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of the United Nations

**Regional TCP
on Empowering Smallholders
and Family Farms
(TCP/RER/3601)**

Smallholders and family farms in Kyrgyzstan



Country study report

2019

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Food and Agriculture Organization of the United Nations
Budapest, 2020

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Abbreviations and acronyms

ACC	Agribusiness Competitiveness Center
ADB	Asian Development Bank
AKF	Aga Khan Foundation
CPF	CPF FAO Country Programming Framework in the Kyrgyz Republic
CRI	Crop Research Institute
EU	European Union
CSO	civil society organization
FAO	Food and Agriculture Organization of the United Nations
FOM	Federation of Organic Movement
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GDP	gross domestic product
HACCP	Hazard Analysis and Critical Control Points (standardization system)
IAMO	Leibniz Institute of Agricultural Development in Transition Economies
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
ISO	International Organisation for Standardization (standardization system)
IFPRI	International Food Policy and Research Institute
KIRI	Kyrgyz Irrigation Research Institute
KLRP	USAID Kyrgyzstan Land Policy Reform Project
KNAU	Kyrgyz National Agricultural University
LPRI	Livestock and Pasture Research Institute
NSC	National Statistical Committee of Kyrgyz Republic
NSSD	National Strategy for Sustainable Development of the Kyrgyz Republic for 2013–2017
NGO	non-governmental organization
MoAFIM	Ministry of Agriculture, Food Industry and Melioration of Kyrgyz Republic
PF	public fund
RAS	Rural Advisory Service
RI	FAO Regional Initiative
SALF	State Agricultural Land Fund
SDC	Swiss Agency for Development and Cooperation
SME	small and medium enterprises
TV	television
USAID	United States Agency for International Development
VAT	value added tax
VGGT	Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security
VRI	Veterinary Research Institute
WDI	World Development Indicators
WB	World Bank
WUA	water users association

Executive summary



Objectives of the Country Study Report

The objectives of the report are to create an understanding of the needs, challenges and constraints for smallholders and family farms, as well as to define gaps in the policies and complementary preconditions for targeting these needs in the focus country. This knowledge is the basis for improving FAO target goals and supports strengthening policy formulation in relation to smallholders and family farms in Kyrgyzstan and other focus countries. This goal is achieved through country studies with findings integrated in the national Country Programming Framework (CPF) for the next period, raising awareness through a series of workshops and facilitating dialogue among key stakeholders (policymakers, experts and members of civil society).

The project contributes to improved sustainable livelihoods and incomes, and it enhances the sustainable agricultural productivity of smallholders and family farms. The project also contributes to policy identification and to design and development adapted to the needs, challenges and constraints of smallholders and family farms.

The methodology of the study of smallholders and family farms in Kyrgyzstan

The study aims to analyse the situation of small-scale households and farms in the agricultural sector. Since the country studies cover a set of countries with different social and economic backgrounds, a unified study approach was developed for the project. It includes several types of interviews covering various levels of stakeholders – officials, non-governmental organizations, academia, the finance sector, and small farmers. A generic interview guide was developed for collecting information on the needs, constraints, challenges and policy recommendations of stakeholders for improving the problems faced. Interviews were accomplished from May to July 2017. In addition to primary data collection, extensive desk work was accomplished.

Conclusions

Agriculture in Kyrgyzstan employs 29 percent of all labour in the country. Its enormous small-scale production ensures the importance of the sector. More than 400 000 business units and more than 700 000 rural households produce over 95 percent of the total agricultural production in the country. This brings positive and adverse consequences. The constraints, needs and challenges of smallholders and family farmers are grouped in four main problem areas:

1. weak knowledge base and technological gap and limited access to high-quality inputs;
2. complicated access to resources;
3. problems with the technical requirements from markets and standards; and
4. vulnerability to environmental issues and climate change.

The Kyrgyz Government has accepted new country strategic documents during 2017–2018. In 2017, the draft of the long-term National Strategy of the Development of the Kyrgyz Republic for 2018–2040 was approved in the end of 2018. The mid-term strategy “Unity. Trust. Creation.” was presented in April 2018. The strategies define the priority directions for the main sectors, including agriculture. The priorities of the programme related to agriculture are the development of cooperatives based on a cluster approach, the development of organic agriculture, rehabilitation of irrigation networks, adaptation to climate change, environmental sustainability, and the development of the regional growth centres. Smallholders and family farms are not the central focus of the country strategy.

Recommendations

Small farm sizes is a serious problem for the development of agriculture. It is hardly possible to influence change in the actions of hundreds of thousands of small producers. At the same time, smallholders are a driving force in the agrarian sector.

Five main directions were formulated in the recommendations for developing agriculture through improved conditions and capacities of smallholders and family farms:

IMPROVE THE KNOWLEDGE OF SMALLHOLDERS AND FAMILY FARMS AND THEIR ACCESS TO IMPROVED INPUTS:

- Provide technological knowledge to small-scale farmers:
 - Collect and share new information regarding technological decisions appropriate for smallholders and family farms.
 - Develop updated training manuals for farmers on agronomy, livestock breeding and basic

veterinary treatment methods, and make them accessible. Special focus needs to be placed on the development and accessibility of materials for the poor.

- Support the creation of associations, cooperatives and any other types of common action institutions to increase knowledge dissemination.
- Support the access of smallholders and family farms to improved inputs, such as seeds, fertilizers and newly improved breeds of livestock.
- Support research to analyse institutional settings and new forms of cooperation at the rural community level.
- Support research into technological decisions appropriate for smallholders and family farms.
- Use mass media resources for the dissemination of new knowledge and technologies for farmers. The existing educational network (the Kyrgyz National Agrarian University and regional agricultural colleges and vocational schools) also needs to be used for the dissemination of knowledge.
- Support the creation of regular and accessible rural advisory services across the country.

IMPROVE ACCESS TO RESOURCES:

- Improve access to irrigation for users and support the improved management of water users associations.
- Research pasture management to improve access to pastures, using geobotanic studies of pasture capacity.
- Improve access to subsidized credit, with a special focus on women; at least 35 percent of all subsidized credits should be provided to women.
- Improve access to inputs and services – mechanized works and the supply of inputs – through consolidation of efforts by service cooperatives.
- Invest in improved infrastructure – irrigation system, roads, sewage system, clean water – to overcome the underdevelopment of rural areas.

MARKETS AND STANDARDS:

- Increase investment in the food products quality infrastructure through laboratories, certification centres and the building of capacity.
- Increase investment in sanitary, phytosanitary and veterinary systems to decrease the threat of animal and plant diseases.
- Improve the linkages of value chain participants such as processing companies and farmers.
- Research potential products for export markets.
- Support food security and nutrition at the local government level.

ENVIRONMENTAL ISSUES AND CLIMATE CHANGE:

- Support the introduction of new varieties of crops, new breeds of livestock and new agronomic techniques to increase resistance to environmental problems.
- Decrease water loss and increase the capacity of the irrigation system.
- Provide training for farmers to overcome the volatility of weather conditions.
- Provide training for farmers to improve the sustainability of pasture grazing modality.

- Develop and introduce insurance schemes for the crops and livestock of smallholders and family farms.

LEGISLATIVE FRAMEWORK AND PUBLIC POLICY:

- Develop land market support and attract investments in the agricultural sector.
- Clarify the taxation situation for water users associations.
- Improve the situation of the rights of water users associations regarding irrigation infrastructure and adjacent lands.
- Improve water tariff policy and make water price methodology transparent and easy to apply.
- Decrease corruption in renting land from the State Agricultural Land Fund on legal and enforcement levels.
- Support incentives to increase the use of agricultural land as collateral for credits.
- Create legislative incentives for increasing land consolidation.
- Introduce a new methodology and definition for smallholders and family farms in public policy documents and develop a new approach to state statistical bodies.
- Specify the importance of smallholders and family farms as central figures in strategic agricultural documents.

Отчеттун кыскача мазмуну



Кыргызстанда жүргүзүлгөн изилдөөлөр жөнүндө отчеттун максаттары

Бул отчетту түзүүнүн максаттары чакан фермерлердин жана үй-бүлөлүк дыйкан чарбалардын муктаждыктары, көйгөйлөрү жана чектөөлөрү жөнүндө түшүнүк алуу жана ошондой эле, максаттуу өлкөдө иштелип чыккан документтердин жеткире иштелбеген жактарын жана ал муктаждыктарды канаттандыруу үчүн алдын-ала көрүлүүчү кошумча шарттарды табуу. Бул билимдер ФАОнун белгиленген максаттарын жакшыртуу үчүн негиз болуп эсептелет жана Кыргызстандагы жана башка максаттуу өлкөлөрдөгү чакан фермерлерге жана үй-бүлөлүк дыйкан чарбаларга карата жүргүзүлгөн саясатты күчөтүүгө шарт түзөт. Аталган изилдөөлөрдүн жардамы менен өз максатына жеткен өлкөдө анын натыйжаларын кийинки убакыт аралыгында киргизилген өлкөдөгү алкактык программасынан (ӨАП) байкоого болот. Бул өз кезегинде адамдардын маалыматын арттыруучу семинарларды өткөрүү аркылуу ишке ашырылуу менен, негизги кызыкдар тараптардын (саясатчылар, серепчилер жана жарандык коомдун өкүлдөрү) ортосунда диалогго жетишүүсүн камсыздайт.

Аталган долбоор чакан фермерлердин жана үй-бүлөлүк дыйкан чарбалардын айыл чарбасын турукташтыруу жана турмуш-тиричилик жүргүзүүгө туруктуу каражаттар менен камсыздоо жана киреше табуу шарттарын жакшыртууну камсыздайт. Андан тышкары, долбоор чакан фермерлер жана үй-бүлөлүк дыйкан чарбалардын муктаждыктарына, көйгөйлөрүнө жана чектөөлөрүнө ыңгайлашкан жетектөөчү принциптерди аныктоого, иштеп чыгууга жана ишке ашырууга шарт түзөт.

Кыргызстандагы чакан чарбаларды жана үй-бүлөлүк дыйкан чарбаларын изилдөө усулу

Бул изилдөөлөр айыл чарба тармагындагы чакан үй чарбаларынын жана фермердик чарбалардын абалына анализ жүргүзүүгө багытталган. Өлкөлүк изилдөөлөр ар түрдүү коомдук жана экономикалык тарыхтары бар бир катар өлкөлөрдү камтыгандыктан, изилдөө жүргүзүү боюнча бирдиктүү ыкма иштелип чыккан. Аталган изилдөөгө кызыкдар тараптардын – кызматтагы адамдардын, өкмөттүк эмес уюмдардын, илимий чөйрөлөрдүн, каржы секторунун жана чакан фермерлердин ар түрдүү деңгээлин камтуу менен жүргүзүлгөн интервьюнун бир нече түрү кирген. Муктаждыктар, чектөөлөр жана көйгөйлөр жөнүндө маалымат топтоо үчүн сурамжылоо жүргүзүү жана аныкталган көйгөйлөрдү четтетүү максатында кызыкдар

тараптар үчүн сунуштарды иштеп чыгуу боюнча жалпы колдонмо иштелип чыккан. Интервью 2017-жылдын май айынан июль айына чейин жүргүзүлгөн. Алгачкы чогултулган маалыматтарга кошумча кеңири теоретикалык кабинеттик изилдөө жүргөн.

Корутунду

Кыргызстандын айыл чарба тармагына өлкөнүн жалпы жумушчу күчүнүн 29 пайызы тартылган. Мындай эбегейсиз майда масштабдуу өндүрүш аталган тармактын маанилүүлүгүнөн кабар берет. 400 000ден ашуун иштеп жаткан субъектилер жана 700 000ден ашуун үй чарбалары өлкөдөгү оң жана терс натыйжаларга ээ болушкан бардык айыл чарба продукциясынын 95 пайыздан ашыгын өндүрүшөт. Чакан фермерлердин жана үй-бүлөлүк дыйкан чарбаларынын көйгөйлөрү, чектөөлөрү жана муктаждыктары төрт негизги бөлүккө бөлүнөт:

1. Билим базасынын начарлыгы, жаңы технологияларды колдонбогондугу жана жогорку сапаттуу ресурстарга жетүүнүн чектелиши;
2. Ресурстарга жетүүнүн татаалданышы;
3. Рыноктордун жана стандарттардын техникалык талаптарындагы кездешкен көйгөйлөр жана ошондой эле
4. Экологиялык көйгөйлөргө жана климаттык өзгөрүүлөргө карата алсыз болуу.

2017-2018-жылдары Кыргызстандын Өкмөтү жаңы стратегиялык документтерди кабыл алган. 2017-жылы иштелип чыккан Кыргыз Республикасын 2018-2040-жылдарга өнүктүрүү боюнча узак мөөнөттүү Улуттук стратегиясы 2018-жылдын аягында кабыл алынган. Орто мөөнөттүү «Биримдик. Ишеним. Жаратмандык.» стратегиясы 2018-жылдын апрель айында сунушталган. Жогоруда аталган стратегиялар айыл чарбасын кошкондогу негизги секторлордун приоритеттүү багыттарын аныктайт. Айыл чарбасынын приоритеттүү программаларына кластердик ыкманын негизиндеги кооперативдерди өнүктүрүү, чектелген айыл чарбасын өнүктүрүү, ирригациялык тармактарды кайра калыбына келтирүү, климаттык өзгөрүүлөргө ыңгайлашуу, экологиялык туруктуулук жана өнүгүүнүн аймактык таяныч борборлорун өнүктүрүү кирет. Чакан фермерлер жана үй-бүлөлүк фермердик чарбалар өлкөнүн стратегиясынын көңүл чордонунан сыртта калышкан.

Сунуштар

Дыйкан чарбаларынын майдалыгы жана чакандыгы айыл чарбасын өнүктүрүүдө олуттуу көйгөйлөрдү жаратат. Жүз миңдеген майда өндүрүүчүлөрдүн иш-аракеттерин өзгөртүүгө

дуушар кылуу өтө кыйын болгондугуна карабай, алар ошол эле учурда агрардык сектордогу кыймылдаткыч күч болуп саналышат.

Чакан фермерлерди жана үй-бүлөлүк дыйкан чарбаларынын шарттарын жана мүмкүнчүлүктөрүн жакшыртуу жолу менен айыл чарбасын өнүктүрүү боюнча сунуштарда беш негизги багыт бар:

ЧАКАН ФЕРМЕРЛЕРДИ ЖАНА ҮЙ-БҮЛӨЛҮК ДЫЙКАН ЧАРБАЛАРДЫН БИЛИМДЕРИН ЖАНА ЖАҢЫЛАНГАН РЕСУРСТАР МЕНЕН КАМСЫЗДОСУН ЖАКШЫРТУУ:

- Чакан фермерлерге технологиялык билимдерди сунуштоо:
 - Чакан фермерлерге жана үй-бүлөлүк дыйкан чарбаларына ылайыктуу технологиялык чечимдер жөнүндө жаңы маалыматтарды чогултуу жана сунуштоо.
 - Фермерлер үчүн агрономия, мал чарбачылыгы жана дарылоонун ветеринардык негизги усулдарынын жаңыртылган окуу куралдарын иштеп чыгуу жана алардын жеткиликтүү болушуна кам көрүү. Айрыкча калктын аярлуу катмары үчүн материалдарды иштеп чыгуу жана жеткиликтүү болушуна көңүл буруу.
- Зарыл болгон окуу билимдерин жайылтуу үчүн биргелешип иш алып баруучу ассоциацияларды, кооперативдерди жана башка ар кандай институттарды түзүүгө көмөктөшүү.
- Майда жер иштетүүчүлөрү жана үй-бүлөлүк дыйкан чарбалары үрөн, жер семирткичтер жана асыл тукумдуу мал сыяктуу жакшыртылган ресурстарга жетүү үчүн колдоо көрсөтүү.
- Коомдук институттарын жана айыл чарба жамааттарынын деңгээлиндеги кызматташуунун жаңы формаларын анализдөө үчүн жүргүзүлгөн изилдөөлөргө колдоо көрсөтүү.
- Чакан фермерлерге жана үй-бүлөлүк чарбаларга ылайыктуу технологиялык чечимдерди кабыл алуу үчүн жүргүзүлгөн изилдөөлөргө көмөктөшүү.
- Жаңы билимдерди жана технологияларды фермерлер арасында таратуу үчүн жалпыга маалымдоо каражаттарын колдонуу. Маалыматтарды, билимди жайылтуу үчүн учурда иштеп жаткан билим берүү тармагын (Кыргыз улуттук агрардык университети жана аймактардагы айыл чарба колледждер жана кесиптик-техникалык орто окуу жайлары) колдонуу зарыл.
- Бүткүл өлкө боюнча жеткиликтүү жана үзгүлтүксүз иштөөчү айылдык кеңеш кызматтарын түзүүнү колдоо.

РЕСУРСТАРГА ЖЕТҮҮ ШАРТТАРЫН ЖАКШЫРТУУ:

- Суу пайдалануучуларды сугат суусу менен камсыздоону жакшыртуу жана суу пайдалануучулар ассоциацияларынын суу ресурстарын башкаруу методдорун жакшыртуусуна колдоо көрсөтүү.
- Геоботаникалык изилдөөлөрдү колдонуу менен жайыттарды башкаруу ыкмаларын изилдеп чыгуу.
- Аялдарга өзгөчө көңүл буруу менен, субсидиялык насыя алуу ыкмаларын жакшыртуу; бардык субсидиялык насыялардын жок дегенде, 35 пайызы аялдарга берилиши керек.
- Ресурстарга жана тейлөө кызматтарына жетишүүнү жакшыртуу – ишти механикалаштыруу жана айыл чарба материалдары менен камсыздоо - сервистик кооперативдердин күч-аракеттерин бириктирүү жолу аркылуу.

- Элет жеринин экономикалык өнүгүүсүн жогорулатуу үчүн жакшыртылган инфраструктурага– ирригациялык системага, жолдорго, канализацияга, таза сууга инвестиция тартуу.

РЫНОКТОР ЖАНА СТАНДАРТТАР:

- Лабораторийлерди жана сертификациялар борборлорун түзүү аркылуу азык-түлүк өндүрүштөрүнүн сапатын жогорулатуу жана ошондой эле элдин билим деңгээлин, тажрыйбасын өстүрүү үчүн инфраструктурага каражат салууну көбөйтүү.
- Малдардын жана өсүмдүктөрдүн илдеттерге кабылуу коркунучун төмөндөтүү үчүн санитардык, фитосанитардык жана ветеринардык системага инвестиция тартууну жогорулатуу.
- Кайра иштетип чыгаруучу компаниялар жана фермерлер сыяктуу кошумча нарк чынжырчасынын катышуучуларынын ортосундагы байланышты жакшыртуу.
- Сырткы рынокторго экспорттоо үчүн потенциалдуу өндүрүштөргө изилдөө жүргүзүү.
- Жергиликтүү бийлик органдарынын деңгээлинде азык-түлүк жана азыктануу коопсуздугун камсыздоого көмөктөшүү.

ЭКОЛОГИЯЛЫК КӨЙГӨЙЛӨР ЖАНА КЛИМАТТЫК ӨЗГӨРҮҮЛӨР:

- Экологиялык көйгөйлөргө туруктуулугун жогорулатуу үчүн айыл чарба өсүмдүктөрүнүн жаңы сортторун, малдын жаңы тукумун жана агрономиялык жаңы усулдарды ишке ашырууга жана колдонууга көмөктөшүү.
- Сууну коромжуга учуратуу деңгээлин төмөндөтүү жана сугат системасынын суу өткөрүү жөндөмдүүлүгүн жогорулатуу.
- Өзгөрүлмө аба ырайы шарттарына байланышкан көйгөйлөрдү четтетүү үчүн фермерлерди окуулар менен камсыздоо.
- Малды жайыттарга жаюунун туруктуу ыкмасын жогорулатуу үчүн фермерлерди окуулар менен камсыздоо.
- Чакан фермерлердин жана үй-бүлөлүк дыйкан чарбаларынын малын жана түшүмүн камсыздандыруу схемасын иштеп чыгуу жана колдонуу.

МЫЙЗАМ БАЗАСЫ ЖАНА МАМЛЕКЕТТИК САЯСАТ:

- Жер рыногуна колдоо көрсөтүү жана айыл чарба тармагына инвестицияларды тартуу үчүн стратегиялардын саясатын иштеп чыгуу.
- Суу пайдалануучулар ассоциациялары үчүн салык жагдайлары жөнүндөгү маселелерди чечүү.
- Суу пайдалануучулар ассоциацияларынын ирригациялык инфраструктура жана ага кошулган жерлерге байланыштуу укуктук жагдайларды жакшыртуу.
- Сууга тариф коюу саясатын жеткилең иштеп чыгуу жана суунун баасын аныктоочу методикасы колдонууга айкын жана жөнөкөй болушуна жетишүү.
- Айыл чарба жерлерин кайра бөлүштүрүү фондусу ижарага алуу учурунда укуктук бузууларды жана колдонуу укугунда кездешүүчү коррупцияны азайтуу.
- Насыя алууда айыл чарба жерлерин күрөө катары колдонуу учурларынын көбөйүшүнө колдоо көрсөтүү.

