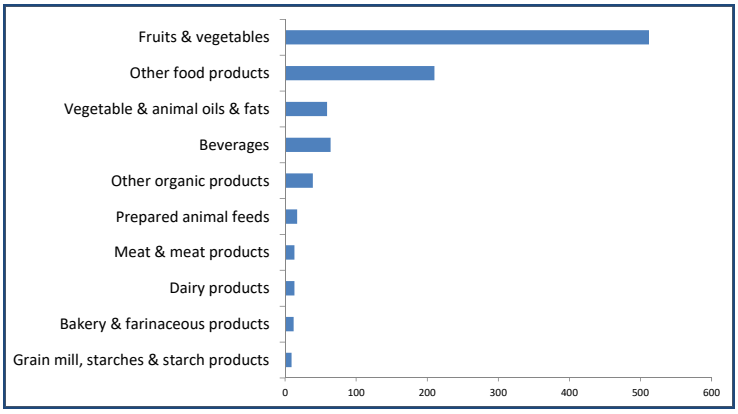


*Figure 7. Breakdown of processing facilities of organic products of plant and animal origin.*

## Research

Research work on organic agriculture is carried out mainly at research institutes of the MFAL and at universities (as either pure research projects or post-graduate thesis) funded by various sources as TUBITAK, MoFAL, university funds or EU.

There are very few projects implemented alone or jointly by the private sector. The DG on Agricultural Research and Policies (TAGEM) coordinates research activities of central (10 in total), regional (e.g. Aegean, West Mediterranean totaling to 10) and thematic (e.g. olives, figs, animal husbandry, and bee keeping totaling to 27) research institutes. Nearly 15 years ago, MFAL started to finance research projects on organic agriculture in order to contribute to the development of organic agriculture in Turkey. There is an annual meeting of the organic research group of MFAL and researchers from universities and representatives of NGOs, private sector and farmer organizations are invited to evaluate and comment on on-going projects or new proposals. TAGEM is an active partner in ERANET 'Core Organic' and supports the Turkish collaborate in approved projects.

In Turkey, there are > 30 agricultural faculties in different universities. Research projects on organic agriculture are carried out mainly at Ege (www.ege.edu.tr), Uludag (www.uludag.edu.tr), Ankara (www.ankara.edu.tr), Samsun Ondokuz Mayıs (www.omu.edu.tr), Akdeniz (www.akdeniz.edu.tr), Çanakkale Onsekiz Mart (www.comu.edu.tr) and Çukurova (www.cu.edu.tr) University. Bteich et al. (2010) gives a list of institutes, researchers and titles of the research work carried out in Turkey. There are few other universities where departments of economics or business administration carry out research projects. In Turkey, since 1999, a national symposium on organic agriculture is organized regularly jointly with ETO (www.eto.org.tr), MoFAL and hosted by a university to discuss the research results and the proceedings are published. These Symposia were: 1st in 1999 (İzmir), 2001 (Antalya), 2006 (Yalova), 2010 (Erzurum), 2013 (Samsun). Additionally, there is a national organic animal husbandry congress held regularly, the first one was in 2010 (Kelkit/Gümüşhane) and the second one in Bursa in 2013 (www.organikhayvancilik.org). Some regional symposia aim to gather researchers and discuss major regional problems and exchange experiences. The 18.th Organic World Congress was organized between 13 to 15 October 2014 in Istanbul by BUGDAY under the auspices of the IFOAM.

The scientific track was organized by Ege University and ISOFAR. The papers accepted and presented are available in full text at organic e-prints (www.orgprints.org) which is

an international open access archive for papers and projects related to research in organic food and farming.

## Mechanisms in the Development of Ecologically Clean Agriculture in Turkey

### Support Policies

The Turkish MFAL revisits and decides the conditions for subsidies every year and then announces in the Official Gazette. The products to be supported and the amount of subsidies for 2014 are given in Table 10. The payments start after the completion of the first year in transition. The farmers must be registered to the Farm Registry System as well as the OFIS of the MFAL.

*Table 10. Direct payment subsidies for organic plant and animal production in 2014.*

| Supported products | Amount of support in 2014 (as Turkish Liras*) |
|---|---|
| Fruit and vegetables | 700 TL/ha |
| Field crops | 100TL/ha |
| Calf | 50 TL/animal |
| Female sheep and goat | 10TL/animal |
| Beehives | 5TL/hive |
| Trout | 0.35 TL/kg |
| Sea bass-Sea bream | 0.45 TL/kg |

** 1 TRY = 0.427973 USD as of December 17, 2014*

In addition to the above-mentioned direct payments, farmers, entrepreneurs or legal entities who are involved in production of organic products or inputs can have an access to loans with lower interest rates. Additional support is given to farming areas that are environmentally sensitive under ÇATAK program if organic management is practiced. IPARD project also give priority to organic management systems.

Organic agriculture is also promoted by supporting other mechanisms as participation to fairs and exhibitions, supports for analyses of organic products for the export market, research on market development.

In this respect, AEA organizes the participation of Turkish companies at Biofach (Nurnberg/Germany) and participation costs are partially supported by the government. The Ministry of Economy financed (25 % co-share of individual companies) a project to support companies exporting organic goods in order to seek new markets, channels and products.

There are few cluster activities as Izmir Organic Food Cluster and Southeast (9 provinces in SE Turkey) Organic Food and Textile cluster. IGEME, the Export Promotion Center prepares reports on exportation of organic products from Turkey.

## Domestic and Export Markets

There is no official market data related to marketing of organic products except imports. Import data is made public yearly by the MFAL. The import is based on processed food (e.g. baby food, chocolate, coffee) from Europe or raw material (e.g. cotton, apple juice, pomegranate juice, pulses, nuts) generally produced in neighbouring

countries (e.g. Syria, Iran, Uzbekistan, Kyrgyzstan) by Turkish companies and brought in for processing in Turkey. It is compulsory to use the organic logo for products marketed in Turkey as fully organic (Figure 8). Products certified as in transition or imported organic products cannot use the logo.

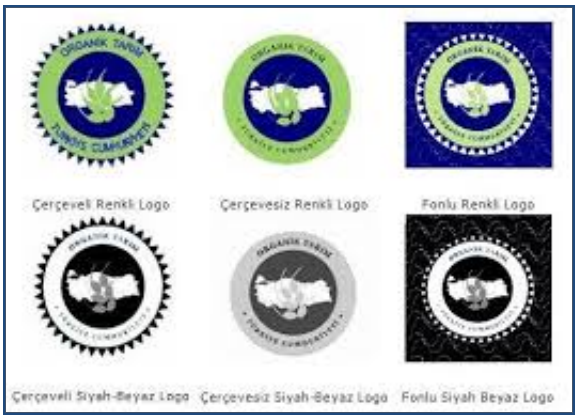


*Figure 8. Logo of the Turkish organic products produced according to the Turkish legislation (different forms exist as with frame or without a frame, colored and black-white).*

The export market is designed according to the demand coming from abroad and actualized through contracted farming. It still makes up almost 75 % of the market, EU being the leading market. US increase its share during the last few years. Domestic organic market is still small with a steady growth in the last few years for both plant and animal products. There are around 50 shops and supermarkets where organic products are available, as well as ca 25 open markets in the big cities. Direct and internet sales and specialized shops are still very limited. The shares of various marketing channels for organic agro-food commodities are estimated as follows (Aksoy, 2014):

- ***Export market;***
  Production designed by contracted farming according to the demand coming from abroad (> 75 %, 100 % in some products),

- ***Domestic market (as value, TL);***
  - Retail chains (13 %)
  - Wet (open) markets in major cities (6 %)
  - Farm to farm sales of feed and fodder to animal farms (5%)
  - Specialized shops (0.3)%
  - Internet sales (0.1 %)
  - Direct sales (0.1%)

These estimates do not include non-food organic products as textiles, pharmaceuticals, cosmetics or furniture. These sectors are also active as purchaser of Turkish organic agricultural products.