- Мыйзам чыгаруу деңгээлинде жерлерди бириктүүгө колдоо көрсөтүү.
- Мамлекеттик директивалык документтерге чакан фермерлер жана үй-бүлөлүк дыйкан чарбалардын маанисин аныктоочу аныктамаларды жана жаңы методологиясын киргизүү жана мамлекеттик статистикага жаңы ыкмаларды иштеп чыгуу.
- Стратегиялык айыл чарба документтеринде чакан фермерлердин жана үй-бүлөлүк дыйкан чарбалардын маанилүүлүгүн көңүл борборундагы маселе катары белгилөө.

Краткий обзор



Цели странового исследовательского отчета

Цели составления данного отчета заключались в формировании понимания потребностей, проблем и ограничений мелких фермеров и семейных фермерских хозяйств, а также в выявлении недоработок в документах политики и дополнительных предварительных условиях, необходимых для удовлетворения этих потребностей в целевой стране. Эти знания являются основой для улучшения намеченных целей ФАО и способствуют усилению выработки политики в отношении мелких фермеров и семейных фермерских хозяйств в Кыргызстане и других целевых странах. Такая цель достигнута с помощью проведения страновых исследований, результаты которых были интегрированы в страновые рамочные программы (СРП) на следующий период, что в свою очередь ведет к повышению осведомленности людей через проведение серии семинаров, и способствует достижению диалога между основными заинтересованными сторонами (политиками, экспертами и представителями гражданского общества).

Данный проект способствует улучшению обеспечения устойчивых средств к существованию и получению доходов, а также повышает устойчивую сельскохозяйственную производительность мелких фермеров и семейных фермерских хозяйств. Кроме того, проект способствует определению, разработке и реализации руководящих принципов, адаптированным к потребностям, проблемам и ограничениям мелких фермеров и семейных фермерских хозяйств.

Методика исследования мелких землевладельцев и семейных фермерских хозяйств в Кыргызстане

Настоящее исследование направлено на проведение анализа положения мелких землевладельцев и фермерских хозяйств в сельскохозяйственном секторе. Так как страновые исследования охватывают ряд стран с различным социальным и экономическим укладом, то был разработан единый подход по проведению исследования. Подход включает в себя проведение нескольких типов интервью, охватывающих различные уровни заинтересованных сторон - должностных лиц, неправительственных организаций, научных кругов, финансового сектора и мелких фермеров. Было разработано базовое руководство по проведению опроса для сбора информации о потребностях, ограничениях и проблемах, а также разработки рекомендаций по улучшению политики для заинтересованных сторон с целью решения выявленных проблем. Интервью проводились с мая по июль 2017 года. В дополнение к первичному сбору данных было проведено обширное кабинетное исследование.

Выводы

В секторе сельского хозяйства Кыргызстана занято 29 процентов всей рабочей силы страны. Такое огромное мелкомасштабное производство говорит о важности данного сектора. Более 400 000 хозяйствующих субъектов и более 700 000 сельских домохозяйств производят более 95 процентов всей сельскохозяйственной продукции в стране, приводящие как к положительным, так и отрицательным последствиям. Ограничения, потребности и проблемы мелких фермеров и фермеров семейных фермерских хозяйств сгруппированы в четыре основные проблемные зоны:

1. Слабая база знаний и технологический разрыв, а также ограниченный доступ к высококачественным средствам производства;
2. Осложненный доступ к ресурсам;
3. Проблемы с техническими требованиями по доступу к рынкам и соблюдению стандартов; а также
4. Уязвимость к экологическим вопросам и изменению климата.

В 2017-2018 годах Правительство Кыргызстана приняло новые стратегические документы. Проект долгосрочной Национальной стратегии развития Кыргызской Республики на 2018–2040 годы была утверждена в конце 2018 года. Среднесрочная стратегия «Единство. Доверие. Созидание.» была представлено в апреле 2018 года. Выше отмеченные стратегии определяют приоритетные направления для основных секторов, включая сельское хозяйство. К приоритетным программам по сельскому хозяйству относятся развитие кооперативов на основе кластерного подхода, развитие органического сельского хозяйства, восстановление ирригационных сетей, адаптация к изменению климата, экологическая устойчивость и развитие региональных опорных центров роста. Мелкие фермеры и семейные фермерские хозяйства не находятся в центре внимания стратегии страны.

Рекомендации

Мелкомасштабность фермерских хозяйств является серьезной проблемой для развития сельского хозяйства. Хотя довольно тяжело повлиять на изменение действий сотен тысяч мелких производителей, но в то же время они являются движущей силой в аграрном секторе.

В рекомендациях по развитию сельского хозяйства путем улучшения условий и возможностей мелких фермеров и семейных фермерских хозяйств были сформулированы пять основных направлений:

УЛУЧШЕНИЕ ЗНАНИЙ МЕЛКИХ ФЕРМЕРОВ И СЕМЕЙНЫХ ФЕРМЕРСКИХ ХОЗЯЙСТВ И ПОВЫШЕНИЕ ИХ ДОСТУПА К УЛУЧШЕННЫМ РЕСУРСАМ:

- Предоставлять технологические знания мелким фермерам:
 - Собирать и предоставлять новую информацию о технологических решениях, подходящих для мелких фермеров и семейных фермерских хозяйств.
 - Разработать обновленные учебные пособия для фермеров по агрономии, животноводству и основным ветеринарным методам лечения и сделать их доступными. Особое внимание необходимо уделить разработке и доступности материалов для бедных слоев населения.
- Содействовать в создании ассоциаций, кооперативов и любых других типов институтов совместных действий для распространения необходимых знаний.
- Поддерживать мелких землевладельцев и семейных фермерских хозяйств в получении доступа к улучшенным средствам производства, таким как семена, удобрения и новые улучшенные породы домашнего скота.
- Оказать поддержку в проведении исследований для анализа общественных институтов и новых форм сотрудничества на уровне сельских сообществ.
- Содействовать проведению исследований для принятия технологических решений, подходящих для мелких фермеров и семейных фермерских хозяйств.
- Использовать средства массовой информации для распространения новых знаний и технологий среди фермеров. Для распространения знаний также необходимо использовать существующую образовательную сеть (Кыргызский национальный аграрный университет и региональные сельскохозяйственные колледжи и профессионально-технические училища).
- Поддерживать создание регулярных и доступных сельских консультационных служб по всей стране.

УЛУЧШИТЬ ДОСТУП К РЕСУРСАМ:

- Улучшить доступ пользователей к поливной воде и поддержать ассоциации водопользователей в улучшении методов управления водными ресурсами.
- Изучить способы управления пастбищами для улучшения доступа к ним с использованием геоботанических исследований потенциала пастбищ.
- Улучшить доступ к субсидированным кредитам, уделяя особое внимание женщинам; по меньшей мере 35 процентов всех субсидируемых кредитов должны предоставляться женщинам.
- Улучшить доступ к средствам производства и услугам - механизированные работы и поставка сельскохозяйственных средств производства - путем объединения усилий сервисных кооперативов.
- Инвестировать в улучшенную инфраструктуру - ирригационную систему, дороги, канализацию, чистую воду - чтобы повысить экономическое развитие сельских районов.

РЫНКИ И СТАНДАРТЫ:

- Увеличить капиталовложения в инфраструктуру для повышения качества пищевых продуктов через создание лабораторий и центров сертификации, а также повысить наращивание потенциала.
- Увеличить инвестиции в санитарную, фитосанитарную и ветеринарную системы для снижения угрозы заболеваний животных и растений.
- Улучшить связи между участниками цепочки добавленной стоимости, таких как перерабатывающие компании и фермеры.
- Провести исследования потенциальных продуктов для экспорта на внешние рынки.
- Содействовать продовольственной безопасности и питанию на уровне местных органов власти.

ЭКОЛОГИЧЕСКИЕ ПРОБЛЕМЫ И ИЗМЕНЕНИЕ КЛИМАТА:

- Содействовать внедрению новых сортов сельскохозяйственных культур, новых пород скота и новых агрономических методов для повышения устойчивости к экологическим проблемам.
- Снизить потери воды и увеличить пропускную способность оросительной системы.
- Обеспечить обучение фермеров для преодоления проблем связанных с изменчивостью погодных условий.
- Обеспечить обучение фермеров для повышения устойчивости метода выпаса скота на пастбищах.
- Разработать и внедрить схемы страхования урожая и скота мелких фермеров и семейных фермерских хозяйств.

ЗАКОНОДАТЕЛЬНАЯ БАЗА И ГОСУДАРСТВЕННАЯ ПОЛИТИКА:

- Разработать политику поддержки рынка земли и привлечения инвестиций в сельскохозяйственный сектор.
- Прояснить вопросы с ситуацией по налогам для ассоциаций водопользователей.
- Улучшить ситуацию по правам ассоциаций водопользователей в отношении ирригационной инфраструктуры и прилегающих земель.
- Совершенствовать политику установления тарифов на поливную воду и добиться того, чтобы методика определения цены на воду была прозрачной и простой в применении.
- Снизить коррупцию при аренде земель Государственного фонда сельскохозяйственных угодий на правовом и правоприменительном уровнях.
- Поддерживать стимулы для расширения практики использования сельскохозяйственных земель в качестве залога при получении кредитов.
- Стимулировать на законодательном уровне консолидацию земель.
- Ввести новую методологию и определение значения мелких фермеров и семейных фермерских хозяйств в государственные директивные документы и разработать новый подход к органам государственной статистики.
- Отметить важность мелких фермеров и семейных фермерских хозяйств в стратегических сельскохозяйственных документах в качестве центральных фигур.

1. Introduction to smallholders and family farms and their role in Europe and Central Asia



1.1 Background for the Regional Initiative supporting smallholders and family farms

A large number of smallholder and family farmers – both men and women – in the seven focus countries of Regional Initiative 1 (Albania, Armenia, Georgia, Kyrgyzstan, Republic of Moldova, North Macedonia and Tajikistan) are often not economically viable, and rural people remain the poorest and vulnerable part of the population. Despite this, they potentially represent a key resource to achieving sustainable economic, social and environmental development. Smallholders and family farms can achieve higher levels of income, production and productivity through sustainable utilization of resources and intensification of production, better organization, adequate public services, and better integration into the agrifood value chains. Getting family farming right in this respect is a key component to enhancing food security, ensuring equitable and decent livelihoods for all rural women and men, achieving sustainable rural development and diversification in rural areas, and reducing rural poverty.

A number of well-known common needs and challenges for the seven focus countries are identified and summarized here.

The population in rural areas suffers from absolute and relative poverty compared with the urban population. Migration to urban areas and abroad, particularly affecting young men, is leading to the feminization of agriculture and to the ongoing ageing of the rural population. Furthermore, specific challenges for the younger population in rural areas will increase due to this migration process.

Inappropriate physical infrastructure (such as roads and bridges, water supply, sewage systems, electricity supply) and social infrastructure (such as basic services, schools, kindergartens, elderly care, hospitals, doctors and others) make living conditions and access to markets difficult.

The agrarian reforms implemented beginning in the 1990s in most countries in Eastern Europe and Central Asia have often resulted in dualistic farm structures with few very large corporate farms and many small family farms. Furthermore, small-scale agriculture in the region – with variations from country to country – faces insecure land tenure and property rights. Land fragmentation is often excessive and leads to low production capacity (lack of mechanization and infrastructure, for example), low productivity, and low and unstable product quality. The lack of policies on adding value to non-agricultural activities and lack of access to inputs and capital, insurance, and markets, as well as the lack of a well-qualified labour force, also contributes to the difficulties. The regulatory frameworks and public services (research and development, extension services, national seed and breed production and support, and veterinary services) are inappropriate or even absent.

This project strengthens the CPF in each focus country and moves from stand-alone projects towards a programmatic implementation of the Regional Initiative. In addition, the project identifies common political solutions to the common needs and challenges.

The vision of this project is that regional projects implemented under RI 1 have the potential to better address the challenges that smallholders and family farms face at the regional level, compared with single projects implemented at the national level. Thus, this project develops RI 1 by directly linking it

to the national programming of the Country Programming Framework and by focusing on the *added value* of RI 1, which contributes to enhancing the effectiveness of interventions, developing synergies and ensuring the transferability and replicability of good practices.

1.2 Background and objectives of the present country study

The background for conducting country studies on the challenges, needs and constraints of smallholders and family farms in the seven countries has been a wish to further strengthen the Regional Initiative and develop the initiative towards a stronger programmatic approach at both the regional and the country level. In order to provide support to smallholders and family farms, there has been a need to develop a better understanding and knowledge platform of the main challenges, needs and constraints of smallholders and family farms in the specific country context. Even though many of the challenges are the same throughout the region, there are still significant variations among the countries, which it is important to be aware of and understand when designing support to smallholders and family farms in the specific country.

FAO has, during 2017 and 2018, conducted country studies on the needs and constraints of smallholders and family farms in seven countries of the region as part of a regional project (TCP/RER/3601). The countries included are the countries that have been the focus countries of the Regional Initiative during 2014–2017; these are Albania, Armenia, Georgia, Kyrgyzstan, Republic of Moldova, North Macedonia and Tajikistan.

It has been the objective of the country studies first to analyse the development trend and current state of smallholders and family farms in the specific country, second to study the current political priorities and policies affecting smallholders and family farms, and finally, based on the conclusions made, to provide recommendations, mainly at the policy level, on how to further support the development of commercial family farms and at the same time ensure in general inclusive growth, improved rural livelihoods, and reduction of rural poverty. It is the hope that this country study will not only be relevant for FAO but also for the Government of Kyrgyzstan, donors and other international organizations when formulating policy and preparing programmes. Furthermore, it is the intention that the recommendations from this study will feed directly into the formulation of the Country Programming Framework (CPF), which is the multi-annual cooperation agreement between FAO and Kyrgyzstan.

Furthermore, the seven country studies contribute to raising awareness on the needs and constraints of smallholders and family farms as well as promoting the support to smallholders and family farms provided by FAO under the programmatic umbrella of the Regional Initiative among government institutions, civil society organizations and other stakeholders at country level and among donors and international organizations. In this way, it is the hope that the studies will lead to the establishment of enhanced partnerships and the mobilization of resources to further scale up support to smallholders and family farms.

It is, as mentioned, a global observation that smallholders and family farms face needs, constraints and challenges, limiting their development and reducing their potential, and that current policies only to a limited extent provide appropriate support to their development.

Based on this observation, it is the objective of the country studies to verify the observations through answers to the following research questions:

1. *What are the trends in and the current role and weight of smallholders and family farms in economic, social and environmental development in the covered countries?*
2. *What are the main needs, constraints, and challenges for the realization of the economic, social and environmental development potential of smallholders and family farms?*
3. *Which current administrative procedures and institutional settings, as well as policy interventions, are implemented supporting/preventing the development of smallholders and family farms?*
4. *Which future administrative procedures, institutional settings and policy interventions can be developed and recommended to strengthen the role of smallholders and family farms in the economic, social and environmental development and in the transformational change process?*

The research questions are answered following a common overall methodology presented in the section below.

2. Methodology and approach



2.1 The overall methodological principles of the Regional Technical Cooperation Programme (TCP) on smallholders and family farms

The methodology summarised below is common for all seven country studies, while the approach used in Kyrgyzstan is presented in Section 2.2.

DESK RESEARCH:

The desk research covers an assessment of the available policy documents, research papers, reports, studies and more from public authorities, academia, and international donors and organizations. Furthermore, the desk research covers official statistics from public sources supplemented with poverty and living conditions surveys and data/statistics from academia, donor organizations and other contributors. The desk research contributes towards answering all main research questions.

INTERVIEWS:

Interviews were accomplished with the aim of contributing data and information towards answering the four research questions. They contribute to filling in data gaps identified during the desk research. Interviews were accomplished with selected resource persons representing key stakeholders. Interviewees were identified in close cooperation and dialogue with the national project coordinator (NPC) representing the Ministry of Agriculture.

The interviews target different stakeholders and are streamlined to the individual interviewee or groups of interviewees, depending on the findings from the desk research phase.

An interview template was prepared and used by the national experts/consultants when interviewing national stakeholders and resource persons. The template includes the themes covered by the project.

Two rounds of interviews were accomplished:

1. The national expert/consultant accomplish the primary round of interviews with national stakeholders and resource persons. The interview template was targeted to the expertise of the person being interviewed.
2. The national expert/consultant proposed additional interviews in a second round to cover the gaps in the interview template.

The interviews were individual or group interviews, depending on the topic and the situation. The national expert/consultant planned, carried out and reported the interviews. The interviews contribute to answering the four research questions.

WORKSHOPS:

Two workshops were accomplished in each target country.

One introductory workshop, accomplished right at the beginning of the working process, had the objective of clarifying and defining:

1. the definition of smallholders and family farms;
2. the current situation and the state of play of smallholders and family farms;
3. the problem analysis regarding needs, constraints and challenges for smallholders and family farms;
4. the policy analysis, identifying and targeting administrative procedures, institutional settings and policy solutions to the identified needs, constraints and challenges; and
5. the comparative advantage of FAO vis-à-vis the donor community in providing solutions to the identified needs, constraints and challenges.

The second workshop was a validation workshop, where the preliminary findings, conclusions and recommendations were presented to the groups of stakeholders who participated in the first workshop. The objective was to validate the analysis and to establish a common understanding of the conclusions and recommendations. The workshop took place at the end of the process, but before the finalization of this study. Therefore, requests for adjustments from the workshop were taken aboard.

A synthesis report was prepared, and a regional validation workshop was accomplished. The regional workshop was organized for the final validation of the country studies and the synthesis report. Representatives and national project coordinators from the ministries of agriculture in all seven focus countries, as well as FAO country teams and the FAO Regional Initiative delivery team, attended the workshop.

CASE STUDIES

Case studies are used to illustrate or demonstrate various topics. Two types of case studies were accomplished:

- Case studies include studies of the needs, challenges and constraints identified during stakeholder interviews and where the studies exemplify or illustrate the topics. The case studies were prepared at family/village/municipality level, depending on the selected topic and to ensure diversity.
- Furthermore, case studies also include examples of administrative procedures and institutional settings that prevent or support the development of smallholders and family farms. These cases also were identified through stakeholder interviews.

2.2 Approach: Description of the specific approach taken in Kyrgyzstan

According to the generic interview guide, a set of interviews with the different types of stakeholders was done. Also, the primary and secondary data and available statistics were reviewed and analysed, and they were included in the report according to the necessity of coverage of the topics related to the situation of smallholders and family farms in the country. The list of respondents includes two distinct groups of stakeholders: smallholders themselves and others, including state and non-state experts and policymakers. The total sample size requires 30 interviews exploring the needs, constraints, challenges and policy recommendations for smallholders and family farms in the country. The sample was divided into two parts: small farmers (20 respondents, including three females), and others (ten stakeholder respondents). The list of others includes representatives of various state and non-state organizations related to smallholder production.

The list of smallholders and family farms includes a set of different geographic and production aspects of smallholders. The developed approach was supposed to be able to offer a variety of typologies of small-scale production throughout the country. Therefore, it was decided to provide sample diversity through the coverage of different production zones and different types of crop and livestock production; this shows a wider variety of the main types of agricultural activity.

3. Development trend and the current state of smallholders and family farms in Kyrgyzstan



3.1 Definition of smallholders and family farms in Kyrgyzstan

According to the legislation of the Kyrgyz Republic, there is no precise definition of a smallholder farm or family farm in the national law. At the same time, several approaches exist that help analyse the agricultural activity of small production units from different dimensions. Formally, the basic scheme of classification of types of enterprises, defined by Kyrgyz Government Decree No. 78 (Kyrgyz Republic, 2002b) for the sectors of agriculture, hunting, forestry and fishery, are as follows:

1. By number of workers:
 - Small enterprises: up to 50 persons
 - Extremely small enterprises: up to 15 persons
2. By annual turnover:
 - Small enterprises: up to KGS 500 000 (EUR 6 098)¹
 - Extremely small enterprises: up to KGS 150 000 (EUR 1 829)

However, this classification refers only to the activity of formally registered legal entities and does not cover agricultural activity implemented by unregistered farmers and rural households. Small and medium enterprises contributed between 40.3 percent and 40.8 percent of the gross domestic product in 2014–2016. Breaking that total down, medium-sized enterprises were responsible for 3.7 percent of the GDP, while small enterprises had a bigger share of 6.9 percent. The rest was taken by peasant farmers (8.6 percent) and individual entrepreneurs (21.6 percent) (NSC, 2016l).

Another classification typology of economic sectors created for a system of national accounts and adopted by National Statistical Committee of Kyrgyz Republic (NSC) defines that there exist five types of institutional units in the national economy (NSC, 1997):

- non-financial corporations;
- financial corporations;
- government bodies;
- non-profit organizations serving households; and
- households.

The “households” sector includes all resident households. The households are consumers, but some of them simultaneously carry out productive activities in the form of unincorporated enterprises, created to produce goods and services both for sale and for own use. This sector includes:

- private rural household activity on a home plot of land;
- individual entrepreneurial activity without hired labour; and
- individual peasant farms.

¹ Calculations to EUR were based on the actual exchange rate of the National Bank of Kyrgyz Republic; EUR 1 = KGS 81.99 (<http://nbkr.kg/index.jsp?lang=ENG>).

Thus, households located in rural areas with private activity oriented on agriculture on own plot(s) of land and with own livestock are considered smallholders and family farms in Kyrgyzstan. According to the National Statistical Committee definition,² all economic agents in agriculture are divided into the following categories: state enterprises, collective farms (including cooperatives), private rural household activity, and individual peasant farms. The last two types are target groups of economic agents, which can be defined as a smallholder (often mixed) in agriculture in Kyrgyzstan.

Rural household activity is a farming operation based on a family-located kitchen garden land plot, where rural inhabitants work with their own labour to raise livestock and produce crops and livestock products.

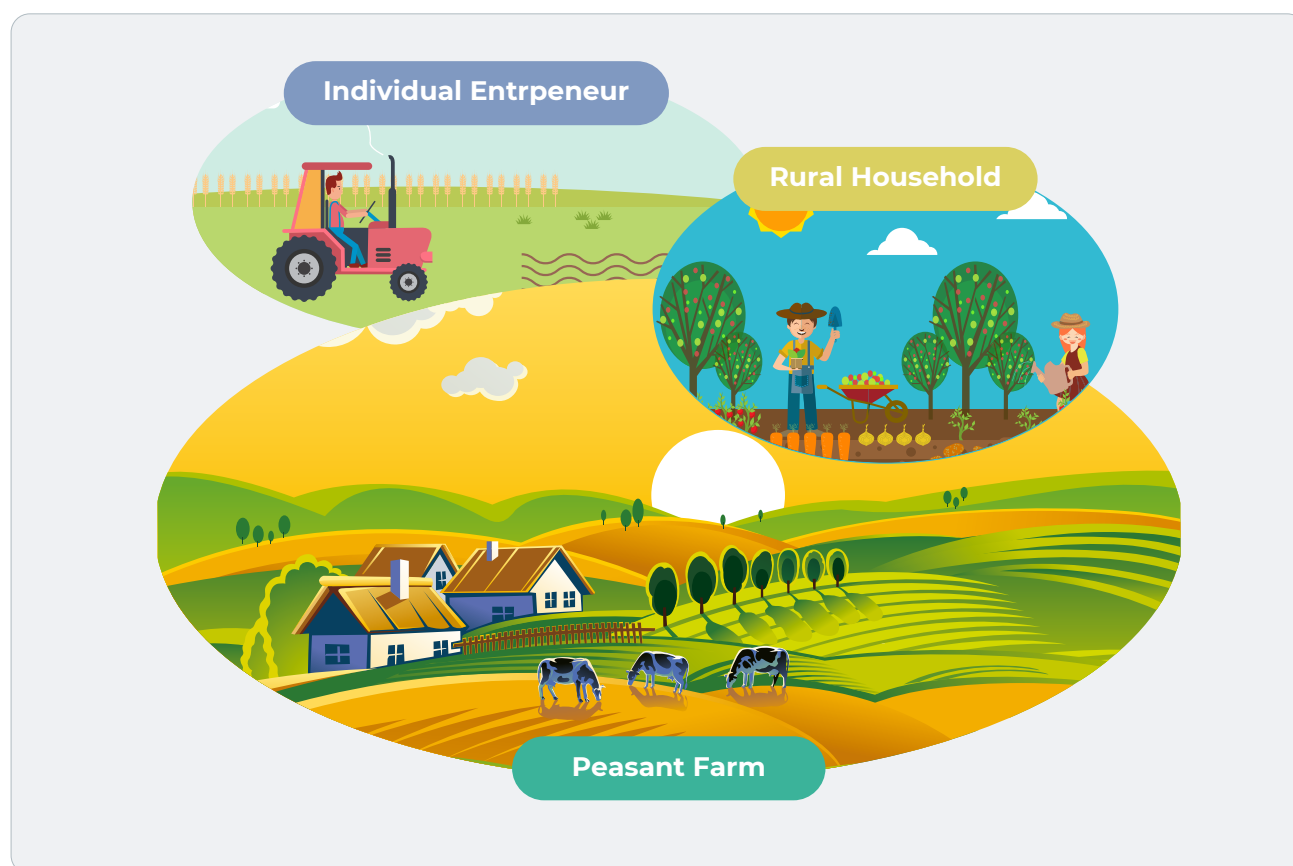
The private peasant farm is an independent economic entity with the status of a legal entity that carries out its activities without registration as a legal business entity. The economic activity of peasant farms is based on the main production factors: land and labour (the farmers themselves and the members of the household). The definition is derived from the Civil Code of the Kyrgyz Republic. Household-based peasant farms typically do not register as legal entities. Most of them are paying only land tax and are exempted from most of the direct and indirect taxes related to economic activities.

Besides on the households and peasant farms, there also exists another form of agricultural agents: individual entrepreneurs. These **individual entrepreneurs** are citizens engaged in entrepreneurial agricultural activities who have passed state registration and operate based on patent fees paid regularly, usually every month. Registration by the State Tax Inspection on a patent base is easy and doesn't require the provision of bookkeeping, and rates are flat and low. Therefore, this form of business is prevalent. The category of individual entrepreneurs includes people who work in activities that are not directly linked to the land, such as service of mechanized works, harvesting, fertilizer supply, veterinary works, logistic services, agri-products processing, sorting, packing and other operations.

Smallholders usually play a set of different roles. Therefore, the definition of a smallholder in the context of Kyrgyzstan includes three types of economic agents operating in agriculture: rural households, peasant farms and individual entrepreneurs (Figure 1). The Ministry of Agriculture, Food Industry, and Melioration (MoAFIM) has not developed a separate definition of smallholder farmer besides the classification adopted by the National Statistical Committee (NSC) and the official legislation noted earlier.

² The typology and definition are further derived from the NSC report "Agriculture of Kyrgyz Republic, 2011–2015," pp. 76-77.

Figure 1. Interlinkage of the definition of 'smallholder'



SOURCE: AUTHOR'S ELABORATION

3.2 Structural analysis and a qualitative description of the sector

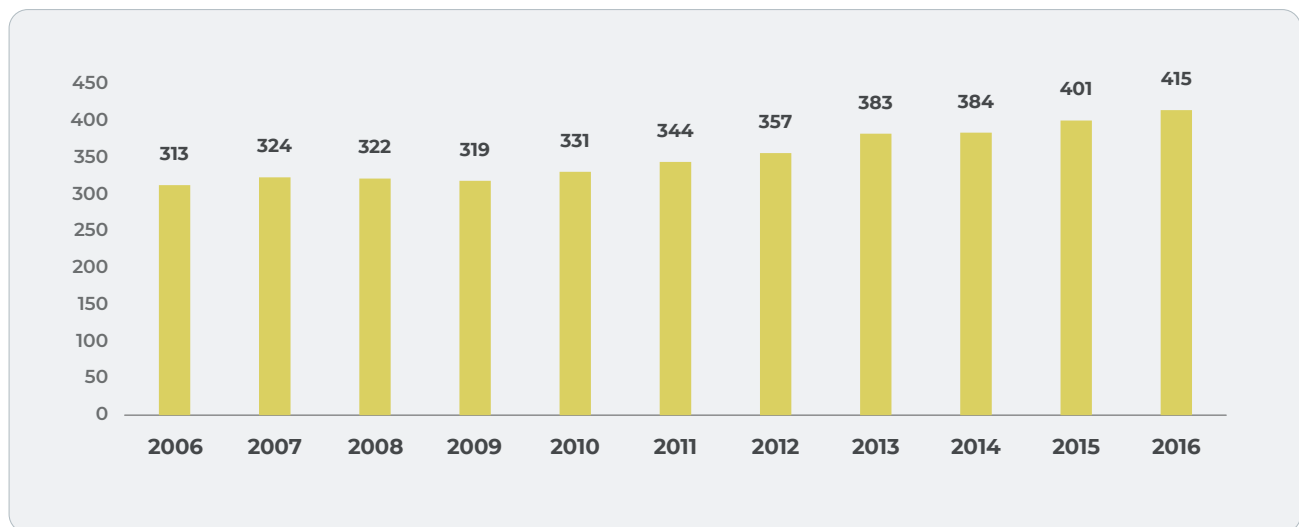
The land reform (Kyrgyz Republic, 1998b) implemented in the late 1990s in Kyrgyzstan was the main driver for bringing a transition from planned socialist agriculture to smallholder agriculture. More than 80 percent of the arable land in the country was distributed among rural households during private land ownership recognition in 1996–1999. This means that every family registered in a rural area received their respective agricultural land plot (privatization share) depending on the number of household members. Family heads received a land certificate in their name. Larger families received more land, because of the higher number of household members, and smaller families received smaller plots. Overall, three determinants defined the average size of the land plot: the size of the family, the land available for distribution, and the density of the rural population at the moment of agrarian reform at the end of the 1990s.

Smallholders and family farms in Kyrgyzstan

As a result of the land reform, the number of small peasant farms (based on one-household production) grew dramatically, from 20 000 in 1994 to 250 000 in 2001. Consequently, the average farm size decreased, from 15 ha in 1994–1996 to 3 ha in 2002 (Akramov and Omuraliev, 2009).

From 2003 to 2008, those persons or families who did not receive their land plots during land reform finally got it through the complicated but transparent process of appealing and passing it through local councils, the Government and then through final approval in the Kyrgyz Parliament (Kyrgyz Republic, 2003, 2006a, 2008). As a result, in densely populated areas (almost entirely in southern Kyrgyzstan), there is no longer any undistributed land. Some land parcels are still under the management of local authorities in central and northern Kyrgyzstan.

Figure 2. Smallholder farms in Kyrgyzstan, 2006–2016, thousands of units



NOTE: DATA ARE GIVEN FOR THE END OF THE YEAR.

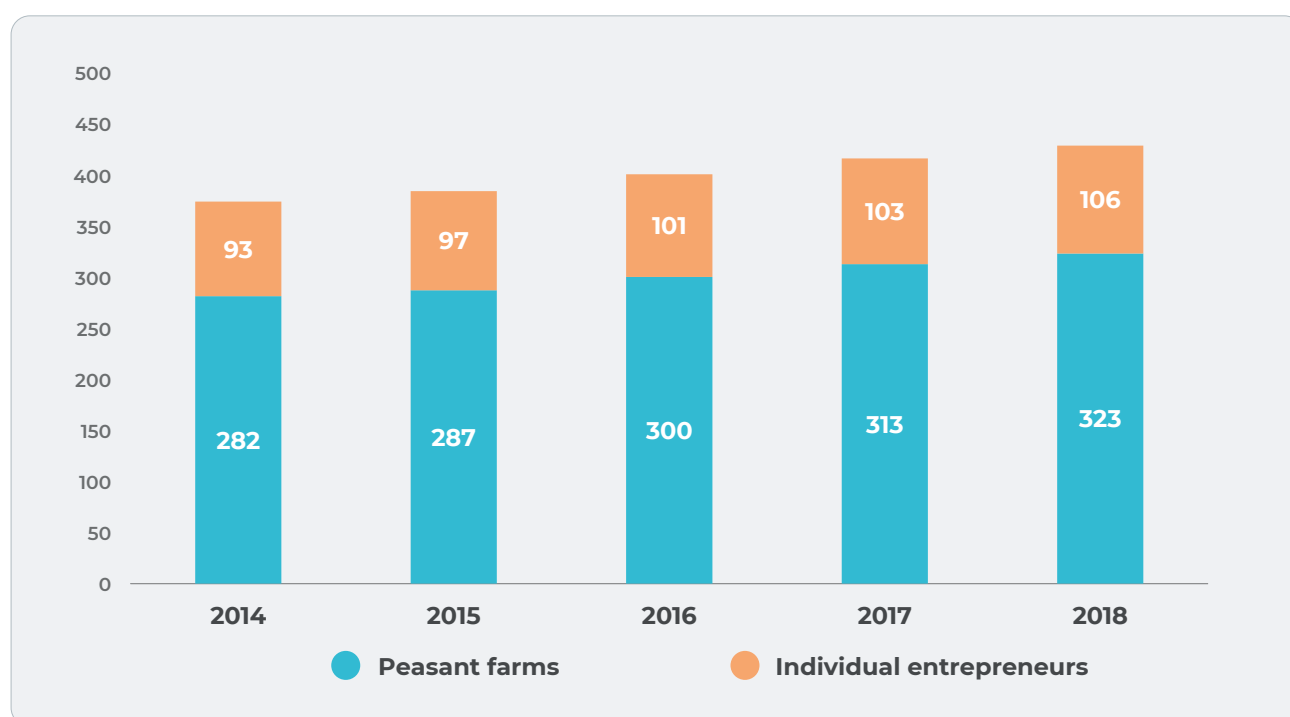
SOURCES: NSC, 2011, 2016C, 2017A.

The overall number of smallholders producing agricultural products is large, relative to the country's population.³ If the total number of entities acting as producers of agricultural products is counted, this number exceeds more than 1 million production units working simultaneously as independent agents (Figure 2). In 2002–2003, during the agricultural census, 727 000 rural households and 246 900 peasant farms were registered as agricultural producers (CISSTAT, 2018). Data from official statistics demonstrate the trends regarding registered agricultural producers (peasant farms and individual entrepreneurs). The number dynamics for rural households are not available in official statistics, but the share of products produced within rural households is available.

The figures show steady growth during past decade – 30 percent in the observed period. This demonstrates that the structure of the established sector is developing further towards an atomization of agricultural production based on the rural household. Figure 3 presents the number of peasant farmers and individual entrepreneurs in recent years. The proportion of peasant farms is stable, at 75 percent of all smallholder producers. The growth rates of both types of micro-producers are similar throughout 2014–2017.

³ There were 1.5 million households in Kyrgyzstan in 2015. These are own calculations based on NSC (2016d).

Figure 3. Number of peasant farms and individual entrepreneurs in agriculture in Kyrgyzstan, 2014–2018, thousands of units

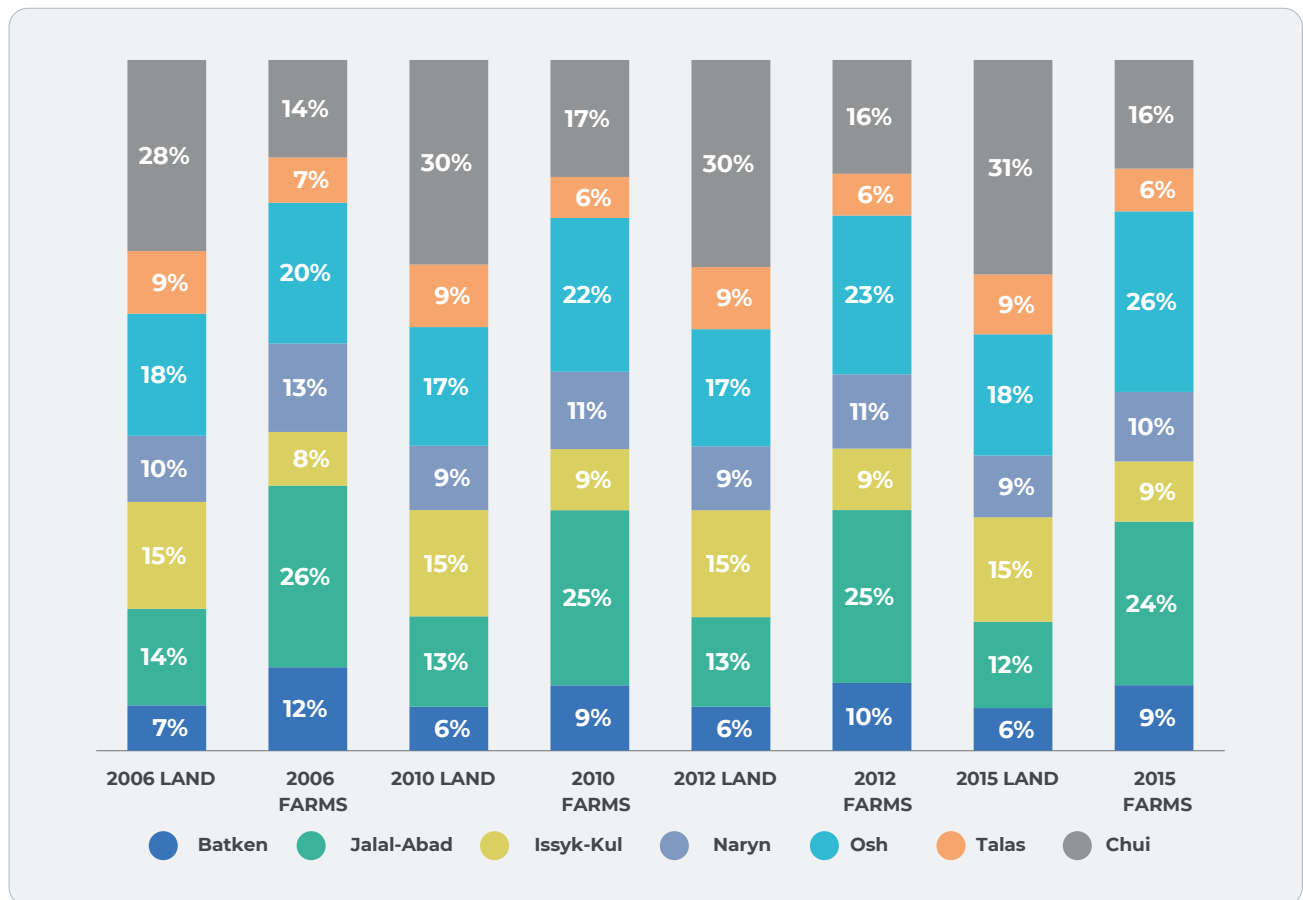


NOTE: DATA ARE GIVEN FOR THE BEGINNING OF THE YEAR.

SOURCE: NSC, 2017A.

According to the NSC, 99.9 percent of all economic agents registered and presented as agricultural producers in the agricultural sector in the country were peasant farms and individual entrepreneurs in 2012–2015 (NSC, 2016c). Therefore, an assumption could be made that the distribution of economic actors in agriculture in that period represents the primarily regional structure of farmers and rural entrepreneurs in Figure 4. Data for 2006–2015 in the columns labelled with “farms” present the proportions of peasant farms and individual entrepreneurs across the regions. The columns labelled with “lands” show the distribution of the land belonging to peasant farms across the regions.

Figure 4. Comparison of the distribution of agricultural land belonging to peasant farms with the distribution of smallholders in Kyrgyzstan across regions, 2006–2015, %



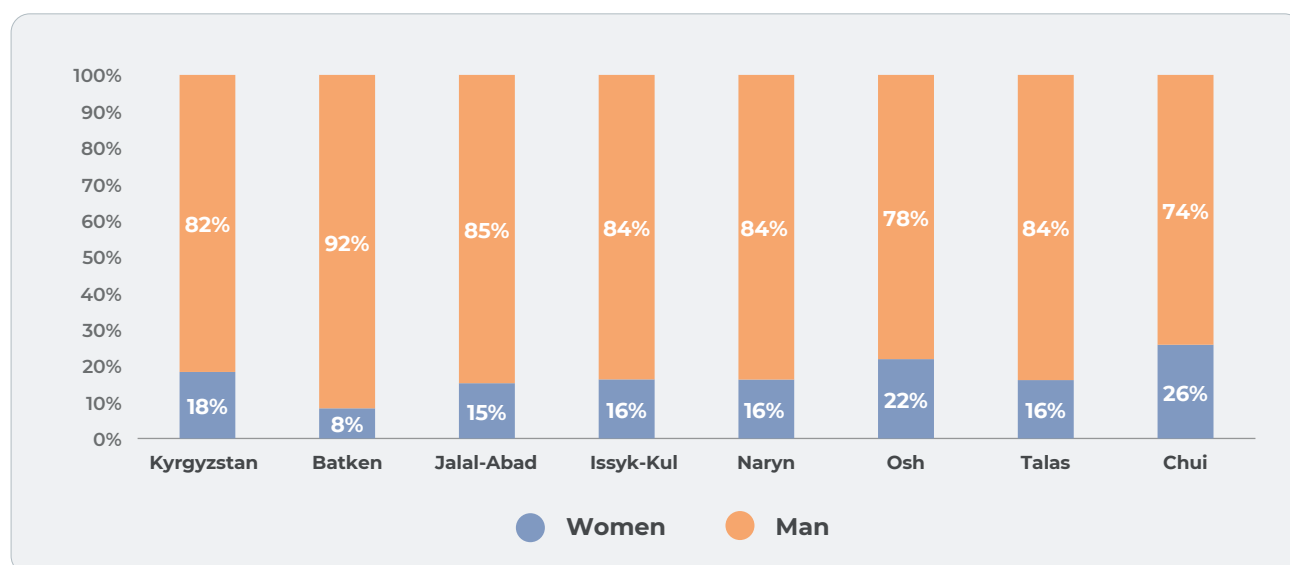
NOTE: AN INSIGNIFICANTLY SMALL NUMBER OF SMALLHOLDER FARMERS REGISTERED IN BISHKEK AND OSH CITIES WERE INCLUDED IN CHUI AND OSH OBLASTS, RESPECTIVELY. SOURCE: NSC, 2011, 2016C.