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# ORGANIC AGRICULTURE in UZBEKISTAN

**COUNTRY PROFILE (STATISTICS)**

| ***Key indicators, 2015:*** ***(FiBL & IFOAM - Organic International (2017))*** | ***Key statistics, 2014:*** ***(FAOSTAT)*** |
|---|---|
| ***Organic agriculture land (ha)*** | ***Country area*** |
| - | *44740 (1000 ha)* |
| ***Organic share of total agriculture land (%)*** | ***Land area*** |
| - | *42540 (1000 ha)* |
| ***Number of organic producers (No.)*** | ***Agriculture area*** |
| - | *26770 (1000 ha)* |
| ***Organic retail sales (Mio €)*** | ***Forest*** |
| - | *3231.02 (1000 ha)* |

## Legal Status

### *Competent authority*

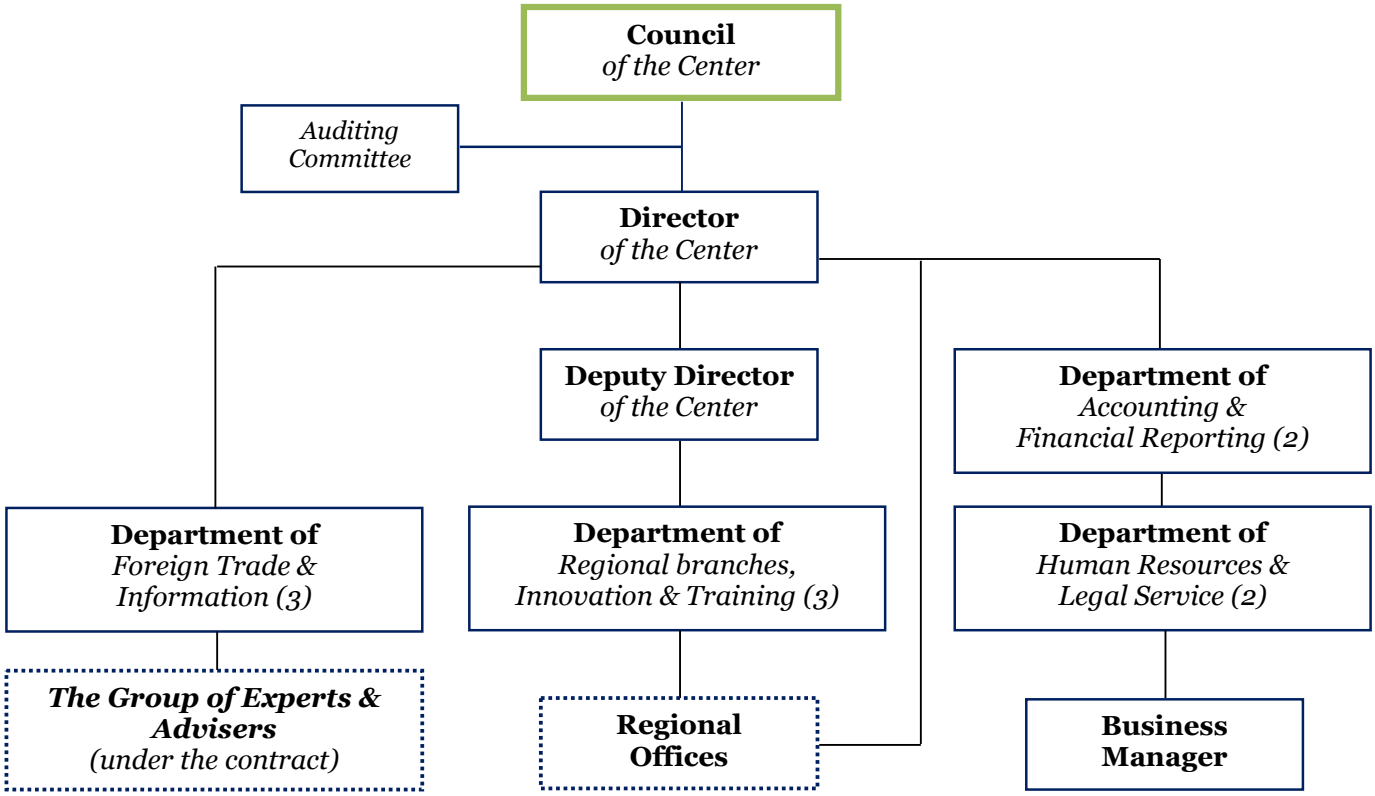
Under the current law of the Republic of Uzbekistan, the Ministry of Agriculture and Water Resources and its regional offices at the level of regions and districts represent the competent authorities for agrarian policy. Yearly the Ministry of Agriculture summarizes medium and long-term perspective and gives its recommendations on placement of forecast volumes of agricultural production at the level of regions and districts of the Republic.

It establishes organizational and economic relations with the relevant ministries, companies and associations to provide (vertically) the agriculture with financial and logistical (fuels and lubricants, mineral and organic fertilizers, water, etc.) resources. It monitors implementation of the indicators on crops, planting and agricultural production.

The results of analysis of the managerial and organizational structure of the Ministry of Agriculture and its regional offices have shown that to date the structure of the ministry

lacks the units dealing with organization and development of OA (Organic Agriculture) in the country. However, in these directions scientific research works are being carried out in the academic institutions, members of the Ministry, as well as there is lack of a number of non-state actors which render scientific advisory and consulting services to the agricultural enterprises.

The leading place in this area is taken by "Farmers Council of Uzbekistan", which includes Non-Govermental (non-profit) Organization "Agro-Center of Information – Innovation," the structure of the center is as follows:




As the founder of the center is the "Council of Farmers of Uzbekistan", the center was given the authority (the provisions are recorded in the "Charter" of the Center) on formation and development of OA in the agriculture of the republic. Study of foreign experience in development and implementation of OA and implementation of this experience is being carried out based on the specific conditions of the Republic of Uzbekistan. In addition, in production and sale of environmentally friendly agricultural products business entities with relevant expertise and direction are engaged.

## Legal framework

At present in Uzbekistan, a solid legal framework that provides free functioning of the agricultural enterprises with different forms of ownership and management has been established.

The main of them are "Law on Land", Law "On shirkats (cooperative) sector," Law "On Farms", Law "On Dehkan farm", Law "On Cooperation". The above-stated laws generally provide organizational and economic standards. In addition, there are a number of laws

in vigor relating to indirect OA and its principles. These laws include Law "On protection of agricultural plants against pests and diseases, and weeds," the purpose of which is to regulate relations connected with protection of crops from pests, diseases and weeds, to prevent harmful effects of plant protection products on human health and environment.