Across the regions, proportionally more farmers are located in Jalal-Abad and Osh oblasts – between 46 percent and 50 percent of all smallholders, family farms and entrepreneurs in the country. At the same time, the proportion of land belonging to farmers in those two regions is much smaller – between 30 and 32 percent. The same situation is observed for Batken oblast. All three regions are situated in southern Kyrgyzstan.

The situation in Talas and Naryn oblasts is different; in those two provinces, the proportions of farms and of land belonging to those farms is more equal. However, for Issyk-Kul and Chui farmers, access to arable land is easier. A smaller proportion of farmers owns a significantly higher share of land; in 2006, 22 percent of smallholders in those two regions owned 43 percent of all land belonging to peasant farms.

In 2015, a one-fourth of farmers from the Chu and Issyk-Kul regions owned 46 percent of all arable land in the country. The distribution of lands across the regions is uneven; southern farmers suffer from low access to arable land, while farmers in the north have land plots around four to five times bigger, on average.

Figure 5. Heads of peasant farms by gender in Kyrgyzstan and by region, 2015, %



SOURCE: NSC, 2016B.

There are no available statistics on land ownership in the country, but some data are available on the heads of peasant farms by gender, in the country overall and by region (Figure 5). Among 300 000 peasant farms at the end of 2015, only 54 900, or 18 percent, were headed by women. The picture represents strong a disparity between men and women across the regions and in the country in general. Some regions, such as Batken, demonstrate much smaller proportions of women-headed peasant farms, while some big regions, such as Osh and Chui, show higher numbers of women leading their farms.

Table 1. Distribution of agricultural lands in Kyrgyzstan, 2006–2015, %

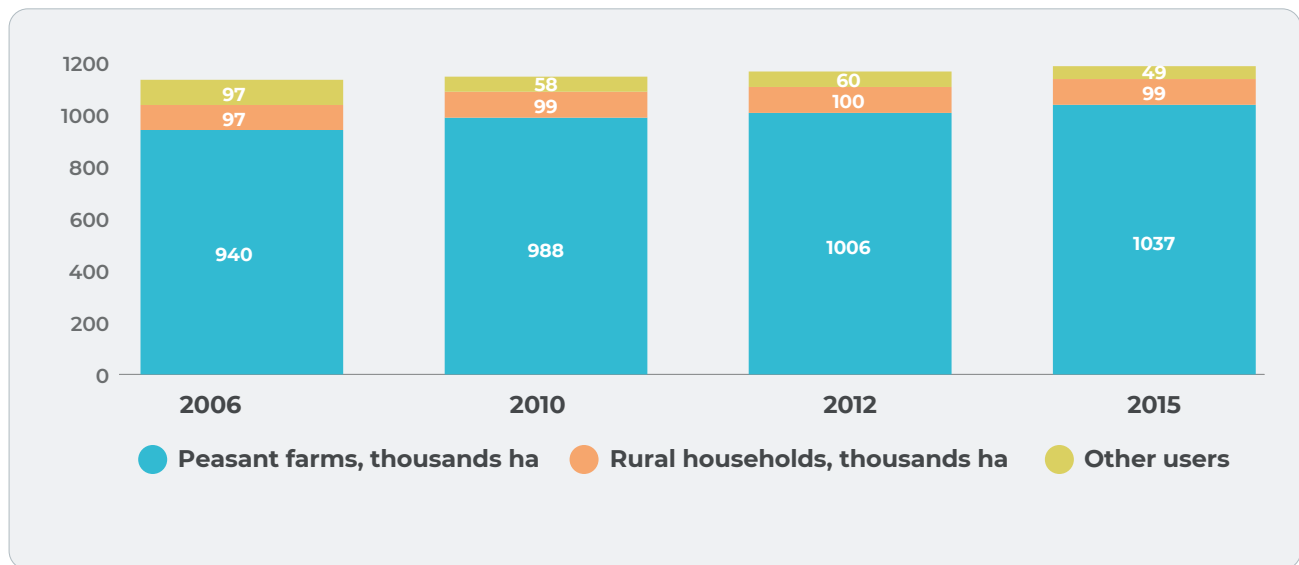
	2006	2010	2015
Arable lands	11.9	12	12.1
Perennials	0.7	0.7	0.7
Fallow lands	0.3	0.4	0.3
Hay fields	1.9	1.9	1.9
Pastures	85.2	85.1	85

SOURCE: NSC, 2016E.

Agricultural land in the country consists of pastures, arable lands, hayfields, fallow lands and perennials (gardens, orchards and vineyards) (Table 1). The overall area of agricultural land is about 10.5 million ha, of which 9 million ha (85 percent) is pastures. Arable land is the second category of land by size, and it's the main base for crop production and animal feed (12 percent). Other lands include perennials, hayfields and fallow lands (unused due to poor land quality, remoteness or destruction of irrigation networks). Fallow lands constitute around 0.3 percent of the total land, or 315 000 hectares. Agricultural lands do not include forests, a separate category that includes state forest farms and different kinds of forest reserves and parks.⁴

⁴ The share of forestry in agricultural production is minor, accounting for 0.17 percent of the total production of the sector in 2015. For more, see the NSC report agricultural output (2016i).

Figure 6. Distribution of cultivated agricultural land by peasant farms, rural households and other users, 2006–2015, thousands ha



SOURCE: NSC, 2011, 2016E.

The four categories of agricultural land users in the Kyrgyz Republic are state farms, collective farms, peasant farms, and rural households. The biggest share of all kinds of agricultural lands is owned and cultivated by peasant farms, which had 82.9 percent in 2006 and 87.4 percent in 2015 (Figure 6). The second biggest group of land users is rural households, with 8.5 percent in 2006 and 8.3 percent in 2015. Rural households use lands near their houses (kitchen gardens, mainly) within the geographical boundaries of the villages. This category of land users demonstrated stability during the past decade. The share of state and collective farms groups (in the group “Other users” in Figure 6) represents the diminishing proportion of land users – 8.6 percent in 2006 and 4.3 percent in 2015. The increasing proportion of the lands used by peasant farms shows an established trend in the agricultural sector. The overall trend in agricultural land use is the prevalence of smallholder peasant farms and rural households.

Table 2. Average size of peasant farms, by region, 2006–2015, ha

	2006	2010	2012	2015
Batken	1.6	2.3	1.8	1.7
Jalal-Abad	1.6	1.4	1.5	1.4
Issyk-Kul	6.0	5.3	4.9	4.5
Naryn	2.2	2.5	2.4	2.3
Osh	2.6	2.5	2.1	1.7
Talas	4.2	5.0	4.2	3.6
Chui	5.9	6.1	5.1	5.1
Average	3.0	3.1	3.0	2.9

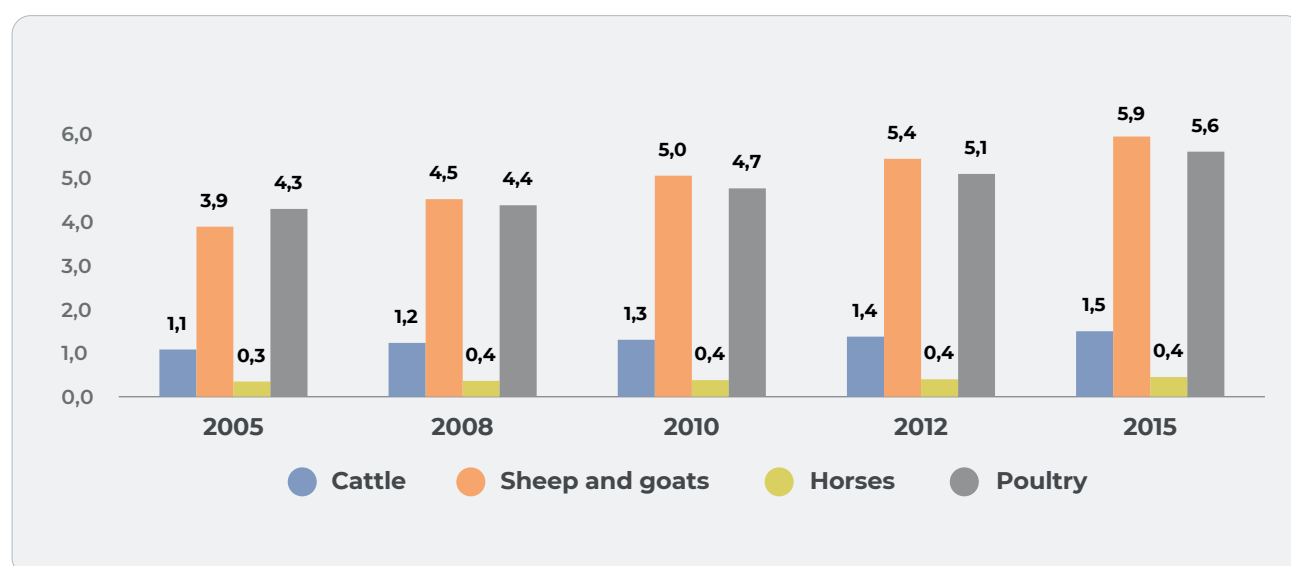
SOURCE: AUTHOR'S CALCULATIONS USING NSC DATA

The largest average farm sizes are observed in the Chui, Issyk-Kul, and Talas regions (Table 2), with a range of 3.6 ha to 5.1 ha. In the middle lies Naryn region, with 2.3 ha per farm. The southern part of the country, represented by the Batken, Jalal-Abad and Osh regions, has an average farm size of between 1.4 ha and 1.7 ha. This uneven distribution of land per farm across the regions also can be observed in Figure 4. The size of the smallholder farm depends on the availability of land and the density of the population at the time of land reform implementation 20 years ago. Therefore, farm sizes vary not only from region to region but also from district to district and from county to county.

DYNAMICS OF LIVESTOCK DISTRIBUTION

The second production factor in Kyrgyz agriculture is livestock. The four types of livestock in the country include sheep,⁵ cattle, horses and poultry. Other types, counted by dozens of thousands of agricultural animals, are pigs, donkeys and rabbits. The livestock quantity has demonstrated steady growth during the past decade. The increase of horses and poultry in the observed period is 2.8 percent. The sheep and goats and cattle categories demonstrate the highest growth rate, at 3.5 percent from 2005 to 2015.

Figure 7. Main types of livestock dynamics in Kyrgyzstan, 2005–2015, millions of head



SOURCE: NSC, 2016F.

⁵ The category “sheep” also includes goats (14.6 percent in 2015).

Table 3. Share of livestock held by peasant farms and rural households, 2005–2015, %

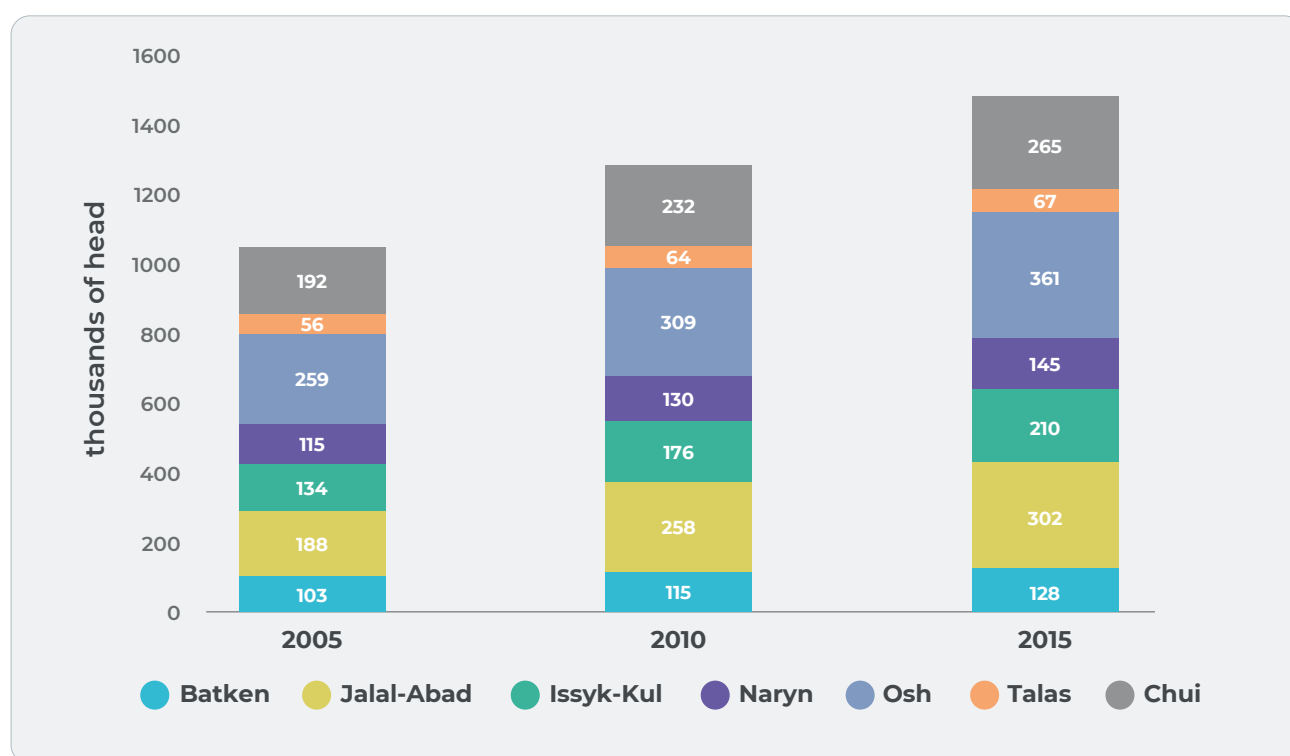
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Share of livestock held by peasant farms											
Cattle	48	49	49	37	49	48	48	49	48	49	49
Sheep and goats	56	56	56	46	57	57	57	57	56	56	56
Horses	59	59	59	49	57	58	58	58	57	57	56
Poultry	36	33	33	27	35	33	35	34	34	37	38
Share of livestock held by rural households											
Cattle	49	49	49	61	50	51	50	50	51	50	50
Sheep and goats	43	43	42	53	42	42	42	42	43	43	44
Horses	39	39	39	50	41	41	41	41	42	42	43
Poultry	49	47	45	57	48	47	47	45	44	46	47

SOURCE: NSC, 2016F.

The increase in livestock numbers has coincided with the growth of the well-being of the population, especially the rural population, which is consequently related to the growth of labour migration. The villagers consider livestock as a form of savings. Instead of a bank deposit, farmers increase the number of cattle and, at the appropriate moment, sell them on the market.

In Table 3 the share of animals presented belong to peasant farmers and rural households. The data show that the proportion of these two groups in livestock ownership is even higher than the prevalence of smallholders in owning agricultural land – 98 to 99 percent, in the case of livestock ownership, compared to 95 to 96 percent for land ownership. The percentage of rural households and peasant farms owning cattle reaches 98 to 99 percent – almost 100 percent for sheep, and 99 percent for horses. Only for poultry, is the figure lower than 90 percent (85 percent). The share of farmers who own sheep and horses is higher than the share of rural households (56 percent), but the share of each is equal for cattle. The difference in livestock possession between these two groups of smallholders is defined by the type of livestock kept. Cattle and poultry could be easier held in barns on land plots adjoining rural household homes, while horses and sheep have a higher dependency on pasture forage. The seasonal movement of animals has led to a changing location of the majority of sheep and horses, from remote summer pastures to winter pastures, which are nearer villages.

Figure 8. Regional distribution of cattle belonging to peasant farms and rural households, 2005–2015, thousands of head



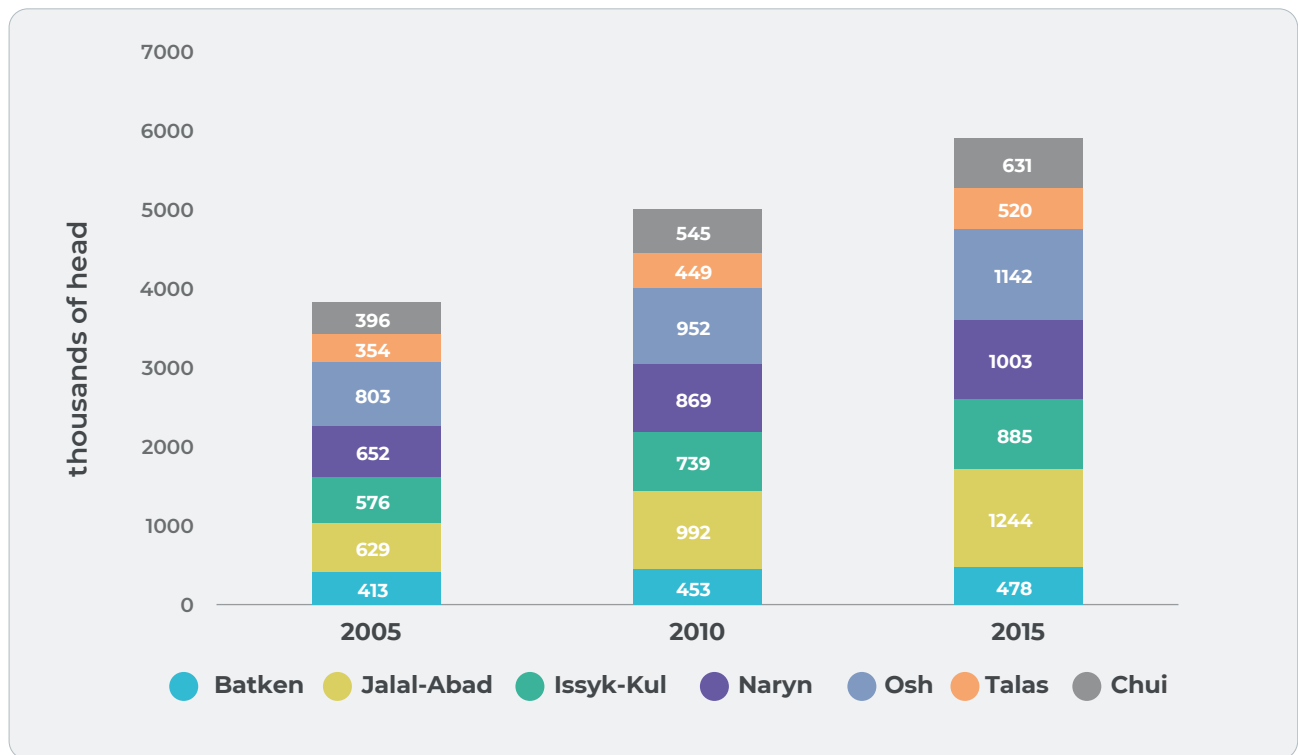
SOURCE: NSC, 2016F.

This leads to a disproportional increase of livestock in winter pastures near villages; many of those animals remain on winter pastures during the summer period, too. As a result, summer (remote) ranges become constantly unutilized, while winter pastures are oversaturated by small family farmers throughout the year. The proportion of livestock belonging to smallholders and family farms in the sector is prevalent. Very few farmers have hundreds or even thousands of head of livestock; the majority of farmers have a few animals only (Tilekeyev *et al.*, 2016).

Four regions – Jalal-Abad, Issyk-Kul, Osh and Chui – are suitable for cattle breeding; 77 percent of all cattle are registered in those regions. Different rates of growth in cattle can be observed in different regions. The slowest herd growth during the past decade was observed in Talas, where the cattle herd increased 19 percent from 2005 to 2015. The highest growth, 61 percent, was reported in Jalal-Abad. For smallholders keeping cattle, favourable conditions have resulted from a significant share of rural households having access to pastures. For example, in the Osh region, which contains 24 percent of all cattle in the country, the majority of the cattle (81 percent) belongs to rural households.