The Law "On Environmental Protection" establishes the legal, economic and organizational basis for preservation of the natural environment protection, rational use of natural resources. It has to ensure the harmonious development of a balanced relationship between a man and nature, protection of ecological systems and natural complexes and separate objects, to guarantee the rights of citizens to a healthy environment.

The Law "On Environmental Impact Assessment" - under the content of the environmental assessment according to the Act establishment of the compliance of planned or carried out economic activity and other activities with the environmental requirements and determination of the admissibility of realization of the object of ecological examination is meant. According to the law, a special Decree of the President and the Government Decree approved the Regulation "On the state ecological examination in the Republic of Uzbekistan", which provides compliance of the predicted, planned or carried out economic activity and other activities with the environmental requirements; levels of environmental hazards and the planned economic activity and other activities that could have or has a negative impact on the environment and public health; sufficiency and reasonableness of the measures envisaged for environment protection and rational use of natural resources.

## Inspection and Certification (supervisory bodies of CBS)

Many organic products with different signs of certification bodies one can additionally see inscription IFOAM ACCREDITED, which confirms the fulfillment of basic international requirements in the field of organic farming, though this requirement is not mandatory.

Thus, the world has developed three international standards of the system of EU Regulation 2092/91 (EC 834/2007), Codex Alimentarius Guidelines for Organically produced food 1999/2001 and the IFOAM Basic Standards (IBS). On there basis the national rules and regulations of organic food production are being already developed, which permits to take into account physical and geographical, social and economic characteristics of different countries. Three of the above-stated systems are quite similar, but they also have a number of differences.

Most countries have their own regulatory system in the field of organic agriculture, which includes not only the requirements for methods of production, but also the requirements for processing, packaging, and storage of products.

Now in the republic of Uzbekistan until there is no specific law or regulation making requirements for organic products. In some countries with developing economies, including the CIS countries, they are still under development. In the countries, which lack their own rules of organic farming, including Uzbekistan, foreign authorities may certify organic products with the ability to use their sign on the package. The authorized state bodies, along with other products, which do not have organic properties, carry out inspection and certification of organic production.

"Uzstandard" Agency may be referred to such bodies, as it was founded as a bureau to promote exportation of products, one of whose tasks is to provide enterprises - manufacturers with help in manufacturing export-oriented products, to provide with free

consulting services on international and insurance requirements to standards, certification, labeling, packaging of products and to other parameters.

According to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On additional measures to improve the procedures for certification and implementation of quality management systems" since 1st of May, 2011 the Regulation on the procedure for notification by the manufacturer concerning meeting the requirements on quality and safety of products manufactured in the Republic of Uzbekistan was approved. According to it to approve conformity of produced products with the requirements of the legislation and normative documents, it is necessary to fill in a notice in the prescribed form and submit it to the certification body in 2 copies for registration. In addition, according to the Resolution a list of products produced in Uzbekistan and imported into its territory, subject to mandatory certification, consisting of 76 types of items of goods is required.

The problem is that the lack of a specific law, making requirements for labeling of organic products and the state system of certification of organic products, significantly hamper the pace of development of the domestic market and export of organic products.

The situation is complicated by the fact that there are no private certification companies, though in Uzbekistan extensive work on the restructuring of state-owned enterprises is carried out, thus increasing the share of private companies in the structure of the economy.

Based on this situation, in the course of implementation of the project it is planned to carry out deep study of the legal framework of inspection and certification of organic products in the country. Based on the analysis and taking into account international experience, concrete proposals for the adoption of relevant legislation are needed.

## Data Collection System for Traditional and Organic Products

### Primary production (data from farms)

Rejection of intensive agriculture and transition to organic production is due to both environmental and social aspects, and dictated by the market. Privileged families in the developed countries are increasingly focusing on a healthy lifestyle, healthy food, drinks, clothes and clean environment. This is especially true of organic foods and baby foods.

Since in many developing countries, including, some CIS countries, food production has not kept pace with the population growth farmers, manufacturers have been increasingly resorting to the principles of intensive farming, which had a negative effect on the performance of the soil, the environment and directly on their health.

Since independence, the volume of agricultural production increased overall by more than twice that allowed under the country's population growth is almost 10 million people, accounting for more than 30 percent to increase in per capita consumption of meat by 1.3 times, milk and milk products - by 1.6 times, vegetables - more than twice, fruit - almost quadrupled. It is noteworthy that in Uzbekistan more than 90 percent of production of food of agriculture falls to share of farming enterprises, which are the subjects of business.

In addition, in the country, there are good initiatives in promoting organic production of agricultural products, processing and marketing of organic products has expanded rapidly. Because of active support and provision of various state benefits to the business entities active work on implementation of marketing research in order to develop the markets is being carried out.

Silk Road Organik Foods is 100% subsidiary of the MARAP Austrian Company. Silk Road Organic Foods company, which was a leading company in 2003, is located in Samarkand, the ancient Silk Road, and has become a leading producer of organic dried fruits, organic vegetables and organic nuts not only in the Central Asia.

In addition to the certificate of organic products since 2011, the company certifies its products by Fair Trade Certificate. Silk Road Organic Foods for 9 years had been working closely with organic producers - a group of small farmers "Turkistan Gulba" who grow organic cherries Fair Trade, almonds and organic fruits and vegetables.

The trend towards the consumption of semi-finished or finished products boosted demand for processed vegetables. The highest demand is observed on natural products, marked by Knospe quality mark. There are already specialized companies engaged in processing of vegetables grown using environmentally sound technologies.

Nevertheless, the damage was caused to the environment because of intensive agriculture in developing countries, soil salinity and inability to retain water. Damage to segments resulted with the siltation of reservoirs, increasing the cost of channel maintenance and habitat degradation. Re-irrigation led to the depletion of ground water, water logging and salinity, and soil compaction lead to the loss of its productivity. Strong control of weed, fungi, pests and diseases has led to the rapid growth of their population and increased drug resistance. The intensive use of agro-chemicals is harmful to the health of people working directly on the ground as well as people living in the vicinity (through air pollution, drinking water, etc.).

## Processing

Processing of fruit and vegetables is constantly growing. The analysis shows that per 2000-2010 the amount of vegetables has grown by 6.0 times, melons - by 10 times, fruit - 3 times, vineyards - about 2 times. In 2010, the share of the processing of grapes in the total volume of production amounted to 24.4%, vegetables - 11.3%, fruits - 18.2%. Melons are processed a little, about 1% of the total production[66].

149 large and numerous small processing enterprises carry out-processing of fruit and vegetable production in the country. Products of processing are presented canned vegetables, dried fruits and vegetables, tomato paste and juice, as well as grape guilt and alcoholic beverages. Processing (including drying) covers slightly more than 15% of the total volume of production.

There is an opportunity in the coming years to increase the volume of processing up to 30-35% of the total production and differentiate this figure by types of crops according to their ripening and the possibility of long-term storage.

However, virtually there are no modern technologies for processing of organic products. For this, it is necessary to improve the regulatory framework, to introduce modern technology for processing and packaging of organic products produced in the republic. At the same time, it is necessary to improve and create more favorable conditions for natural drying of fruits and grapes, which is one of the main ways of processing of organic products.

66 ***Source:*** Based on dates from the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan

## Marketing channels (domestic market, export, import)

The main market for fruits and vegetables from Uzbekistan including dried organic products is Russia. However, the capacity of the Russian market is great; the potential of this market is increasing through establishment of a single customs space of Russia, Kazakhstan and Belarus. Only a small amount of products is exported to the European markets because of the restrictions on transportation related to the fact that Uzbekistan is a landlocked country, as well as because of the significant distances.