It is important to notice that the Osh region is an area with a high density of rural population, as it contains 29 percent of all rural people in the country (NSC, 2017d). At the same time, in Jalal-Abad and Naryn regions, (which contain 20 percent and 10 percent of the herd, respectively) the situation is reversed; 70 percent of the cattle are owned by peasant farms in Jalal-Abad, and 89 percent in Naryn. This concentration of the distribution of livestock among rural households and peasant farmers is determined by their access to a vast mountain range. For peasant farmers in these areas, it is worth it to practice a nomadic style of herding, moving from one type of pasture to another (in other words, from pastures near the villages in the winter to remote mountain pastures during the summer).

Figure 9. Regional distribution of sheep belonging to peasant farmers and rural households, 2005–2015, thousands of head

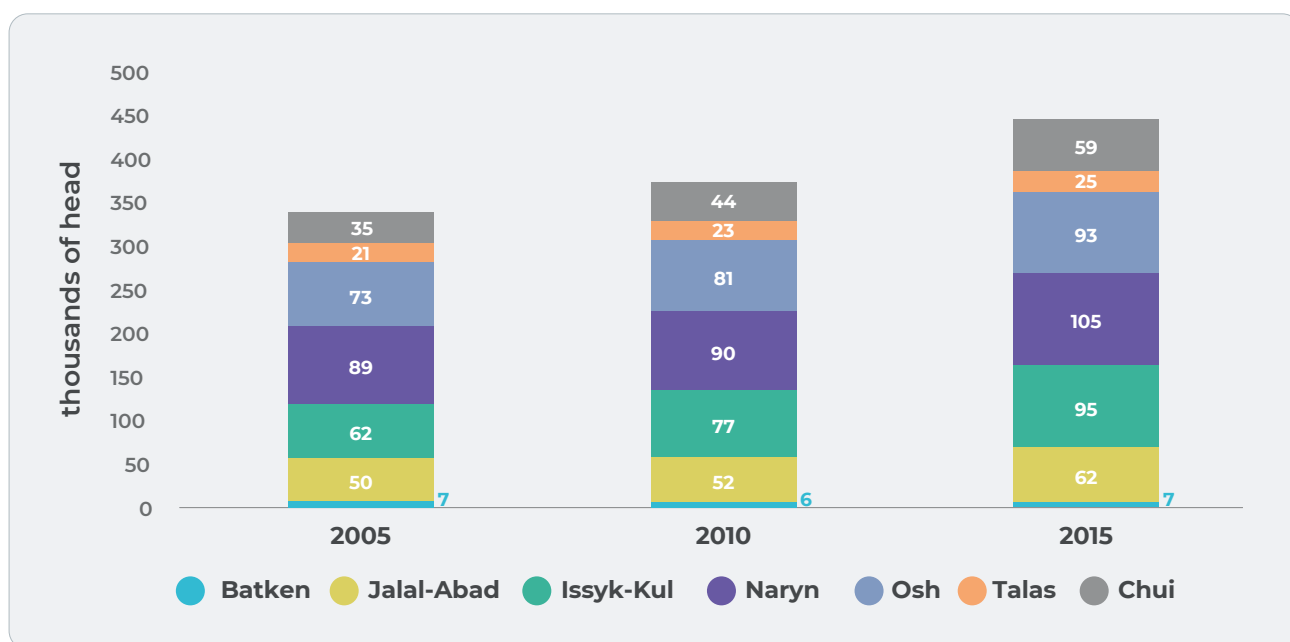


SOURCE: NSC, 2016G.

The main regions for sheep breeding are Jalal-Abad, Issyk-Kul, Naryn and Osh. In these four regions, about 72 percent of all sheep in Kyrgyzstan in 2015 were registered. The growth rates of sheep flocks vary from region to region. The lowest growth was in the Batken region, where the growth of sheep flocks reached only 16 percent from 2005 to 2015.

At the same time, sheep quantity in the Jalal-Abad region almost doubled from 2005 to 2015, with 98 percent growth. The share of Jalal-Abad province increased from 16 percent of the country's total sheep herd in 2005 to 21 percent in 2015. Sheep concentration across the regions mainly depends on the availability of pastures. For example, in the mountain range areas, the share of the sheep owned by peasant farmers is high; 70 percent of sheep in the Jalal-Abad region are in mountain areas, and that figure is 89 percent in the Naryn region. In the Osh region, which has a high concentration of rural population, rural households are the primary keepers of sheep; they have 80 percent of the sheep in the region.

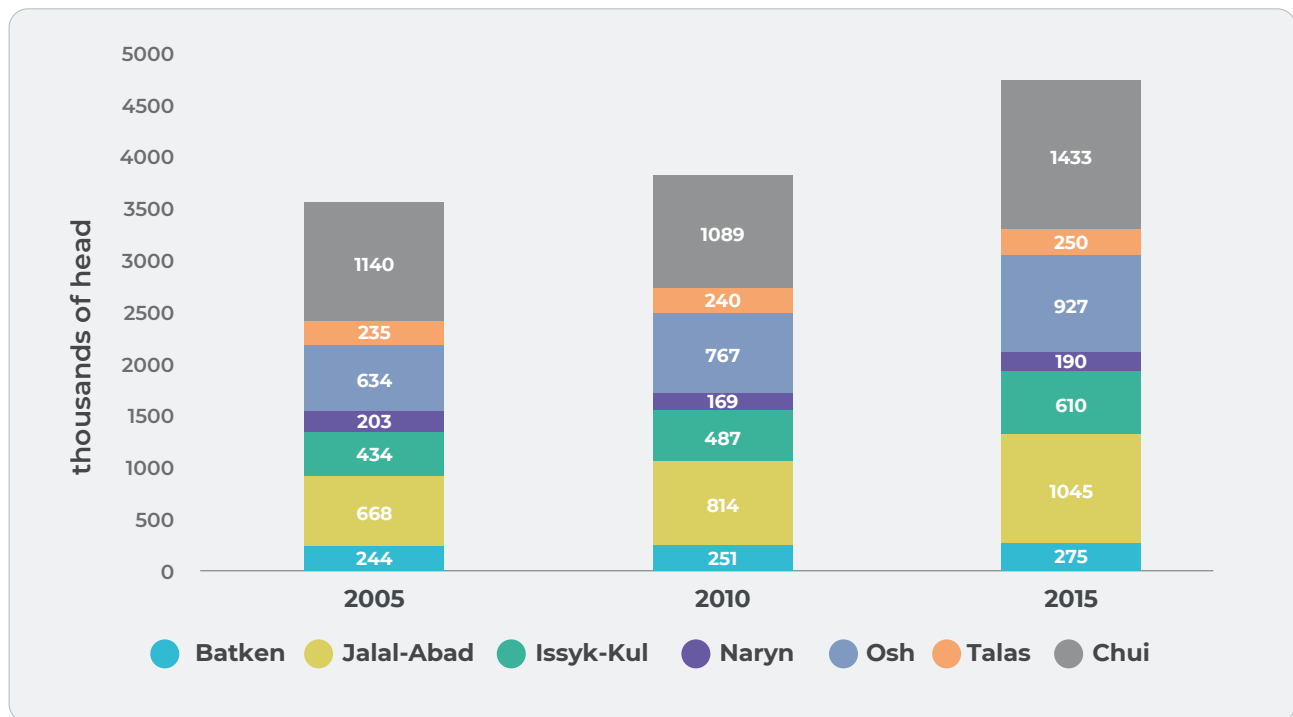
Figure 10. Regional distribution of horses owned by peasant farmers and rural households, 2005–2015, thousands of head



SOURCE: NSC, 2016G.

Horse ownership demonstrates an even higher disparity in distribution by region. The Osh, Jalal-Abad, Naryn and Issyk-Kul regions breed 80 percent of the horses in the country. Batken region keeps only 2 percent of the horses in Kyrgyzstan. All other regions show an increase of horse herds: growth varies from 25 percent (Jalal-Abad region) to 67 percent (Chui region). The share of Chui oblast increased from 10 percent to 13 percent from 2005 to 2015. The Issyk-Kul region's share also increased, from 18 percent to 21 percent. The Naryn and Jalal-Abad regions again show that peasant farmers are the main breeders of horses; in Naryn, 93 percent of horses are bred by peasant farmers, and in Jalal-Abad, 76 percent of horses are bred by peasant farmers.

Figure 11. Regional distribution of poultry owned by peasant farmers and rural households, 2005–2015, thousands of head



SOURCE: NSC, 2016G.

An increasing number of livestock has led to a systematic increase of pressure on the pastures. The average overloading of village pastures reached 1.5 to 2 times higher than the optimal level. For some areas in southern Kyrgyzstan, it exceeded the optimal level by 3 or 4 times. The necessity of the estimation of pastures' capacity, however, defined by the growing number of animals, requires a serious investment in appropriate geobotanic studies for the whole country (FAO, 2018).

The regional distribution of poultry also shows interesting evidence. The Chui, Jalal-Abad and Osh regions indicate that a significant share of poultry is kept by smallholders – 30 percent, 22 percent and 20 percent, respectively. Other areas show minor shares. The Naryn region demonstrated a decrease in poultry by 6 percent in 2015, compared to 2005. The Talas region showed moderate growth of poultry (6 percent). The most significant growth, 57 percent, happened in the Jalal-Abad region. Jalal-Abad's share increased from 19 percent in 2005 to 22 percent in 2015. The share of the Osh region grew, too – from 18 percent in 2005 to 20 percent in 2015.

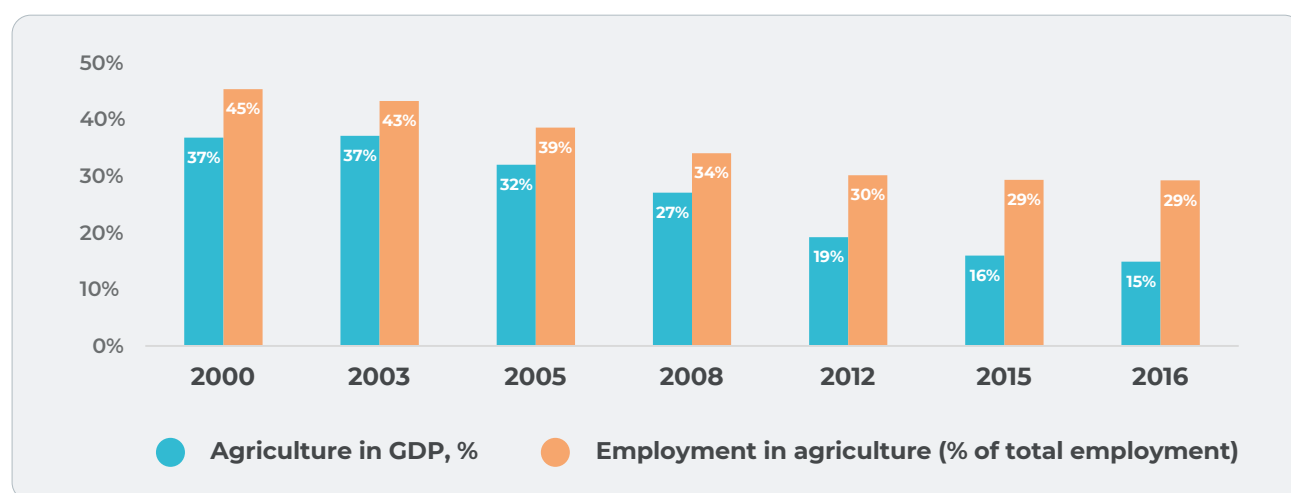
3.2.1 Development of role/importance of smallholders and family farms

Agriculture is one of the basic sectors of the economy of Kyrgyzstan, but during the past 15 years, the economic role of agriculture has declined from 37 percent to 15 percent (Figure 12). The growth rate of agricultural production increased slowly, by 2.1 percent annually, in 2005–2016. At the same time, the national economy's growth for the same period was about 4 percent to 4.5 percent. The decline of the importance of agriculture in the economy was accompanied by the decline of employment in the sector. In 2000 45 percent of workers were employed in the sector, while in 2008 the share of

employment in agriculture decreased to 34 percent, stabilizing at 29 to 30 percent in 2012. The share of the agricultural sector in the gross domestic product (GDP) was calculated based on the results of a random sample of 5 000 households, of which half were rural. Therefore, official statistics don't include agriculture in the assessment of the informal economy. Without agriculture, the National Statistical Committee's estimated level of informal economy was in the range of 20 to 24 percent in 2012–2016.

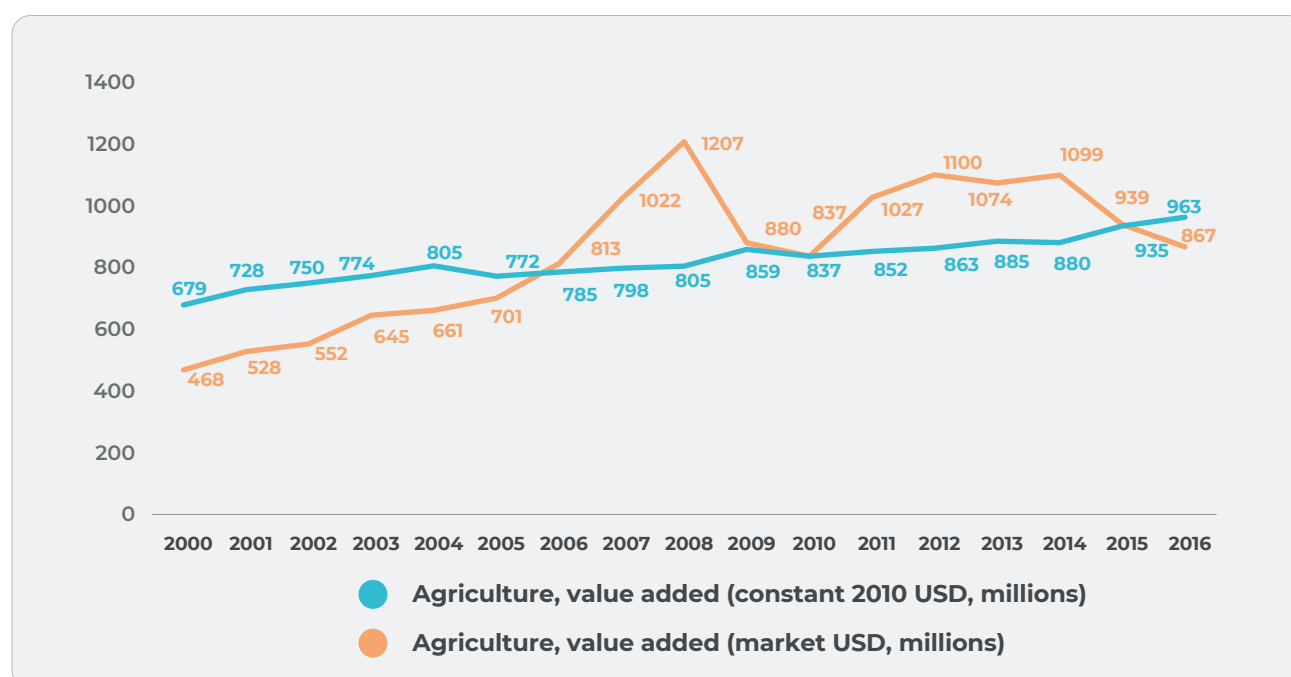
Value added in agriculture, measured in constant prices, demonstrates that the sector has increased slowly, without significant fluctuations. Market price values increased and decreased due to the volatility of the exchange rate in the observed period.

Figure 12. Dynamics of the share of agriculture in GDP and employment in agriculture in Kyrgyzstan, 2000–2016, %



SOURCE: WORLD BANK, 2017.

Figure 13. Agriculture value added in Kyrgyzstan, 2000–2016, market USD and constant 2010 USD, millions



SOURCE: WORLD BANK, 2017.

Crop production was more prevalent in 2005, but during the past few years, the role of the crop production subsector slightly decreased. At the same time, the role of livestock production started to grow. The share of services increased in the first decade of the century and stabilized at 2 percent. Other alternative types of activities (hunting and fishery) were minor.

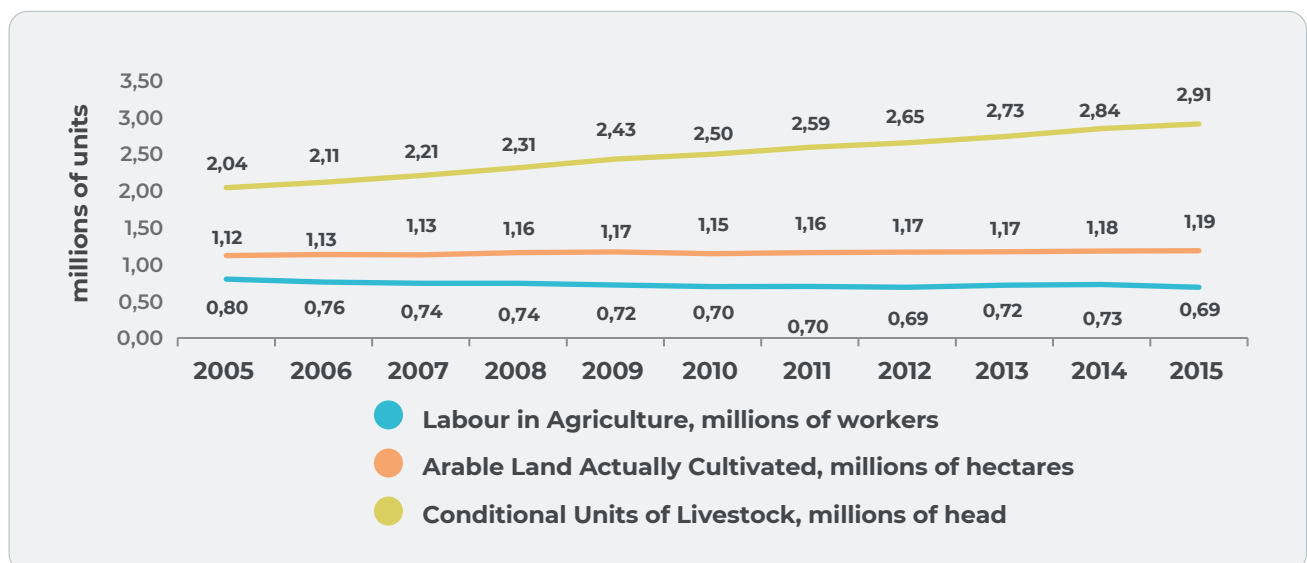
Table 4. Structure of agricultural production by subsector, % of gross agricultural output

	2005	2008	2010	2012	2014	2015
Crop production	54.4	56.3	51.8	48.0	50.2	49.5
Livestock production	43.9	42.1	45.9	49.7	47.5	48.1
Services	1.5	1.5	2.2	2.1	2.1	2.2
Hunting and forestry	0.2	0.1	0.0	0.1	0.1	0.2
Fishery	0.00	0.00	0.04	0.04	0.03	0.02

SOURCE: AUTHOR'S CALCULATIONS BASED ON NSC DATA.

One of the reasons for the slow rate of change is the agricultural production capacities. The land factor is a constant value. At the same time, the labour force employed in agriculture demonstrates an overall trend of reductions in the number of people working in the sector. During last decade, it decreased by 14 percent (Figure 14). The data demonstrate a uniformity of the decline from 2005 to 2012. In 2013–2014 it started to grow and then again decreased in 2015.

Figure 14. Basic production factor dynamics in Kyrgyz agriculture in arable land, livestock and labour, millions of units, 2005–2015



NOTE: LIVESTOCK TOTALS WERE RECALCULATED IN CONDITIONAL HEADS OF LIVESTOCK (1 COW = 1 HEAD, 1 HEAD OF OTHER CATTLE = 0.7 HEAD, 1 SHEEP OR GOAT = 0.2 HEAD, 1 HORSE = 1 HEAD, AND PIGS AND POULTRY NOT CONSIDERED HERE). THE BASIS FOR THIS CALCULATION IS THE RATES APPROVED BY DECREE OF GOVERNMENT OF KYRGYZ REPUBLIC NO. 386 OF 19 JUNE 2009 REGULATING THE CALCULATIONS OF THE FEE FOR THE USE OF PASTURES.

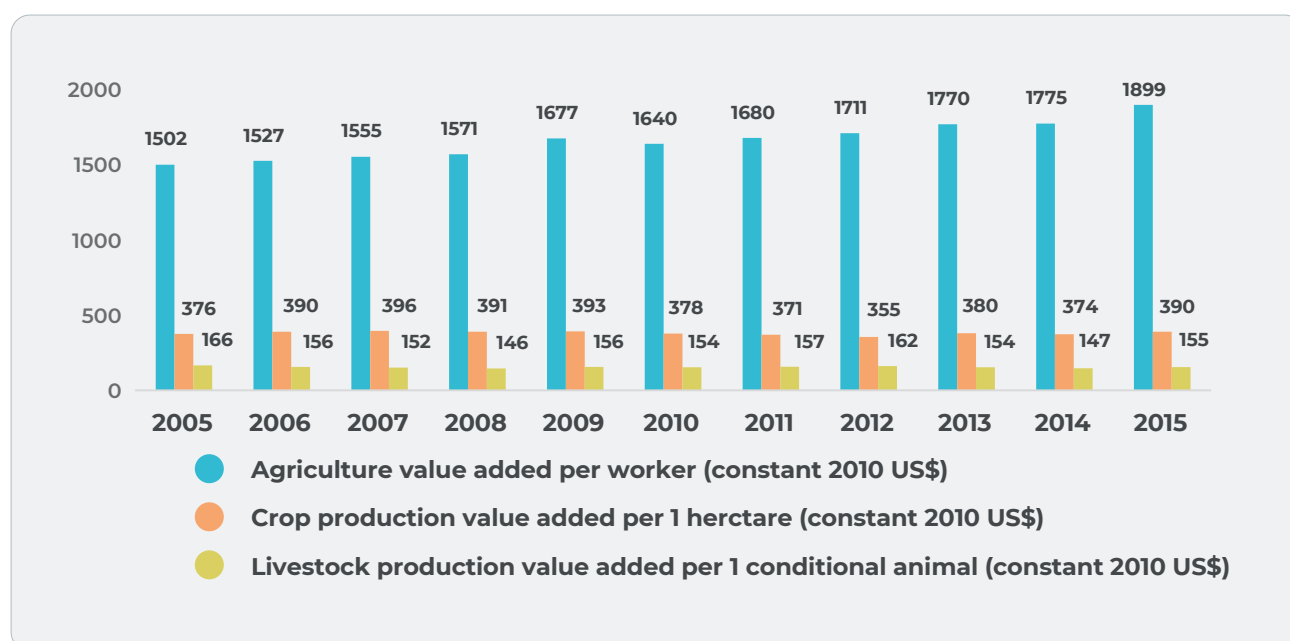
NOTE: LABOUR IS SHOWN IN ANNUAL WORK UNITS.

SOURCE: AUTHOR'S CALCULATIONS BASED ON NSC DATA.

The data include an estimation of all people working in the sector. The method of defining the labour force working in the agriculture sector is based on a random sample of the country population, covering 5 000 households across the country. The method of survey takes into account the location, character of work, type of employment contract and actual number of working hours during the survey period (NSC, 2016a). Livestock herds demonstrated a clear trend to increase over time. During 2005–2015, these herds increased by 42.6 percent.

Transforming the trends demonstrated in Figure 14 on the production values of the agricultural sector and in separate subsectors, we can observe the changing trend of agricultural productivity in Kyrgyz agriculture in 2005–2015 (Figure 15). Expectably, we can see an increase in labour productivity – 26.4 percent in the observed period. This is explained by the steady growth of the sector, accompanied by the overall decline in employment in agriculture. Crop production shows moderate growth of 3.7 percent, because of the stability of the land factor and the declining capacity of the sector to increase productivity. At the same time, there was a decline in livestock productivity of 6.6 percent during the last decade. This means that increases in the livestock herd are not accompanied by growth of the product. In other words, the sector has grown in the number of livestock while also diminishing in the amount of product obtained per head of livestock.

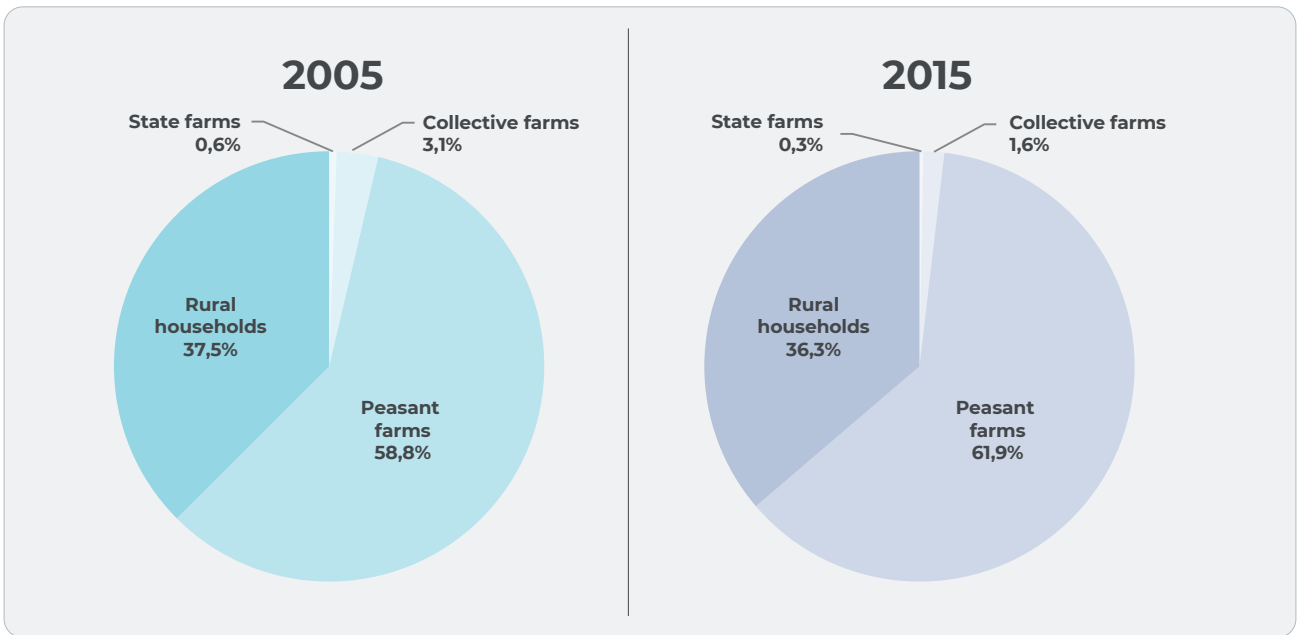
Figure 15. Agriculture value added per worker, crop production value added per hectare and livestock production value added per animal, constant 2010 USD, 2005–2015



SOURCE: WORLD BANK, 2017, AND AUTHOR'S CALCULATIONS BASED ON NSC DATA.

According to the data on the land and livestock owned by smallholders and family farms, almost all arable land and livestock belongs to small farmers (peasant farms and rural households). It is logical, then, that the majority of agricultural products also are produced by smallholders (Figure 16). The common share of peasant farms and rural households increased from 96.3 percent in 2005 to 98.1 percent in 2015. Smallholder producers represent almost all of the agricultural production in Kyrgyzstan.

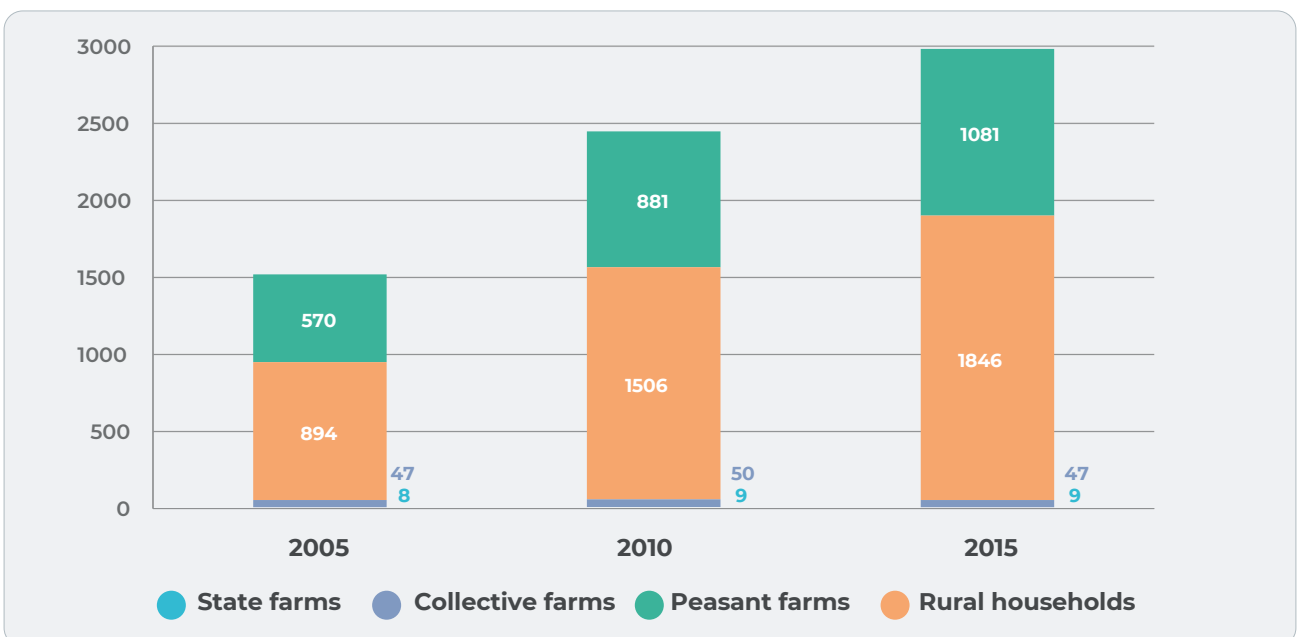
Figure 16. Structure of agricultural output in Kyrgyzstan, by type of farm, 2005 and 2015, %



SOURCE: AUTHOR'S CALCULATIONS BASED ON NSC, 2016H.

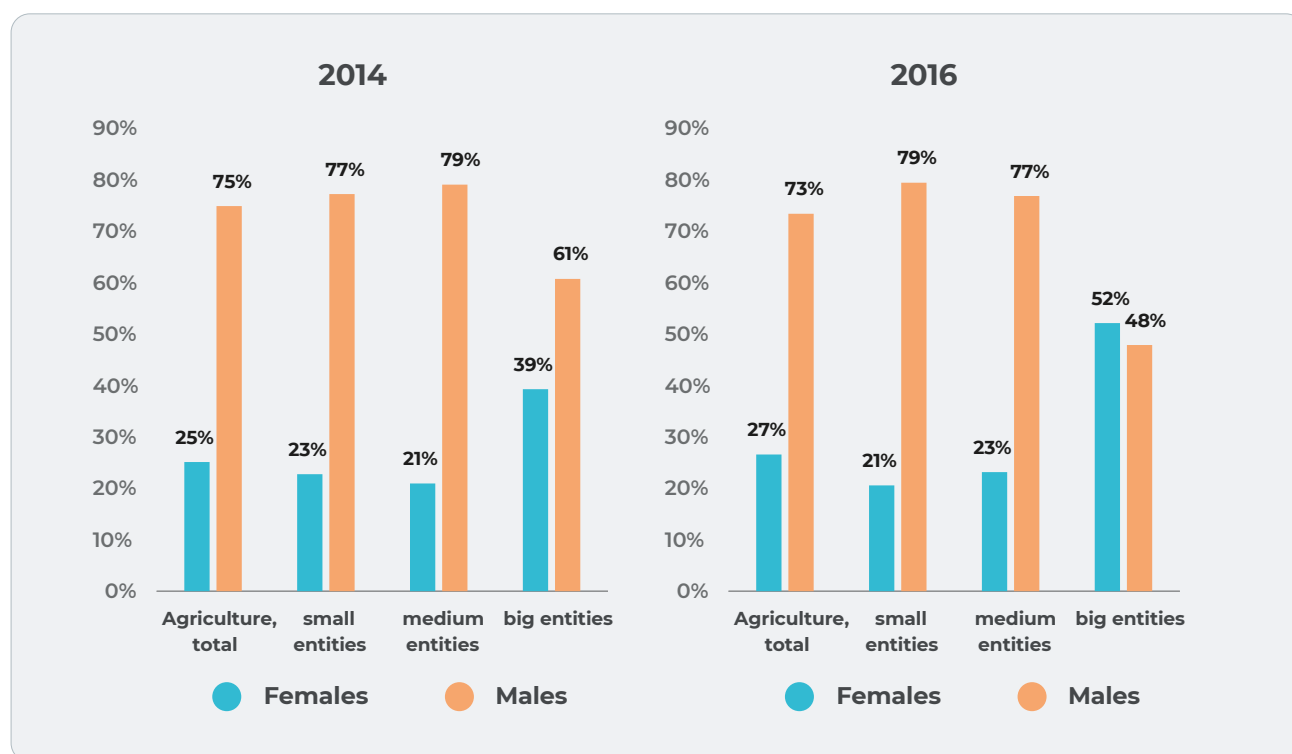
Over the years, the percentages of production by smallholders has fluctuated. Rural households have produced between 35 and 37 percent of the total agricultural output, with peasant farmers at 60 to 62 percent. The increase of the product in the sector depends primarily on the change of production produced by peasant farms (Figure 17). This might be explained by the fact that peasant farms occupy 87.4 percent of arable land and at least half of the livestock in the sector (Figure 7 and Table 3). The share of rural households in output has slightly declined during the last decade.

Figure 17. Dynamics of the structure of total agricultural output by main producers in 2005–2015, millions USD



SOURCE: AUTHOR'S CALCULATIONS BASED ON NSC, 2016H.

Figure 18. Gender distribution in agricultural enterprises in Kyrgyzstan by type of enterprise, 2014 and 2016, %

SOURCE: NSC, 2017F.²⁴

There is not much information about the gender situation in agriculture. However, available data on the employment of men and women in the formal sector⁶ show that males prevail in general as labourers in agricultural production, but the majority of working places are occupied by men in small and medium production entities. Women occupy more jobs in large enterprises, according to official statistics.⁷ At the same time, according to the National Statistical Committee, between 2011 and 2015 the ratio of the salary of the women compared to the salary of the men in agriculture declined from 99.7 percent to 81.8 percent (NSC, 2016b). Therefore, the prevalence of women in larger enterprises might be explained by the lower salaries of women compared to men. Again, it is important to notice that the available data are limited in scope and not representative of the sector, which includes informal employment. Further studies of the gender situation in agriculture are needed.

3.2.2 Land tenure market and property rights

Land reform started in 1994 and took place mainly from 1997 to 1999. The creation of private ownership rights for agricultural land led to the creation of the land market. Originally, at the introduction of the private ownership of agricultural land in the law, a mechanism was included that prevented the sale of land after privatization during the five years after receiving a land share (Kyrgyz Republic, 1998b). This measure aimed to prevent the massive sale of land by farmers who received the land for free. This moratorium was abolished in 2001 (Kyrgyz Republic, 2001).

⁶ For example, in 2014 in the formal sector in agriculture, 6 400 workers were employed. This figure is less than 1 percent of the total employment in the sector.

⁷ According to the Government of Kyrgyzstan, small enterprises are enterprises with fewer than 50 hired workers, medium enterprises are those with between 51 and 200 workers, and big enterprises have more than 200 workers (Kyrgyz Republic, 1998a).

When the original land restriction was removed, the land market started functioning. Today, 90 percent of all arable land belongs to the private sector, and the Land Registry Service is functioning effectively (World Bank, 2011b). The reform of the land market focused on the creation of an efficient system of transparent redistribution of lands from the Land Redistribution Fund, which controls the rest of the arable lands belonging to the state. However, the number of land sales is not significant (USAID, 2010) (see Table 5).

Table 5. Agricultural land transactions dynamics in Kyrgyzstan, number of cases, 2004–2009

	2004	2005	2006	2007	2008	2009
Land Sale/ Purchase	1 986	2 746	2 568	3 521	4 232	3 594
Lease	2 558	3 752	3 418	2 906	3 004	1 928
Inheritance	1 130	823	789	815	1 811	1 337
Mortgage	530	328	176	133	122	884

SOURCE: USAID, 2010.

There were limitations on land property rights that were changed by a series of amendments to the Land Code, including limits to non-residents of rural communities purchase land in rural areas, restrictions on the size of consolidated land plots at the local level, and limits on mortgages by banks. The changes to the Land Code improved the situation (Kyrgyz Republic, 1999). The last serious limitation on the land market is a ban on private land ownership by foreigners. Most land agreements are done in an informal way, within an extended family (clan) network. The formal land market, on the other hand, is limited at the level of rural community.

The gender situation regarding ownership of agricultural land demonstrates that the chances of being the sole owner of land are higher among men (21.8 percent) than among women (3.3 percent) in 2012 (FAO, 2016).

An alternative source of information confirms that, on average, the number of land market deals varied between 3 000 and 3 500 sales of agricultural land plots annually in 2005–2011 (FAO, 2018). The most recent available information demonstrates that the overall trend still supports the conclusion of the low functioning of the land market; 3 941 deals took place in the first ten months of 2017.

The most active land market development is in Chui oblast, which registered 60 percent of all transactions in the country during 2015–2017 (FAO, 2018).

Besides private agricultural land in the country, there exists agricultural lands that belong to the state and are managed by local authorities (Kyrgyz Republic, 2002a, 2016). This land belongs to the State Agricultural Land Fund (SALF). It consists of 269 300 ha, including 216 600 ha of arable land (FAO, 2018). Local authorities are responsible for the arrangement of transparent land auctions to lease available agricultural lands. Collected fees for renting lands from this fund goes to local budgets. Unfortunately, observations demonstrate low transparency of land lease auctions and tenders. Dynamics of the registered lease of the land plots demonstrate the decline of the number of contracts, from 3 752 in 2005 to 1 677 in 2011 (FAO, 2018).

The main problems of the development of the land market include (FAO, 2018):

- informalities in the sphere of the land share (a significant number of deals are not registered);

- insufficient use of collateral; and
- corruption regarding the renting of land plots from SALS.

3.2.3 Value chain organization, standards and access to markets

Small-scale, fragmented agriculture takes place on hundreds of thousands of smallholder family farms. This creates a wide sphere of actions for market agents (intermediaries, purveyors and dealers). These agents work on domestic and export-oriented value chains. The Government has decreased the level of regulation in agriculture to a minimum, and farmers operate in a condition of almost perfect competition.

Box 1. The Best Agricultural Export Commodity: The Case of Talas Kidney Beans

For more, see Section 6.3.

Case background: Kidney beans from the Talas region are a main agricultural export commodity from Kyrgyzstan. Every year, between 55 000 and 60 000 tons of beans goes to external markets, and 26 percent of the agricultural products exported from the country is beans. Kidney beans are exported to Southern Europe, the Russian Federation, Turkey and other destinations. The crop was introduced by merchants from Turkey in the mid-1990s. More than half of the farmers in the region are cultivating kidney beans, and 53 percent of arable land in the region is occupied by beans. Natural and climatic conditions are favorable for growing beans, and the geographical concentration of production and the location of the region – with convenient access to international automobile and railway highways – also helped the development of bean production.

Drivers of the value chain development: Approximately 12 000 small farmers are producing beans. Each participant of the value chain fulfils functions – collecting, arranging logistics, and providing services for consolidating, cleaning, processing, packing, and transporting beans across the region. Several hundred intermediaries (small and wholesale agents) transfer the commodity to exporters. Transportation channels exist in a few alternative routes, despite temporary problems of transit. The absence of state interventions and open market conditions brings the situation to an almost perfect competition in which small farmers can obtain more profit.

Impact: Talas bean farmers can establish a sustainable value chain through access to stable external markets. It provides an opportunity to create a successful self-regulating cluster. A wealth of the farmers have increased in Talas, and the poverty rate has decreased to the lowest level in the country – from 42 percent in 2008 to 21 percent in 2015. Thousands of new working places have been created in the sphere of production, services and post-harvesting processes. The supply of fertilizers and the means for plant protection have increased significantly during recent years.

In most of the cases, farmers get an additional bonus through the control of the farm gate price defined by a free market. This situation has led to an increase of the ability of smallholders and family farms to obtain market margins of approximately 60 percent of the final price.

Every village becomes a scene of individual deals, exchanges, and purchases between farmers and market agents. The low tax rate regime and the low level of control of the market by the state creates the conditions for viable value chains. High levels of competition at all stages of the value chain, along with market freedom, creates opportunities for smallholders and market agents.

Box 2. New Emerging Eurasian Economic Union Markets: The Case of Kyrgyz Mountain Honey Targeting the Russian Federation Market

For more, see Section 6.3.

Case background: Mountain honey from Kyrgyzstan is ecologically a pure, natural product. However, the absence of an established value chain network has not allowed it to create a sustainable flow of supplies, despite improved access to the Eurasian Economic Union. An association of beekeepers was formed in the Toktogul area to promote access to the markets of Eurasian Economic Union – mainly the Russian Federation market.

Drivers of the value chain development: It is hard for small-scale producers to pass technical barriers such as certification and laboratory tests. Other problems of small-scale beekeepers include insufficient quantities of the marketed product for retailers, potentially unstable honey quality, absent or primitive packing, and a lack of a registered and promoted trade brand for Toktogul honey. The association aimed to create a network environment for resolving numerous problems and for mobilizing resources for the beekeepers.

Impact: Association members increased their knowledge base on such topics as bee production, technical barriers, improved treatment of bees, and localization of production factors. A constant flow of supplies of honey has helped create sustainable value chain supply.