Distribution channels and sales channels of MARAP:

- Reprocessors (chocolate industry);
- Supermarket stores;
- Other buyers.

For 10 years, MARAP invested 5 million EUR of equity funds into organic production in Uzbekistan. At the same time, MARAP is a leading manufacturer of organic products in the world. MARAP ranked first in production of dried cherries (95% of the world market). MARAP/Silk Road Organic Foods are concentrated in production of expensive organic products (dried fruits, berries, nuts, but not legumes and other crops, agricultural products that are not expensive).

MARAP shall continue to focus on markets where the company has already taken its position to strengthen them. One of the main markets is the market of Europe and Switzerland. MARAP has no expansion plans for the CIS countries: MARAP had experience of deliveries to Russia and Ukraine with disastrous results. "They do not know and do not understand what is organic. They do not appreciate and do not consume organics" - such was the conclusion of the Austrian businessperson.

Based on the above situation, it is necessary to strengthen the market research both in the domestic and foreign markets for products. In our opinion, the government should fully support organization and activities of market entities whose main activity is marketing research and rendering consulting services for sales of organic products.

## Non-food organic products (textiles, cosmetics, etc.)

The growing demand for environmentally friendly products ("organic" products, textiles, cosmetics, toys, furniture, houses) does more actual "return to the earth" and safe natural management. Such reassessment of the demand in the international community is determined, on the one hand, by the need for more efficient use of "forces of nature given to us" and increasingly expensive capital investments, on the other hand - increasing demand for environmentally friendly (green) products.

The opportunities and potential of Uzbekistan in production of non-food organic products is very high. For example, among the world's buyers the demand for textiles from organic cotton is very wide. However, in the world market all natural cotton is imported, mainly from India, Turkey, Egypt and Tanzania. Its processing takes place in Switzerland itself, as well as India, Germany, Greece, Portugal, Lithuania, Croatia and other countries. Uzbekistan has not yet made organic cotton.

One of the most promising types of non-food organic products is silk. However, Uzbekistan is considered one of the main producers of silk in the world market. Currently, the country produces more than 26,000 tons of silk grains and this indicator has a stable growth. In addition to the industrial enterprises composed by "O'zbekyengilsanoat" in the areas of the Fergana Valley, many entrepreneurs work producing natural silk and textile products.

It is believed that in the near future the state shall be engaged in promotion and development of producers of the silk organic products. In our opinion, such measures will also contribute to development of the organic sector in Uzbekistan.

## Training and Education

### Formal higher education

In the Republic of Uzbekistan, there is a number of educational institutions engaged in training experts with higher education for the agricultural sectors of the economy.

Among these are the following agricultural universities of the country: Tashkent State Agrarian University, Samarkand Agricultural Institute, Andijan Agricultural Institute, Karshi Engineering Economic Institute and Tashkent Institute of Irrigation and Land Reclamation.

In addition to these universities, in numerous educational institutions experts for the agricultural sector are trained. However, in these universities there is no a separate department or directions that prepare experts for organic production.

### Training for trainers

With the support of dehkan, farming and other agricultural farms in the Republic of Uzbekistan the Board of farmers of Uzbekistan and its organization performs most of the work.

In the republic and abroad training courses, seminars - trainings and workshops for development of advisory services in the areas of agro - technology, legal and economic spheres, in marketing, management and development of organic agriculture in other spheres on a permanent basis are organized.

In the structure of the Board of Farmers of Uzbekistan NGO of the Center of agro-information - innovation of Uzbekistan operates, which conducts these activities to improve the knowledge of experts and training of trainers for further transfer of knowledge in the regions of the Republic of Uzbekistan.

Today, there is increasing demand for environmentally friendly agricultural products all over the world. In Uzbekistan, there are all conditions for access of its production to the world market for the sale of products. This theme within the context of measures to increase the export potential of agricultural producers, to render them assistance in cultivation and production of competitive products and their promotion in the foreign trade arena is supported by the training courses conducted by the NGO of the Agro-Center of Information - Innovation which were dedicated to this issue. The experts from all the regions of Uzbekistan participated in the event organized by the Centre of Agro-information - Innovation of Uzbekistan at the Council of Farmers of Uzbekistan jointly with the USAID's Project on the regional economic cooperation and the development of organic agriculture and training of trainers.

It was the first of a planned series of training courses "Production and certification of organic products." Its goal was to inform the interested farmers with the standards in this sphere, the basic rules of farming and organic production.

At these courses trainers from different organizations made speeches. Director of the Centre of Agro-Information – Innovations of Uzbekistan Mirzohid YULDASHEV told about development of organic agriculture in Uzbekistan. Today in the Central Asian

region, Uzbekistan has the most successful advance in this matter. The trend of a healthy lifestyle has made some changes in marketing and sales, in formation of new niches in the food market.

Therefore, all farmers are paying more attention to organic farming and production of products under "organic" brand. It is no coincidence that the group of participants of the workshop is represented by farmers applying for the right to be engaged in the organic farming and organic production.

The international expert, an executive director of "Bio Service" Public Fund (Kyrgyzstan) Saparbek ALYMKULOV informed on production and export of organic products in Kyrgyzstan. The participants learned about the benefits of organic farming as an example of "Bio Farmer" cooperative body, as well as with the value chain for cotton, with the results of the annual benchmarking.

Explaining what organic production is the international expert noted that, first - it is the principles of economic activity in conjunction with the nature. This is purity of irrigation water, crops growing without use of chemicals and synthetic fertilizers and pesticides, rejection of antibiotics in animal husbandry, pest control using only biological products and others. In addition, it is preservation of the environment. Improper management of the economy and use of chemicals are leading to soil erosion, reducing its fertility. Farmers must follow a number of rules. For example, it is not allowed to grow the one crop for several years at the same site. To get harmless and environmentally friendly products, it is necessary to comply with crop rotation.

S.Alymkulov emphasized the fact that organic product is sold as more expensive. For example, exported Kyrgyz organic cotton is sold as more expensive and its cost is 20% higher. A farmer receives for it is not only money, but also by-products - organic oil and cake meal.

On November 2, 2013 at the Second National Forum on "Development of Organic Agriculture and the Green Economy in the Kyrgyz Republic" in Bishkek, Kyrgyz Republic the Agreement on Cooperation between the Organizations of Kyrgyzstan, Kazakhstan, Tajikistan, Uzbekistan, Mongolia and Azerbaijan was signed [67]. Its provisions are consistent with the principles of the International Federation of Organic Agriculture Movements (IFOAM).

## Features of Certification

Abdulatib KHALDAROV, an employee of "Helvetas Swiss Intercooperation" Swiss Association for International Cooperation, an expert in production and certification of organic products, an international consultant briefed the participants with the basic objectives and principles of organic agriculture. He spoke about the rules of transition of the traditional economy into organic production of crops, fruit trees and vineyards. He focused on fertility of the soil and improvement of its methods, introduced the list of authorized plant protection products. The topic of diseases and pests of crops and organic methods of control caused the greatest interest of the participants. The participants clearly learned the main principle of organic farming - observance of a natural cycle: people fed the land - the land feeds a plant - the plant is feeding a man.

Considerable attention of the international consultant was paid to certification of organic products. He told about the features of the internal control structure, the

[67] http://www.gde.kg/main/boomstudio/boom_anons/3785-vtoroy-nacionalnyy-organicheskiy-forum-i-vystavka-yarmarka.html, http://slovo.kg/?p=27019

foundations of its organization, necessary documentation and procedures for international certification of organic farms.

## Criteria for Local Product

According to the program of training courses, coaches to determine the criteria for production of organic products were prepared. The participants called more than a dozen of them. They are: demand on the foreign market; access to irrigation water and organic fertilizers; availability of a wholesale buyer (currently there are importers from the Russian Federation), availability of adequate storage facilities, processing plants, seed and planting material, useful entomophagous, and, of course, the possibility of long-term storage of products, laboratory analysis, domestic sales (including, in case of force majeure for exports), large amounts of cultivation. After analysis of the criteria, the products that can be produced in the region as organic ones were identified. Among them, there are cotton, honey, carrots, watermelons, potatoes, grapes and rice. After weighing all the nuances, we concluded that it is most advantageous to bet on the vine.

The courses were completed by pre-planning session for production and certification of organic products in Uzbekistan. The participants were divided into two groups. The first defined the range of tasks and the timing of their solution within a year for production of an organic product. Under the authority of the Board of farmers, there were such issues like selection of farmers, growing areas for organic products, warehouses for storage, specialized training of farmers, the issues of transportation and storage, labeling of organic products, logo design. Farmers for efficient organization of their activities should prepare the necessary quantity of organic fertilizers, to define the strategy of export of organic products and sale of the products part at the local market.

A second group developed an exemplary system of internal controls and identified the main questions relating to the certification process. The group coped with the task, the representatives of each of them made a presentation.

Summing up the trial of the course, the participants noted that they had received all the answers and thanked the working group and the organizers of the event. Based on it they made the main conclusion: *"organic"* farmers suffer least losses in all the circumstances compared to the traditional ones, but get maximum profit.

## Training of farmers

During the reporting period NGO Center for Agro-information of Uzbekistan at the Council of Farmers of Uzbekistan since 28 - 29.01.2014 carried out "Introductory seminar on production and certification of organic products in Uzbekistan" together with the "Project for regional economic cooperation," Intercooperation Suisse Holvetas and "Bio Service" public funds in Urgench city.

The seminar was attended by 43 people; including 3 women and 40 men. Under the program of the workshop, the participants – farmers were introduced the following directions of OA:

- Experience of growing – availability of production resources – availability of the wholesale buyers – availability of infrastructure (processing ...)
- The presence of interested farmers - access to clean water – the ecological status of the zone – provision of farmers with org. fertilizers – availability of the infrastructure (processing ...)

## Production:

- Selection of farmers
- Conclusion of performance contracts
- Providing the means of production
- Consultations on OA
- Communication and Logistics
- Testing of the expected harvest
- Collecting, drying and delivery of the crop
- Processing and Coding
- Protecting the interests of farmers

### Internal Control Service and Marketing

- Establish an internal control system (to develop guidelines for certification to develop certification forms, to inspect the farm.)
- Establish communication with the accredited international certification agency
- Establish a certification committee
- Establish Appeals Committee
- Market analysis and marketing

### Development of an action plan taking into account the following

- Production
- Internal control system
- Training

As well as the steps and rules how to become an organic farmer.

## Market

### Domestic market

Sales of agricultural products on the internal market for farmers and dekhkan farms involves the presence of many intermediaries in the market (speculators) as a result the prices of products coming from the producer to the consumer have certain differences, and revenues are deposited in intermediaries. The lack of special vehicles for transportation of fruit and vegetables and insufficient supply of packaging materials is also a kind of barrier on the way of the exit of farmers and dehkan farms on the domestic market.

Prices of fruit and vegetable products in the domestic market in the period of mass ripening are dramatically reduced, which does not allow producers to fully compensate for the costs to support the manufacturers, and it is apparently necessary to consider organization of intervention purchases. Despite increase in production, the prices of fruits and vegetables in the domestic market have a growth trend.

The potential and scope of coverage of organic products in the domestic market of the country is difficult to determine.

This is because on the state and local levels monitoring of production and sale of organic products is not established. However, given the great potential in the country and rapid development of the market of organic products throughout the world, it is possible to predict in Uzbekistan growth and development of the internal market. However, this will require development and adoption of specific measures at the state level. In the process of implementation of this project it is planned to develop concrete proposals providing for introduction of certain changes in law, regulation of production, processing

and export (simplification of procedures, reduction of taxes and tariffs, encourage of private enterprise) and their submission to the authorized state bodies.

## Export market

In the Republic there are the following positive factors affecting increase in the export potential of the agricultural sector: paying a lot of attention from the side of the government to increase of production of fruits-vegetables and providing a number of benefits for exporters; the presence of favorable climatic conditions for production of fruit and vegetables; availability of cheap labor; climatic conditions of Uzbekistan permit to obtain 2 harvests of vegetable crops and in some regions - 3 harvests throughout the year. Annual growth in export of fruit and vegetables is provided. Therefore, in 2008 it vegetables were exported in volume of 126.4 thousand tons (2.4% of total production), and in 2010 this figure was 292.9 thousand tons, or 4.6% of the total production. The share of exports of fruits in 2008 was 6.7% and in 2010 - 10.1 percent of the volume of production and grapes, respectively, 10.5 and 9.7 percents.

In recent years, the volume of exports of fruit and vegetables in summary is increasing. However, there are the following negative factors relating the export of fruit and vegetables: an incomplete compliance with the international standards of product quality; export restrictions by the Government for the domestic market saturation; requirement of 100% prepayment of exports of fruit and vegetables; sale of products in the neighboring countries where prices are relatively low; high transport costs for exports; the need to cross the territory of the two countries to enter into the open sea; underdevelopment of the system of long-term storage and products packaging.

The agricultural sector accounts for a third of gross domestic product and more than 5.5% of gross proceeds received from exports. The main export market in Uzbekistan is the Russian Federation. In 2011, Uzbekistan joined the three largest suppliers of fruits to Russia, being ahead in the terms of volume of deliveries of such countries like Poland, China, Spain, Argentina, Morocco, South Africa and Italy. In 2009/10 season, Uzbekistan ranked sixth among the largest suppliers of fruit to Russia. The main items of fruit export from Uzbekistan to Russia were drupaceous fruit (cherry, apricot, peach, and others), table wine with melon and watermelon, which accounted for 75% of all the deliveries. The export of dried fruits is actively developing. The annual export of dried fruits from Uzbekistan is about 300 thousand tons of fruits and vegetables, which represents almost a third of total production for the year. Owing to reducing tariffs for transportation, increase of the proportion of fruits from Uzbekistan to the Russian market to 40% is expected. Finally, fruits from Uzbekistan shall find their permanent mass consumer.

## Import

Imported products are delivered from the near and far abroad to the domestic fruit and vegetable market of the republic creating competition to local farmers. The main exporters of fruits and vegetables from Uzbekistan are as follows: China, Russia, Iran, Kyrgyzstan, Brazil and Chile.