3.2.4 Access to finance

Access to finance is a major factor influencing the efficiency of smallholders and family farms. Farmers interviewed during the field study noted that they have experienced or are currently experiencing difficulties in obtaining a loan. Respondents stated that they do not always use credit as a means of working capital. In addition to credit institutions such as banks and microfinance organizations, farmers use other sources of credit or working capital financing, such as:

- loans from friends and relatives;
- loans for future harvest or pledge of livestock;

- sale of liquid assets, such as cattle, beans, grain, livestock feed; and
- the mutual funding developed by value chain participants.

Box 3. Synergy of Mutual Funding: The Case of Talas Bean Merchants and Small Farmers Social Network Financing

For more, see Section 6.3.

Case background: The financing of the kidney bean operations in the Talas region demonstrates a new institutional development: mutual funding of small, rural producers, in which bean farmers and market intermediates use their social networks of relatives among bean value chain participants in Talas oblast. A lack of funding exists among farmers during production season and among intermediates during the distribution stage. In both stages, a mutual funding scheme supports additional earning by members of network schemes.

Factors of success: Bean farmers in the Talas area face the problem of a lack of financing of production operations to fulfill necessary field work, from spring to harvest time. During that period, farmers receive support in the form of loans from market intermediates through the relative clan network. Support is aimed at covering shortages for the purchase of seeds, fertilizers, mechanized works and hired labour. After the harvest is obtained, farmers pay back their debt. Repayment is made by beans on the sum of loan, with the price of beans defined by an agreed-on price that is typically 5 percent to 7 percent lower than the market price at the period of harvesting.

Then, farmers pass the rest of their beans on to their intermediate agent, from whom they receive loans on the production of beans and an agreed-on minimum price. During that period, farmers have an opportunity to withdraw part of the money for their own needs by the price formed at the market, but the rest of the harvest typically is saved until the farmer decides to sell out the rest of the beans at actual market price. The system is profitable for both parties, because the price is not stable. Initially, at the harvesting time, the price of the beans is low; later, it grows depending on market competition. Typically, the maximum price can be reach three to four months after harvesting, when farmers have sold out all of their stocks of beans.

By this consolidating process, intermediates resolve the problem of capital formation for market operations. Intermediates sell all of their beans to wholesale agents and/or exporter firms and then purchase new beans, repeating the process several times until beans are finished on the market.

Farmers and intermediate agents use only their own resources to create a synergy effect through this system, which helps them share profit and support each side of their partnership during the agricultural season.

Impact: Farmers and intermediates avoid paying interest to banks and thus increase their profit

from their operations. The mutually beneficial scheme supports each side of the deal in gaining additional profit. Farmers benefit from the credit on operation purposes and potentially can earn a higher market price through the intermediates, along with a guaranteed minimum price. Intermediates earn through increasing their operating capital to purchase and sell more beans than they could do with their own funds.

The supply of credit in the agriculture sector is growing: In 2005, 2.9 percent of credit was distributed to agriculture, while in 2009 the proportion of agricultural credits increased to 13 percent (World Bank, 2010). Financing of rural producers has increased in recent years. The state-subsidized programme “Easy credits to farmers” was introduced. The annual financing of the programme between 2010 and 2016 was KGS 2.85 billion (around USD 60 million). The idea of the programme is to subsidize the difference between the market interest rate (25 to 27 percent) and decrease it to 10 percent for farmers (even to 7 percent for some activities, such as agrifood processing).

Women tend to borrow money from microfinance institutions rather than from commercial banks, and they borrow less in general than men. Another gender-specific trend in rural finance for women is the higher proportion of willingness to borrow as a group from micro-finance institutions, compared to men; 92 percent of women want to borrow as a group, compared to 33 percent for men (FAO, 2016).

Box 4. Access to Subsidized Credits: “Easy credit to farmers” is Not So Easy

For more, see Section 6.3.

Case background: Farmers interviewed stated that this credit program exists, but getting this credit is a complicated task.

Factors of failure: Most of the farmers surveyed (80 percent of respondents) have loans. Farmers note that information on state-supported loans at reduced rates is available in state banks and partner banks. When formal requirements for soft loans are met, documents can be collected in two to three days. However, the problem is that, having handed over the documents, the answer from the bank is often a non-negative delay: a queue has been formed from the willing farmers, and it is necessary to wait until the money is allocated from the state budget. However, often there is no money for long periods of time. One farmer stated that he has been waiting for two years. The situation with the queue on preferential loans was confirmed in all regions. To get a loan at reduced rates (from 7 to 10 percent annually, in the national currency) is very difficult.

Impact: Farmers report that commercial banks and microfinance organizations are the main sources of credit, in practice. Commercial banks have interest rates on loans of around 25 percent per annum. Microfinance organizations offer rates of up to 40 percent per annum. Obtaining the credit from a bank requires collateral – usually the home in which the borrower lives. Land as a pledge is practically not used. The representative of the microfinance organization explained that the procedures for the seizure of land in the case of non-payment are very long, and the sale of mortgaged land is a complex procedure controlled by local authorities.

Microcredit organizations issue without collateral; the borrower needs a good credit history and surety (or several guarantors). Many farmers believe that it is easier to work with microfinance organizations. Microfinance organizations can afford to pay in any amounts at any time. Banks usually require payment deadlines on schedule.

Commercial loans are common instruments of financing operations, in light of the complicated access to subsidized credits. However, interest rates are high. Inflation is low in Kyrgyzstan, as of 2016–2017.⁸ Besides high interest, the following problems are identified as important obstacles in access to finance:

- The sizes of loans are often limited for farmers.
- Financial literacy is an issue; many farmers did not know exactly how much interest they pay. They can state their monthly payments, but they do not realize the sum of overpayment on their credits.
- Insurance of the risks of agricultural operations is unknown among farmers.

The experience of commercialized Talas farmers working in cooperation with value chain participants needs to be studied further to be adopted in other regions.

3.2.5 Access to services

According to farmers, the main crop production services, depending on the type of activity, include:

- advisory services on agriculture production techniques – several activities of non-governmental organizations, based on donor project funding;
- mechanized works (ploughing, levelling, seeding, fertilizer insertion, harvesting, transportation) – almost all done by individuals working at patent-based tax scheme and by service companies in some areas;
- manual labour works (weeding, irrigating, harvesting, loading, unloading) – done by informal individuals without registration, working on oral agreement;
- processing works (cleaning, sorting, packing, milling) – done mainly by individuals working at patent-based tax scheme but in some areas by companies providing services, such as mills, packing facilities, and cleaning and sorting facilities;
- storing services (storage in guarded warehouses and temperature-controlled storehouses) – mainly done by old enterprises providing storing and cooling services originating from the old Soviet period, and in some areas by modern logistics centres with modern equipment; and
- input supply (seed, fertilizers, fuel) – almost all done by individuals working at patent-based tax scheme.

Livestock production services included:

- pasture grazing of animals (on pastures near the village and on remote pastures) – almost all done by individuals without registration;
- veterinary services – almost all done by individuals working at patent-based tax scheme;
- sheep shearing – done by informal individuals without registration, working on oral agreement; and

⁸ In Kyrgyzstan in 2016, deflation was registered; the consumer price index decreased 0.5 percent to the December of the previous year. In 2017 (nine months), inflation was low (CPI increased 1.2 percent) (NSC, 2017e).

- artificial insemination services – almost all done by individuals working at patent patent-based tax scheme.

State bodies did not provide extensive rural advisory services to the farmers. Rural Advisory Service (RAS) was established in 1998 and was massively supported by the Swiss Agency for Development and Cooperation and IFAD/World Bank from 1998 to 2007. In 2006, 187 000 farmers were covered by RAS, and the farmers appreciated the support from RAS (World Bank, 2011a). Beginning in 2008, restructuring of funding required direct support from the Kyrgyz state to continue operations. That did not occur, and RAS decreased staff in 2009 to adjust to the new reality of declining financial inputs from donors, after ten years of massive interventions (World Bank, 2011b).

There are several development agencies supporting different extension services in Kyrgyzstan (Table 6). Those services work on a project basis and cover certain areas or project territories. Assessment of the extension services demonstrates that the main problems are a lack of staff, knowledge and financing. The absence of state support also plays an important role. Each centre works for specific project purposes and cannot provide sufficient geographical coverage (GFRAS, 2015).

The majority of the services in rural areas are provided by private agents and by firms' representatives. The private sector covers the gap for farmers and support in delivering mechanization services, input supply, veterinary services and other activities for farmers.

Table 6. List of non-state extension service centres in Kyrgyzstan

#	Name	City
1	Association of forestry and land users in Kyrgyzstan	Bishkek
2	Development and Cooperation in Central Asia	Osh
3	PF (Public Fund) "AVEP"	Bishkek
4	PF "Agrobilim"	Batken
5	PF "Agrolead"	Bishkek
6	PF "Bioservice"	Jalal-Abad
7	PF "Bilek"	Batken
8	PF Mehr Shavkat	Osh
9	PF MSDSP KG	Bishkek / Osh
10	PF "Camp Ala Too"	Bishkek
11	PF Tayan	Batken
12	PF TES-Centre	Osh / Bishkek
13	PF Shoola	Issyk-Kul
14	PF TAIC	Bishkek
15	RAS Batken	Batken
16	RAS Jalal-Abad	Jalal-Abad
17	RAS Issyk-Kul	Issyk-Kul
18	RAS Naryn	Naryn
19	RAS Osh	Osh
20	RAS Chui-Talas	Bishkek
21	RAS Agrobazar	Osh
22	RAS "Kaplya plus"	Osh
23	ACSC "Biofarmer"	Jalal-Abad
24	FOM (Federation of Organic Movement) Bio KG	Bishkek
25	ACC (Agribusiness Competitiveness Centre)	Bishkek

SOURCE: GFRAS, 2015

Box 5. Complicated Access to Veterinarian Services: Group Decision is Found

For more, see Section 6.3.

Case background: Livestock breeding is one of the main agricultural activities for the small farmers of the Toktogul rayon of Jalal-Abad oblast. Good pastures and low population density are favorable for keeping cattle, sheep and horses. However, the area is quite remote from the main markets, and access to many types of services is limited. The specifically significant problem for many farmers is access to veterinary services and treatment.

Small-scale farmers face the problem that the veterinarian from the neighbor village is often unavailable or avoids coming to smaller farmers, preferring instead to work with large-scale farmers with significant amounts of livestock, who can easily pay for services.

Factors of success: As the situation had been unsolved for a while, farmers organized a group of relatives and decided to arrange an agreement and appeal to veterinarian not as one small client, but as a group. This increases the income – and motivation – for the animal doctor to deal with a group of regular customers and decrease logistics costs. This scheme is used for vaccination and prophylactic veterinarian examination of cattle twice a year. To cover urgent needs, members of the group make a small monthly payment, the amount of which depends on the size of their respective herds. From this monthly payment, the head of the group pays for the veterinarian's services on behalf of the group.

Impact: The regular monthly fee is around USD 5. Fees for vaccination and examination are paid separately. If the sum of treatment exceeds the sum of the collected monthly fee, the owner pays the difference. The main impact of this group arrangement is that access to resources becomes easy and guaranteed.

Interviewed farmers identified the following problems and complications regarding the quality of and access to services:

- The quality of inputs is not stable, and even already-proven suppliers often supply substandard inputs, such as seeds or saplings of improper quality, expired medicines, and fuel of unstable quality.
- Mechanized work is critically important in that regard:
 - The quality of mechanized services is a growing question. In the villages, two or three persons usually provide services for mechanized works such as ploughing, seeding, levelling, cultivation, harvesting and transportation.
 - Access to services is complicated throughout the agricultural vegetation season. The most critical operations are ploughing, seeding, irrigation and harvesting. Farmers reports on losses due to the unavailability of the mechanized works service provider at the necessary time. Also, the preliminary arrangement might not work due to the weak institutional power of the contract.
 - There are seasonal price fluctuations, and prices for services might increase in a season. This

usually is linked to the supply of manual labour services, such as harvesting, loading and unloading.

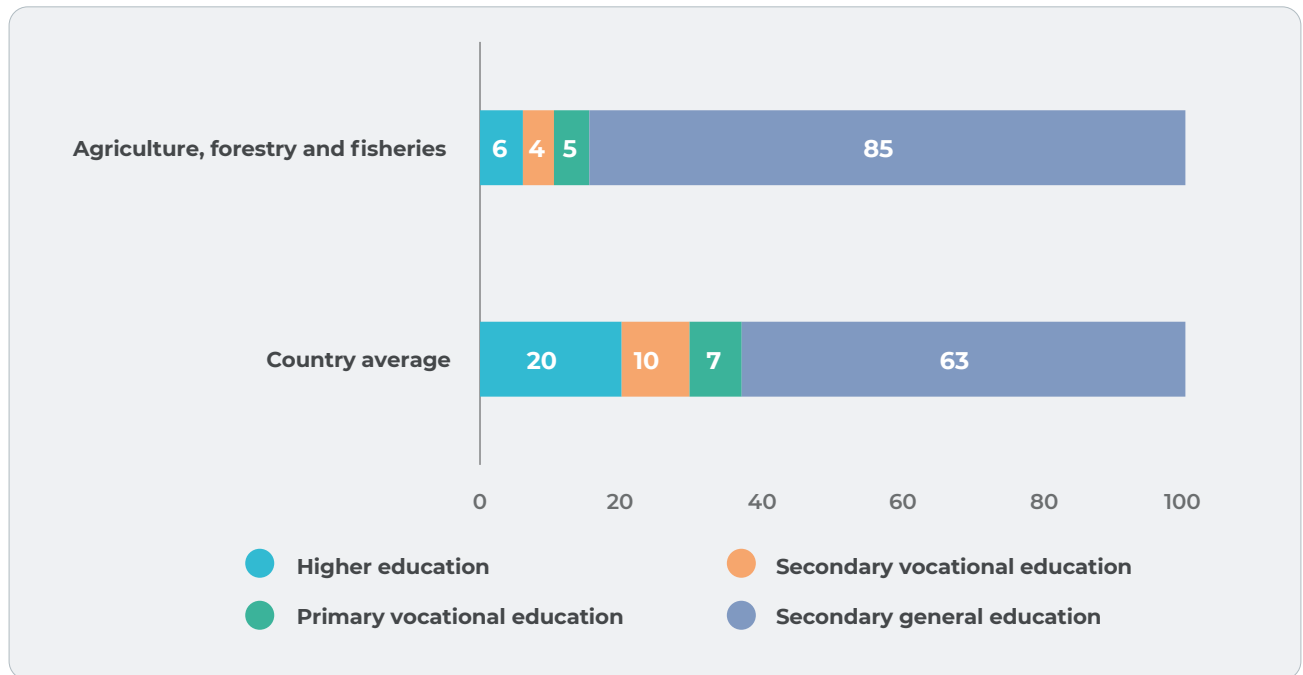
- Access to certain services does not exist. For example, many farmers asked about agriculture-related training, methods of diagnosis of the animal diseases, methods of fighting against pests, marketing information, and quality standards systems.
- Access to services is limited for poor farmers. In most of the cases, it is possible to identify two separate groups of farmers:
 - commercial-oriented farmers who can afford the services but often are faced with low quality or complicated access; and
 - poor farmers without the possibility of affording inputs and services and therefore demonstrating extremely low efficiency.

3.2.6 Education, research and development, and innovation in the agriculture sector, specifically related to smallholders and family farms

Official indicators of the school education level in Kyrgyzstan are high; 99.2 percent to 99.8 percent of adults and young people are educated (NSC, 2014). The difference between urban and rural residents regarding education is less than 1 percent. However, the quality of education in the country and in rural territories is doubtful. According to the Programme for International Student Assessment of education quality among pupils done in 2009, Kyrgyzstan is last among the 65 countries participating in the study (OECD, 2010, p. 15). Kyrgyz pupils demonstrate low results in reading, math and science literacies (OECD, 2010). This means that most of the students cannot demonstrate a sufficient level of understanding of texts, solving math assignments and understanding complicated problems (OECD, 2010). Obviously, a difference exists between the pupils in Bishkek and the rest of the country (The Bishkek schools scored 53 points higher than the mean country level). The remote public rural schools (primary and secondary schools) demonstrate a lower level of performance than urban schools.

The ratio of rural people with higher education reaches 10.3 percent, while among urban residents the percentage is more than twice as high (23.5 percent). The percentage of rural people with only general school education is 57.6 percent, while for urban people that figure is 40.6 percent.

Figure 19. Educational level of workers countrywide and in the agricultural sector in Kyrgyzstan, 2013, %

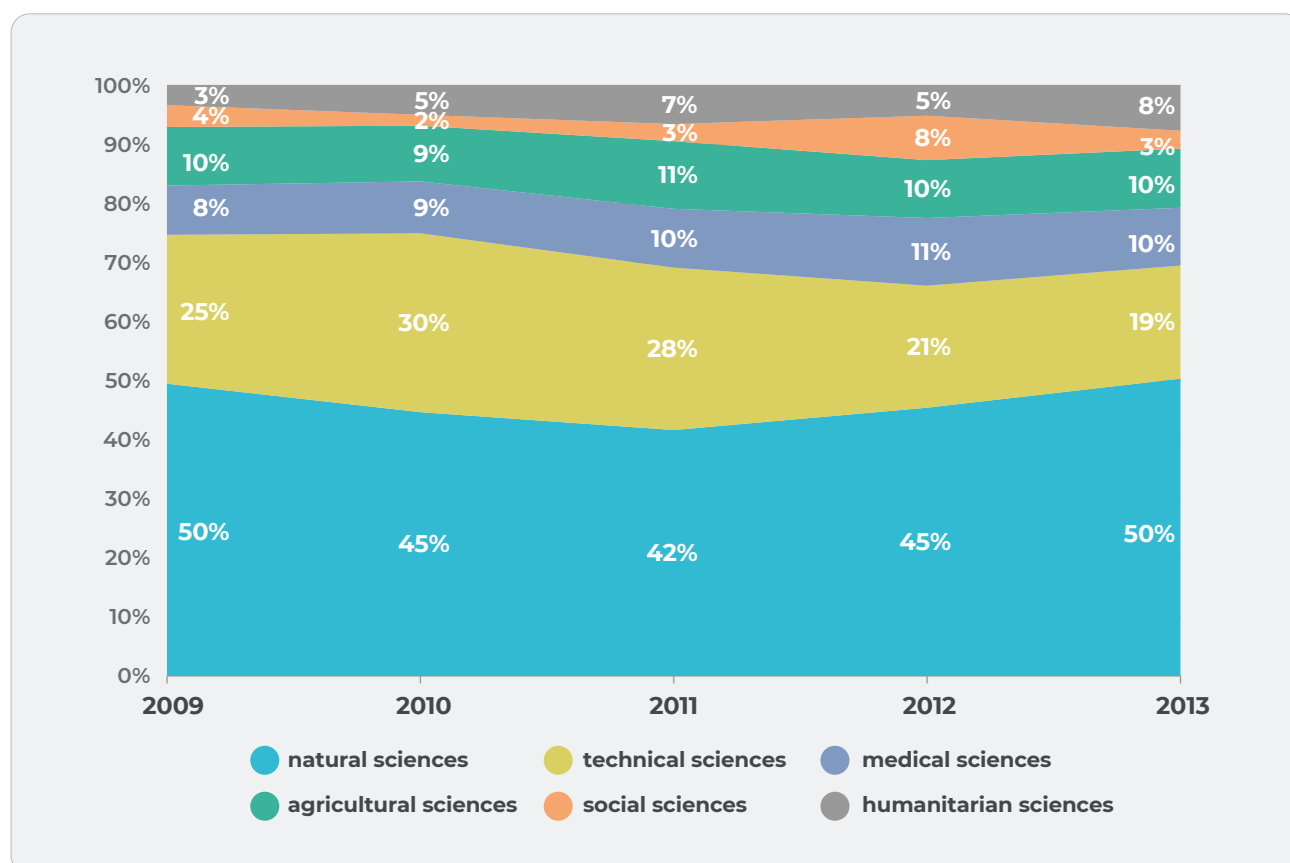


SOURCE: NSC, 2014.

Interviewed farmers also specified that young people do not demonstrate an aspiration for a better education and try to leave rural areas for better lives in urban territories or abroad. Data show that there exists a gap between the agricultural sector and the average level of education of working people, and that smallholder farmers demonstrate lower levels of education than the average in the country (Figure 19).

Research and development are, in general, financed insufficiently in Kyrgyzstan. During 2009–2013, the sum of financing of research and development varied from USD 7.5 million to USD 10.9 million. The share of agricultural sciences varied between 9 percent and 11 percent of the overall financing. The proportion of technical sciences is diminishing, and social science is fluctuating. Included in this funding are works implemented only by state research institutions and organizations from the state budget and registered research grants. Regarding actual monetary figures, agricultural sciences reached USD 1.1 million in 2013. This financing is minimal and cannot bring any visible results beyond keeping some outdated techniques and technologies originating from the Soviet period.