Citrus fruits are imported which are not produced in Uzbekistan; in large amounts products are delivered from the local farmers who produce apples, pears, grapes. Due to the high quality of imported products, local farmers are unable to compete to them. Although the taste of local products is significantly higher than those of imported, however, they are inferior in its presentation. Therefore, imported products are of great demand among consumers in comparison with the products of local farmers. Here we see the impact of shortcoming of standards of agricultural products in accordance with the

international standards and lack of standardization from the producer to the consumer, as well as poor packaging.

All this requires protection of the domestic market from the expansion of imported fruit and vegetables. Moreover, the state must create the necessary legal conditions for the private sector to improve the quality and enhance the competitiveness of products, to make customs barriers more severe for those products, which are produced by the local farmers within reasonable limits so as not to create a shortage in the domestic market.

Since the growth of imports causes pressure on prices in the domestic market, the demand on the part of large retail chains is increasing. Sufficient amounts of domestic production and customs legislation eliminate import of cabbage, celery, carrots and beets. Domestic production is protected by high tariffs, but the law provides for the periods of high and low tariffs.

## Existing NGOs and Projects

As noted above that, Uzbekistan has a very solid scientific potential for the agricultural sciences and is an undisputed leader in the Central Asia, holding a high ranking in the global agricultural science.

Currently, the system of scientific and production center of Agriculture consists of more than twenty major research institutions and all the agricultural universities of the country are closely involved in the research activities.

For example, Uzbek Research Institute of Horticulture, Viticulture and Winemaking named after R.R.Shryoder operates for more than 70 years and has branches in each region. The Institute has well-equipped manufacturing and research capabilities.

The Resolution of the Cabinet of Ministers No. 315 "On deepening the integration of science and production in horticulture and viticulture of the Republic" dated from August 14, 1995 to enhance the independence of scientific research departments in organizing of investigations and implementing of their results in the production, to achieve high performance of the activity, the scientific-production association on gardening, viticulture and wine-making named after R.R. Schryoder was converted into a Research and Production Corporation on gardening, viticulture and winemaking.

The Institute scientists have developed and recommended resource-efficient environmentally friendly technologies to be introduced into the production, which provide production of fruits and grapes amounted to 15-20 tons per hectare. The technology of cultivation of orchards and vineyards in the mountain foothill areas as one of the major reserve to increase the production of high-quality eco-friendly fruit production has been designed and developed. Integrated and biological pest and disease control measures in orchards and vineyards have been developed; these are the technologies of drip irrigation, deep fertilization, and effective ways of drying.

Based on the foregoing Uzbekistan has all opportunities to establish and develop OA based on scientifically sound basis.

In Uzbekistan NGO of the Center of agro - information - innovation of Uzbekistan which implements project "Development of Organic Agriculture in Uzbekistan and export" funded by USAID project of regional economic cooperation is carrying out active work in development of organic agriculture in Uzbekistan. Under this project, the following activities are organized:

- Workshop - training for agricultural experts in the regions of Uzbekistan;

- Courses for trainers on development of organic agriculture;
- A training course for exporters from Uzbekistan to familiarize with the standards and conditions of products export of the European countries in Latvia;
- Round tables for exporters on development of expert-import transactions in Uzbekistan, Kazakhstan, Kyrgyzstan and Afghanistan.

## Major Problems in the Country

The main problems on the way of introduction of organic farming in Russia are lack of a developed legal framework, modern technologies, qualified personnel and training systems.

To solve all these problems it is necessary to undertake a range of measures, including the law on production of organic products, technical regulations for organic agro products and national quality standards of environmentally friendly products.

The results of the research within this project have shown that Uzbekistan has all the opportunities for organic production, as well as the potential for export abroad. Let us now consider all the obstacles that are associated with the production and processing, as well as, marketing of organic products to most accurately determine the potential. Despite all the prerequisites and the first successes of different projects, organizations and initiatives in Tajikistan, there are a number of difficulties to be overcome on the way to an efficient organic agriculture.

Thus, on the one hand, development of organic agriculture is hampered by the lack of legislative and regulatory acts. Since organic farming is not (yet) is in the focus of government programs, its implementation now lacks benefits or subsidies or any state support, as is the case in other CIS countries (Ukraine, Georgia, Armenia).

Entering the world market, it is necessary to consider fierce competition with businesses from other countries (high quality and cheap dried fruits and nuts from Turkey to Iran.

Taking into account the world experience, the experience of developing countries, the experience of neighboring countries and the CIS countries, it is becoming clear that we cannot approach the issue of organics narrowly within the framework of production and processing. To achieve maximum success, it is necessary to see organic production as a complex and develop it at all the levels. This requires:

1. The interest of the state bodies and fixed priority of organic production in the state program of development;
2. Development of own rules and principles in organic matter, enshrined in legislation in accordance with the international organic standards;
3. Adoption of legislation on organic agricultural production, implementation a national certification recognized in the countries where the Tajik organic products are supplied;
4. Reduction of customs duties and taxes on the production and processing of organic products;
5. Increasing awareness about the benefits of healthy eating, the importance of organic agriculture for society, the economy, the environment and each person in particular;
6. Improving the knowledge and skills of farmers in organic agriculture, consulting and soft credits, programs to support organic agriculture;
7. Investments in organic processing to produce high quality exclusive products that

can compete in the world markets and represent Uzbekistan at the world exhibitions;
8. Creation of conditions for development of the local market of organic products to contribute to its promotion, marketing, information campaigns;
9. Lack of a stable and growing demand on the part of the population, state grants and incentive mechanisms, high trade barriers in the organic market, a small segment of the organic market in the common market of agricultural products, and the absence of a legislative framework.

## Additional Remarks

Soil and climatic conditions of the republic completely permit to grow ecologically pure fruit and vegetable products. However, now there is no market of environmentally friendly products. The reason for this is the uncertainty of the concept of "environmentally friendly products" in the legislation. Still there has not been formed regulatory framework governing the production of environmentally friendly products.

The certification system and method of monitoring of production and packaging of environmentally friendly products has not been set up.

The advantages of organizing production of environmentally friendly products in the farms lies in the fact that they may have a guaranteed market where you can sell your products 2-3 times more expensive than under the normal conditions. In the future, it will be very difficult to enter the world market with products grown by traditional methods. Even in the CIS markets there is rapidly growing demand for environmentally friendly products.

Currently, private farms can switch to the production of environmentally friendly products without any additional investment, because these farms have implemented a number of measures that are required in the production of environmentally friendly products.

For example, when manufacturing environmentally friendly products it is not permitted to use different kinds of herbicides, fertilizers and plant protection chemicals in the selected plots of land for three years. In practice, relatively small peasant’s households and farms are not able to purchase these resources. In many cases, these farms use organic fertilizers to improve soil fertility.

In addition, in terms of the requirements of using manual labor in manufacturing environmentally friendly products, private farms also have a number of advantages. In the context of implementation of the production of environmentally friendly products, on the one hand, crop yields will be low, and labor costs are high, on the other hand, because of the qualitative properties of products, it is possible to sell it at much more expensive price than conventional products.

Organic products are characterized by high content of vitamins and mineral substances healthful to humans, unlike the product grown in conventional manner. Therefore, such products do not cause various diseases in humans.

In addition to product quality and competitive advantage, introduction of environmentally clean manufacturing is of great importance in protecting the environment. The absence of chemicals in manufacturing products helps to improve quality of water and soil, as well as promotes to reduction of environmental damage and human health.

The President of Uzbekistan H.E. Islam KARIMOV made a speech at the Conference on "The most important reserves of implementation of Food Program in Uzbekistan" on June 5-6 2014. He said that over the period since the collapse of the USSR, Uzbekistan carried out drastic reforms in the field of agriculture, which led to diversification of agricultural production. In particular, agricultural lands have been transferred to private farms created with allotment of the plots of land on rental basis; the state has the provided necessary legal privileges and preferences. The market infrastructure was established, providing farmers with all kinds of services.

In addition, foreign capital is actively attracted. Therefore, today in agriculture of Uzbekistan about 400 enterprises conduct their activity with foreign direct investment, and the plans for next few years envisage additional implementation of 265 investment projects more in the field of treatment and processing of fruit and vegetable raw materials. Finally, cooperation with international organizations is being carried out.

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# ANNEXES

## *Annex 1: Project Proposal*

*Project Title:*

**"Exchange of Experience and Strengthening Inter-Agency Cooperation on the Development of Ecologically Clean Agriculture in Economic Cooperation Organization (ECO) Member Countries"**

### *Introduction*

With growing world population, a dissemination of new production methods, introduction of the latest technologies and broader use of chemical and genetically modified substances and fertilizers in agriculture, which has become a lifestyle since formation of human society, has led to massive market access of food products that are harmful to human health. However, a "green revolution" started since 60s-70s of the XX century revealed the harms of such trend in agriculture. Hence, a new concept of ecologically clean agriculture was proposed as an alternative to traditional agriculture. Currently, this concept is more relevant from the point of both enviroment protection and protection of human health and consumer rights as well as from the perspective of forming value-added in agriculture.

Although a number of conceptual aspects in ecologically clean agriculture mentioned above have been developed worldwide, including in the most of European countries, some Latin American countries, the US, Japan and other countries, it is unfortunate that these concepts have been developing poorly in ECO countries with levels of awareness and cooperation well below its potential.

### Conceptual Foundations of Ecologically Clean Agriculture

Taking into account the above-mentioned, the following conceptual aspects can be provided in justification of the project in question:

- Low level of experience and cooperation in ECO countries on ecologically clean agriculture;
- Reliable and safe food provision for population;
- Efficient use of land and water resources;
- Solution to salinization problem;
- Preservation of ecological balance and biodiversity;
- Exports of value-added ecologically clean products to world markets;
- Increase in farmers' and entrepreneuers' incomes;
- Shifting of products of unique quality into ecologically clean agriculture;
- Rising competitiveness of ecologically clean agricultural products of ECO countries in world markets.

The approach on above-mentioned aspects would raise international status of the project while laying a foundation for future cooperation and exchange of experience in ecologically clean agriculture. Hence, the main objective of the project is to identify a potential of ecologically clean agriculture in ECO countries and develop cooperation to enable ECO countries to ensure a certain share in rapidly growing world market of ecologically clean products.

### Key tasks

Tasks identified for achieving the objective set forth for the project are comprised of the following:

- Investigate current status of ecologically clean agriculture for ECO countries;
- Analyze development problems of ecologically clean agriculture in ECO countries;

- Identify areas for future cooperation to increase prospects for development of ecologically clean agriculture in ECO countries.

### Data

The study will use database from IFOAM, ECO and CIS, relevant information of ECO country governments and data from other sources. Main direction of work will consist of studying international experience on and application opportunities of ecologically clean agriculture.

Successful implementation of the project is expected to assist in attaining the following results:

- Strengthening of a currently weak cooperation among ECO countries in this area;
- Intensive exchange of experience and developing specific recommendations for ECO countries;
- Use of "eco" trademark in competitive agricultural products in ECO countries with opportunities to launch into world makrkets;
- Development of a common databse and increasing newer opportunities for cooperation;
- Initiation of a number of conceptual issues mentioned at an international level on ecologically clean agriculture in ECO countries;
- Fulfilment of international obligations on protection of environment;
- Forming of joint-venture companies and development of entrepreneurship, etc.

## General Information

The proposed is an applied international level research project. Implementation place of the project the Republic of Azerbaijan.

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### Brief Information on the Institute for Scientific Research on Economic Reforms (ISRER)

Under its present name, the Institute for Scientific Research on Economic Reforms (ISRER)* is one of the entities subordinated to Ministry of Economic Development of the Republic of Azerbaijan and is founded in 1964. By its status, the Institute is the only high-category scientific research institution within the government.

The mission of the Institute is to explore socio-economic, macroeconomic and regional development issues in formation of independent national economy in Azerbaijan, develop scientific foundations of strategy and tactics of implementation of economic reforms.

If compared to international practice, the transformation of the ISRER into a Think-Tank is very much relevant in terms of decision making for implementation of state policy. There are 10 divisions, including 6 research divisions and a library, and 85 staff units in organizational structure. There are currently 77 staff, of which 2 Doctors of Economic Sciences, 10 Candidates of Economic Sciences and 1 PhD in Economics.

In line with its mission, the Institute carries out research in the following areas in order to develop proposals and recommendations to Ministry of Economic Development for decision making on various aspects of socio-economic development:

- Macroeconomics;
- Entrepreneurship and regional development;
- Non-oil sector development;
- Sustainable development;
- Statistics and analyses.

In addition, having expanded its cooperation network recently, the Institute is engaged in close cooperation with both local (Universities, research institutions) and foreign organizations (donor organizations, research institutions of similar profile).

** The last amendment was made through a decree No. 504 of the President of the Republic of Azerbaijan "on measures related to improvement of performance of the Ministry of Economic Development of the Republic of Azerbaijan" dated December 28th, 2006.*

## Research Experience of ISRER on Ecologically Clean Agriculture

Despite a relatively short period of activities, the Institute for Scientific Research on Economic Reforms possesses necessary experience in the area in question. As such, a project between the Institute for Scientific Research on Economic Reforms and Turkish Cooperation and Development Agency (TIKA) of the Republic of Turkey on "Studying experience of Turkey and strengthening inter-agency cooperation in the process of developing ecologically clean agriculture in Azerbaijan" is carried out since 2011, which, in turn, enabled shaping of an advanced concept for the country related to activities undertaken as part of the project.

Project activities played a key role not only in policy formulation in this area, but also contributed to staff development, greater awareness, implementation of scientific research projects, international cooperation and other developments:

- Staff of the Institute participated in various international events;
- Staff of the Institute undertook a one-month long visit to the Republic of Turkey meeting with a number of related agencies;
- A SWOT analysis was conducted to evaluate development prospects of ecologically clean agriculture in Azerbaijan with participation of experts from Turkey. A round table was held among experts from several public and private entities to discuss the results of the SWOT analysis;
- As part of the Project, and based on the acquired experience and results, a draft Action Plan was prepared on the development of ecologically clean agriculture in the Republic of Azerbaijan by the Institute for Scientific Research on Economic Reforms (ISRER), and it is planned to hold a roundtable with participation of international experts to discuss it.

A number of models were developed on ecologically clean agriculture in a number of developed countries. In this respect, it is also an objective of our research to propose an advanced government strategy on the development of this area while accounting for country characteristics. As such, the development of ecologically clean agriculture is very much relevant in the public policy in terms of reliable food provision, ecological balance and generating value-added in agriculture.

Taking into account all of these aspects, studies carried out by ISRER on this area are of particular importance for implementing joint research on ECO countries.

# Project Implementation Plan

***Introduction***

***Theoretical aspects of research on issues related to ecologically clean agriculture***

- Definition and main principles of ecologically clean agriculture
- Contemporary conceptual aspects and main development areas of ecologically clean agriculture
- Factors affecting development of ecologically clean agriculture
- Role of ecologically clean agriculture in economic development and comparative analysis of international experience

***Analysis of development potential of ecologically clean agriculture in ECO member countries***

***Development of organic agriculture in Kazakhstan***

- Current state and priority areas of agriculture in Kazakhstan
- Evaluating opportunities for shifting of competitve agricultural products in Kazakhstan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Kazakhstan

***Development of ecologically clean agriculture in Kyrgyzstan***

- Current state and priority areas of agriculture in Kyrgyzstan
- Evaluating opportunities for shifting of competitve agricultural products in Kyrgyzstan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Kyrgyzstan

***Development of ecologically clean agriculture in Uzbekistan***

- Current state and priority areas of agriculture in the Republic of Uzbekistan
- Evaluating opportunities for shifting of competitve agricultural products in Uzbekistan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Uzbekistan

***Development of ecologically clean agriculture in Tajikistan***

- Current state and priority areas of agriculture in Tajikistan
- Evaluating opportunities for shifting of competitve agricultural products in Tajikistan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Tajikistan

***Development of ecologically clean agriculture in Turkmenistan***

- Current state and priority areas of agriculture in Turkmenistan
- Evaluating opportunities for shifting of competitve agricultural products in Turkmenistan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Turkmenistan

***Development of ecologically clean agriculture in Turkey***

- Current state and priority areas of agriculture in Turkey
- Evaluating opportunities for shifting of competitve agricultural products in Turkey to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Turkey

***Development of ecologically clean agriculture in Afghanistan***

- Current state and priority areas of agriculture in Afghanistan

- Evaluating opportunities for shifting of competitve agricultural products in Afghanistan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Afghanistan

***Development of ecologically clean agriculture in Iran***

- Current state and priority areas of agriculture in Iran
- Evaluating opportunities for shifting of competitve agricultural products in Iran to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Iran

***Development of ecologically clean agriculture in Pakistan***

- Current state and priority areas of agriculture in Pakistan
- Evaluating opportunities for shifting of competitve agricultural products in Pakistan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Pakistan

***Development of ecologically clean agriculture in Azerbaijan***

- Current state and priority areas of agriculture in Azerbaijan
- Evaluating opportunities for shifting of competitve agricultural products in Azerbaijan to ecologically clean agriculture
- Improving economic mechanisms in the development of ecologically clean agriculture – the case of Azerbaijan

**Opportunities for strengthening cooperation in ECO member countries in developing ecologically clean agriculture**

- Investigation of opportunities for cooperation of ECO member countries with international organizations in the area of ecologically clean agriculture
- Investigation of opportunities for participation of ECO member countries in international projects in the area of ecologically clean agriculture
- Development of database for ECO member countries in the area of ecologically clean agriculture
- Identification of areas for newer projects in ECO member countries in the area of ecologically clean agriculture

**Presentation of a final report**

## *Annex 2: Questioner*

### Legal Status

- Competent authority (if any please give its structure)
- Legal background (law, by law, regulation) please attach as annex))
- Content (plant production, animal production, wild harvest, aquaculture, processing, marketing)
- Inspection and certification (control bodies CBs) (Give a list of the CBs functioning in the country)

### Data Collection System for Conventional and Organic Products

*(Who is responsible, how does it function, who process and make it public, what is the basic code)*

- Primary production (farm data)
- Processing
- Marketing channels (domestic market, export, import)
- Non-food organic (textiles, cosmetics etc.)

### Training and Education

*(Please give brief information about the current activities and give the contact info for the top ranking 5 institutions)*

- Formal higher education
- Training of trainers
- Training of farmers

### Research on Organic Agriculture

*(Briefly introduce the ongoing activities and capacity)*

### Meeting on Organic Agriculture

*(Scientific and/or awareness rising)*

### Market

- Domestic market
- Export market
- Import

### Existing NGOs and Projects

### Major Problems in the Country

*(In the field of organic or those originating from agricultural production)*

### Additional Remarks

## *Annex 3: Terms of Reference for Project Personnel (Consultants)*

*Project Title:*

**"EXCHANGE of EXPERIENCE and STRENGTHENING INTER-AGENCY COOPERATION on the DEVELOPMENT of ECOLOGICALLY CLEAN AGRICULTURE in ECONOMIC COOPERATION ORGANIZATION (ECO) MEMBER COUNTRIES"**

*Overview:*

The main purpose of the Project "Exchange of Experiences and Strengthening Inter-Agency Cooperation on the Development of Ecologically Clean Agriculture Model in the ECO Member Countries" is to develop an overall regional green economy model in the region to be based on ecologically clean agriculture. Specifically, the Project will build on the holistic green economy model of the region by focusing on the agriculture sector, as one of the ECO' priorities.

*Background:*

The expert, under the overall supervision and in close coordination with the Institute for Scientific Research on Economic Reforms (ISRER) under the Ministry of Economy of the Republic of Azerbaijan (coordinator country) will prepare documents on the state-of-art of ecologically clean agriculture in his/her country and contribute to the preparation of the Project Reports and Documents.

*More specifically*, the expert (consultant) shall work on

***Analysis of development potential of organic agriculture in selected ECO countries***

a. Current state and priority areas of agriculture in selected ECO countries
b. Evaluating opportunities for shifting of competitve agricultural products in selected ECO countries to organic agriculture
c. Improving economic mechanisms in the development of organic agriculture – the case of selected ECO countries

***Opportunities for strengthening cooperation in selected ECO countries in developing organic agriculture***

a. Investigation of opportunities for cooperation of ECO countries with international organizations in the area of organic agriculture
b. Investigation of opportunities for participation of ECO countries in international projects in the area of organic agriculture
c. Development of database for ECO countries in the area of organic agriculture
d. Identification of areas for newer projects in ECO countries in the area of organic agriculture

***To prepare the country report and contribute to the final report***

***To contribute a new project proposal based on the results achieved and to be applied in ECO countries.***

*Page limit:*

20 pages (max.)

*Qualifications and General Professional Experience*

- University degree in Agricultural Science or in subject(s) related to the Project;
- Ability to cope with deadlines;
- Good communication and reporting skills;
- Fluency in English and/or Russian;
- At least two years professional experience on organic agriculture,

*Duration*
Up to 25 days

*Consultancy Fee*
Total amount: min. $ 1,000 – max. $ 5,000

*Level of Renumeration*
Proposed level of renumeration is paid in three instalments as noted below:

- 1st Payment (30%)
  Upon complete ***first draft of Country Report*** based on Questionary (plan) (Annex A).
- 2nd Payment (70%)
  Upon delivary of the ***final and edited Report*** approved by ISRER, and based on recommendations, and comments of the leading experts of the Project.

*Travel involved*
A minimum of one travel to either Azerbaijan and/or Central Asian countries is anticipated during the Project implementation period. Travel related costs will be discussed.

*Application Process*
Interested experts (consultants) are invited to apply by submitting the following application documents:

- Curriculum Vitae (CV)
- Letter of Motivation outlining how your experience, skills, qualifications and professional networks fit with the required deliverables (one page maximum)
- Copies of the relevant articles/reports published through indication of www links or submission of PDF version of these via e-mail attachments

***For notes***