Figure 20. Share of different sectors in financing research and development in Kyrgyzstan, 2009–2013, %



SOURCE: NSC, 2014.

There are four main research institutions in the agricultural sector (World Bank, 2011b):

- Crop Research Institute (CRI)
- Livestock and Pasture Research Institute (LPRI)
- Kyrgyz Irrigation Research Institute (KIRI)
- Veterinary Research Institute (VRI)

Since 2011, all of these have worked under the formal guidance of the Kyrgyz National Agricultural University (KNAU). The founder of KNAU is the Ministry of Education and Science (KNAU, 2011), but research activity is defined under the supervision of the Ministry of Agriculture, Food Industry and Melioration of Kyrgyz Republic.

Box 6. Market Demand on Information Services: Unresolved Problem

For more, see Section 6.3.

Case background: Interviewed farmers of Talas oblast commercialized after the introduction of kidney beans and demanded qualified consultancy services. Using kidney bean as a monoculture on one land plot deteriorates the productive capacities of the land, increasing the risks of diseases, pest invasions and other negative factors that decrease productivity. Declining productivity is an issue for farmers. They repeatedly ask about agronomical issues affecting land productivity, along with trainings and consultations.

There is no access in the area to information resources on those matters. All respondents mentioned that they are eager to purchase, on a regular basis, information on the following issues:

- land recultivation techniques and new methods of land protection;
- analysis of soil characteristics, with recommendations on land quality improvements;
- norms and periods of fertilizer application, along with methods of application and safety measures;
- standards and periods of herbicide application, along with methods of application and safety measures;
- methods of plant protection from pests, classification of pests dangerous to kidney beans, along with pesticides and safety measures; and
- classification of diseases and effective medicines to fight disease.

Unresolved problem: The limited knowledge base complicates farmers' search for information. A unified platform is needed for farmers that includes information technologies – video on the mixture of materials, detailed instructions on using chemical substances, and background materials on diseases, pests and soil characteristics. Basic materials might be free of charge through an Internet platform or free for a certain period, and more detailed information might be available for a subscription. The absence of innovation on the local, regional and country level has led to the absence of that ability. There are several farmers' associations of bean producers, but their activity doesn't cover a focus on market information supply.

The responses of interviewed farmers and other stakeholders demonstrate that financing of agricultural research and development is limited. Sector stakeholders identified four levels of constraints related to the efficient use of education, research and development solutions in the agricultural sector:

- **Public policy.** There is a gap between the sustainable development strategy of the country and agricultural sector development. There is no published acting sustainable development strategy for the country for the period up to 2040, despite one being announced several times during 2016–2017. The Government programme for 2018–2023 was announced and published at the end of August 2017. The programme did not specify smallholders as the main actor of the agricultural sector. Research and development are also not prioritized in the programme as a priority. The

programme uses the concept of a project-based approach (Kyrgyz Republic, 2017a).

- Research and educational institutions. There is a lack of financing, a lack of knowledge and of technologies focused on small-scale agricultural production, limited access to capacity building, and a decline of donor funding of research programmes.
- Private sector. There is a lack of a knowledge and technology base and low incentives to invest in research and development, due to the small internal market and the limited capability of the technical and scientific skills of labour.
- Smallholder farmers. Adequate education, education is missing, and there is a lack of capital to overcome the technology gap. The small-scale production trap prevents a significant amount of decisions using economy-of-scale effect, and there is limited access to information and education.

3.3 Environmental and nature development and climate change

Climate change is an important policy priority defined and actively promoted on a global basis by development organizations. The Kyrgyz Government, with the technical and financial support of donor agencies, developed and adopted in 2013 the priority directions for adaptation to climate change in the Kyrgyz Republic until 2017. Between 2016 and 2017, the concept of reducing greenhouse gas emissions developed. As of today, the new concepts or strategies regarding climate change have not been developed; they were linked with the long process of the approval of the new strategy of country development up to 2040, in which specific sections were dedicated to sustainable ecology and climate change mitigation.

The effects of climate change are visible, based on the available data collected during different periods of time. However, it needs to be noticed that changes in climate (temperature, precipitation, loss of glaciers and other parameters) have been increasing during recent decades (Ilyasov *et al.*, 2013; ADB, 2013). The average annual temperature in Kyrgyzstan has increased. The rate of change in temperature has grown exponentially in recent decades. Between 1960 and 2010, the rate of growth of the average annual temperature was 0.025 °C / year, while for the period 1990–2010, it was 0.07 °C / year (Ilyasov *et al.*, 2013). Precipitation has changed insignificantly across the country, but in the recent years variations in some regions, in both upward and downward directions, have been observed. The general trend over the past few years has been towards a decrease. For the past 50 years of observations, the amount of annual precipitation in the country increased insignificantly (0.36 mm / year), but for the past 20 years, there has been recorded a tendency towards decreased precipitation (-1.9 mm / year) (Ilyasov *et al.*, 2013). Another problem is the lack of information; due to decreased financing, a lot of meteorological stations were closed during the past 20 years, seriously deteriorating the accuracy of measurements and of climate change forecasts (Ilyasov *et al.*, 2013).

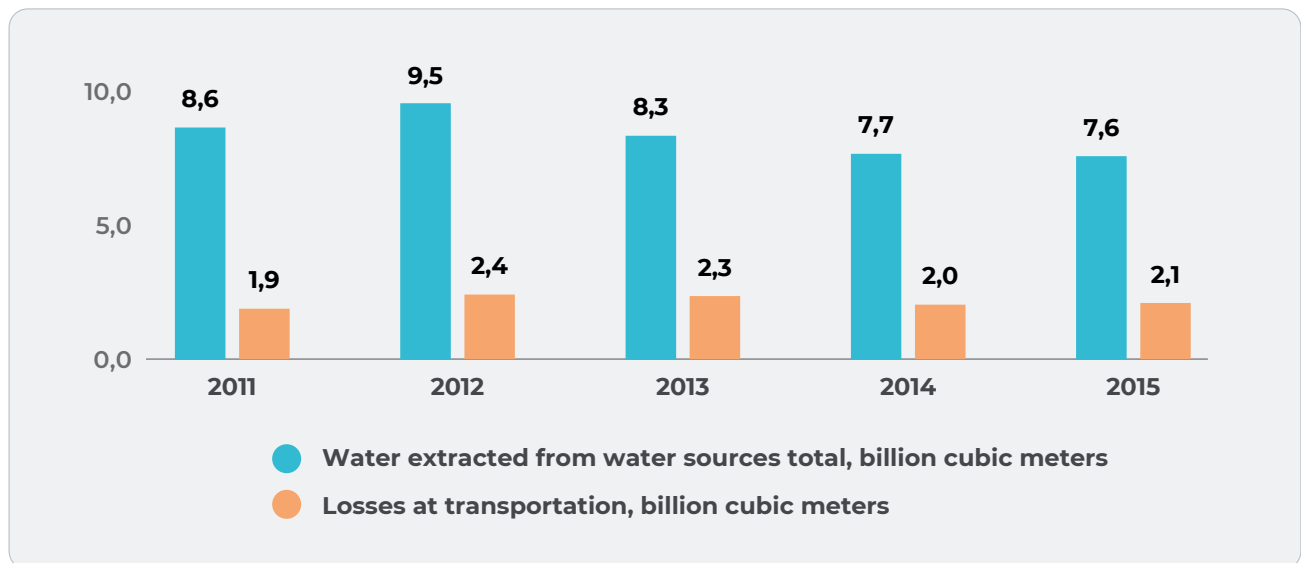
Vulnerability to climate change has been determined by the dependence of Kyrgyz agriculture on irrigation. A total of 78 percent of the arable lands in Kyrgyzstan are irrigated – 24 percent watered from big mountain rivers and 76 percent irrigated from small rivers. This means that at the peak of irrigation

needs in mid-summer, shortages of water flow in small rivers cannot sufficiently cover the irrigation needs of farmers. Only 22.5 percent of irrigated arable lands in the country are watered from the water reservoir; in other words, less than one-fourth of irrigated arable lands have a guaranteed supply of water, irrespective of annual precipitation. For others, the water supply is determined strongly by weather conditions. Shortages of irrigation water can reach, by estimation, 30 to 50 percent, depending on annual fluctuations in precipitation (FAO, 2018).

Data on water use demonstrates that water volumes extracted from water sources between 2011–2015 varied from year to year and depended strongly on the temperature affecting the melting of glaciers and on precipitation levels (Figure 21). However, water losses are almost stable and reach 21 percent to 28 percent of the total available amount of water annually, or 1.9 to 2.4 billion cubic meters per year. Most of the losses are caused by the deteriorating quality of irrigation channels. The irrigation infrastructure in Kyrgyzstan does not function perfectly; 9.8 percent of all irrigated lands demonstrate unsatisfactory conditions of irrigation infrastructure. From 6 500 km of interregional irrigation canals, only 43 percent are coated by concrete. From 22 700 km of intraregional irrigation canals, 24 percent are isolated by concrete (FAO, 2018).

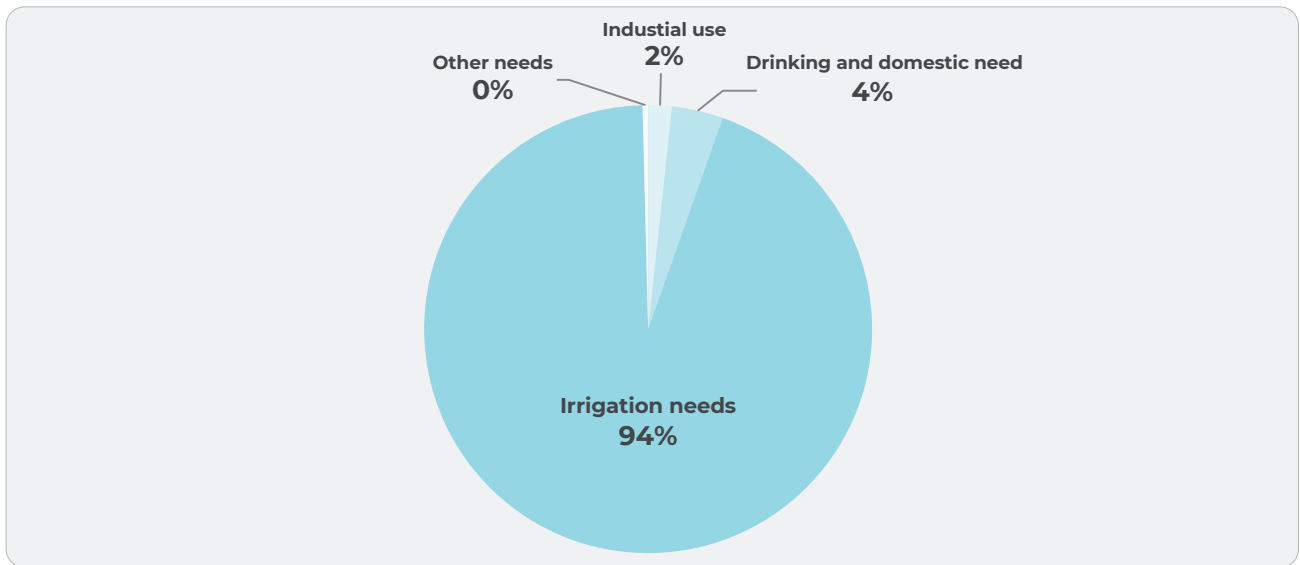
The majority of the water that is used (94 percent) is used for irrigation purposes (Figure 22). Other water uses are minor. The efficiency of water use is minimal, and there is evidently an opportunity for future improvement.

Figure 21. Water extraction and loss in Kyrgyzstan, 2011–2015, billions of cubic meters



SOURCE: NSC, 2016J.

Figure 22. Structure of water use in Kyrgyzstan, 2015, %



SOURCE: NSC, 2016J.

The main issues of the irrigation infrastructure include a set of problems defined during the discussions among water market stakeholders during the implementation of the project on “Implementation of the Voluntary Guidelines on the Governance of Tenure of Land, Fisheries, and Forestry in the context of National Food Security (VGGTs) in Central Asia.”

They include (FAO, 2018):

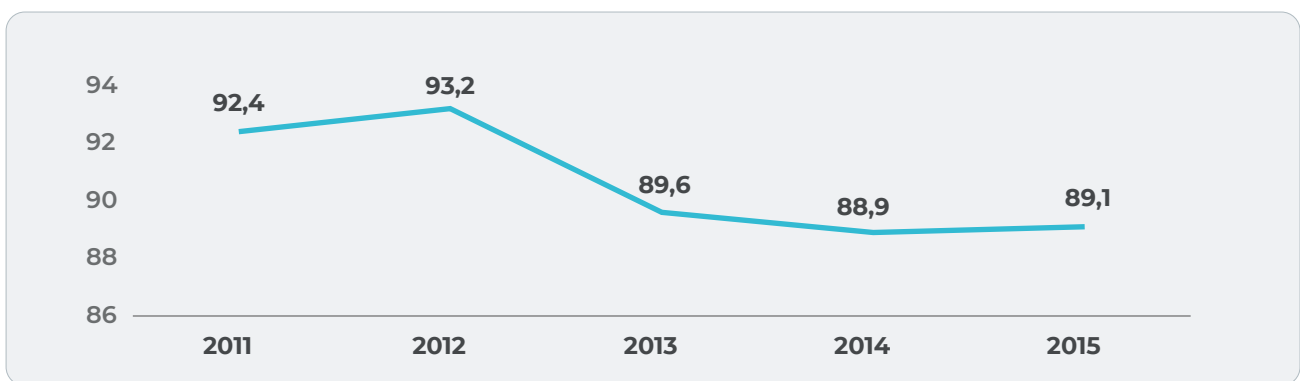
- Absence of registration of rights to own and use the land resources of the water fund and the water users association infrastructure: This issue is related to the unfinished registration process, which requires serious investment in legalization of assets (canals and adjacent lands and water intake facilities). Public policy support is needed from the state regarding those costs.
- Current taxation of the activity of water users associations: Taxation applicability varies across the country; in some districts, tax offices charge sales tax, value added tax (VAT) and even profits tax from water users associations. Social tax issues have arisen by the Social Fund, too. Clarification of the legal status of water users associations is needed regarding taxation issues.
- Water tariff policy, water accounting and payment for water losses in irrigation systems of the water users associations: Water price methodology is unclear. A low price for water has not motivated investment in irrigation systems, and water fees are sometimes paid in-kind. A significant share of farmers, especially those practicing subsistence farming, cannot pay a higher price for water. A reformulation of public policy in the irrigation sphere is needed towards a water supply that is more sustainable in light of climate change.

The main directions of the water-related agricultural priorities were formulated in the state irrigation development programme of the Kyrgyz Republic for 2017–2026 (Kyrgyz Republic, 2017b). This technically designed document is based on the assessment by farmers of urgent needs in improving irrigation conditions. An assessment of the investment needed to invest in the renovation of the irrigation system on the country level is estimated at KGS 58.8 billion (USD 853 million).⁹

⁹ Using an annual average exchange rate of 1 USD to KGS 68.87, retrieved from www.stat.kg.

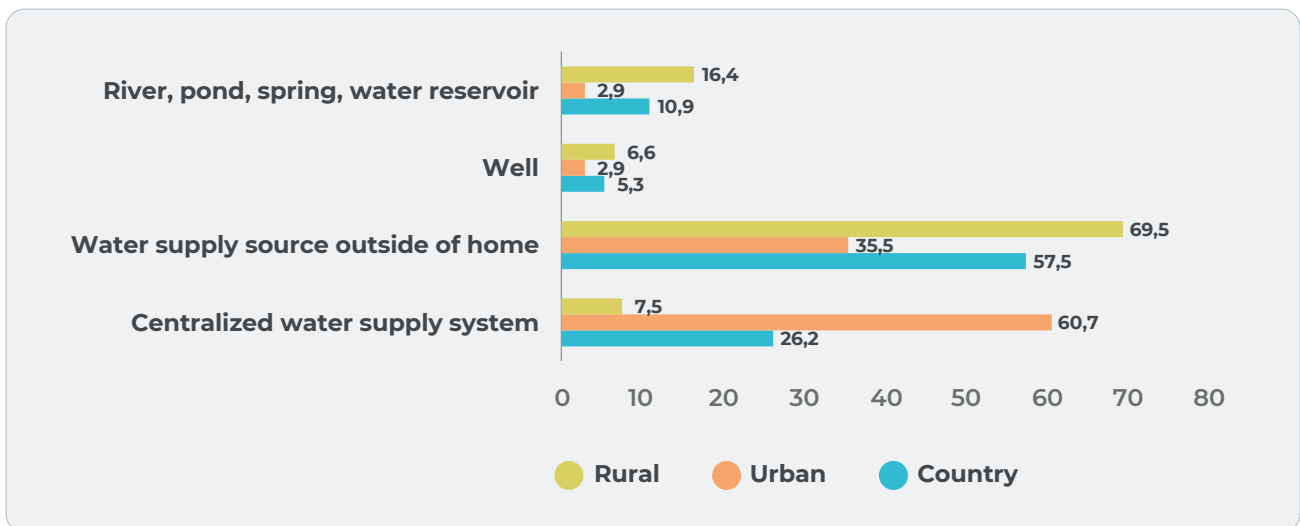
Interviewed farmers reported that effects of climate change for them have been changing precipitation levels and high-temperature periods during the time of vegetation. Farmers from Osh, located in the Ferghana Valley, pay attention to the lack of irrigation water in the high-temperature mid-summer periods, which is accompanied by an absence of precipitation and the necessity for farmers to wait in lines to be able to water their fields and gardens. Farmers from Talas and Chui valleys also mentioned high-temperature waves and periods of high winds. Livestock-specialized farmers from the Jalal-Abad region mentioned extremely high snowfall periods and low temperatures during wintertime. In general, farmers specified that the biggest problem during recent years has been strong deviations in temperature and extremely high or low temperatures, which can damage crops and animals. Most of the farmers cannot describe the weather beyond three- or four-year horizons. Also, farmers know very little about climate adaptation practices or Government efforts in this regard.

Figure 23. Access to clean drinking water in Kyrgyzstan, 2011–2015, %



SOURCE: NSC, 2016J.

Figure 24. Drinking water supply sources in Kyrgyzstan in urban and rural areas, 2015, %



SOURCE: NSC, 2016J.

Besides access to irrigation water, a decreasing trend in access to drinking water is also a problem (Figure 23). More than half (55 percent) of the population in the country live more than 100 m from their source of drinking water (NSC, 2016d). With a growing population, access to drinking water has become an increasing problem over time. Analysis of rural population access to drinking water

highlights an existing gap between rural and urban residents (Figure 24). The majority of the population in the countryside (69.5 percent) have access to drinking water outside their dwellings – on-the-street water pumps. Only 7.5 percent of rural residents have access to clean water in their homes, and 16.4 percent of rural people don't have access to drinking water and need to use water from natural sources. Such a situation might worsen during the water shortage periods caused by climate change fluctuations and will be a growing problem for the normal life of villagers in the country.

The previously mentioned degradation of mountain pastures is currently a significant threat to the country's ecological situation and to the food security of the population. Pasture conditions have deteriorated in recent decades, as winter pastures located near villages have experienced excessive grazing and degradation, while remote summer pastures have been underutilized because of their poor accessibility, primarily due to deteriorated infrastructure. Therefore, the proportion of animals grazing on pastures near villages has increased. Increasing the load on pastures will lead to possible pasture digression (Kyrgyz Republic, 2014).

Forests in Kyrgyzstan cover an area of about 5.61 percent of the country's territory. The role of forests is important for environmental purposes. However, for remote mountainous areas, forests also are important from an economic perspective. Significant improvement of forest public management system is needed. The lack of transparency in the management of forests is a key issue; it decreases accountability and excludes community participation (Undeland, 2012). Risk of corruption may increase deterioration of forest resources, and it makes forests more vulnerable in the light of potential climate change.

In the new Government Programme 2018–2022, the ecological aspects of development are defined as a cross-cutting approach for all sectors of the economy. The environmental impact assessment system needs to be based on the improved system of data analysis and on analysis of risks and climate change, including the potential impact on agriculture.¹⁰ Specifically, an investment in irrigation networks is defined as a way to overcome the problem of a shortage of irrigation water. Climate change adaptation measures, including localization and promotion of water-saving technologies in agricultural production and the promotion of varieties of crops and breeds of livestock adapted to current and forecasted geographical and climate conditions (temperature, humidity, altitude, soil and landscape). Investment in the selection of varieties of crops, plants and animals that are resistant to water shortages, with an attempt to save biodiversity, is planned to be carried out.

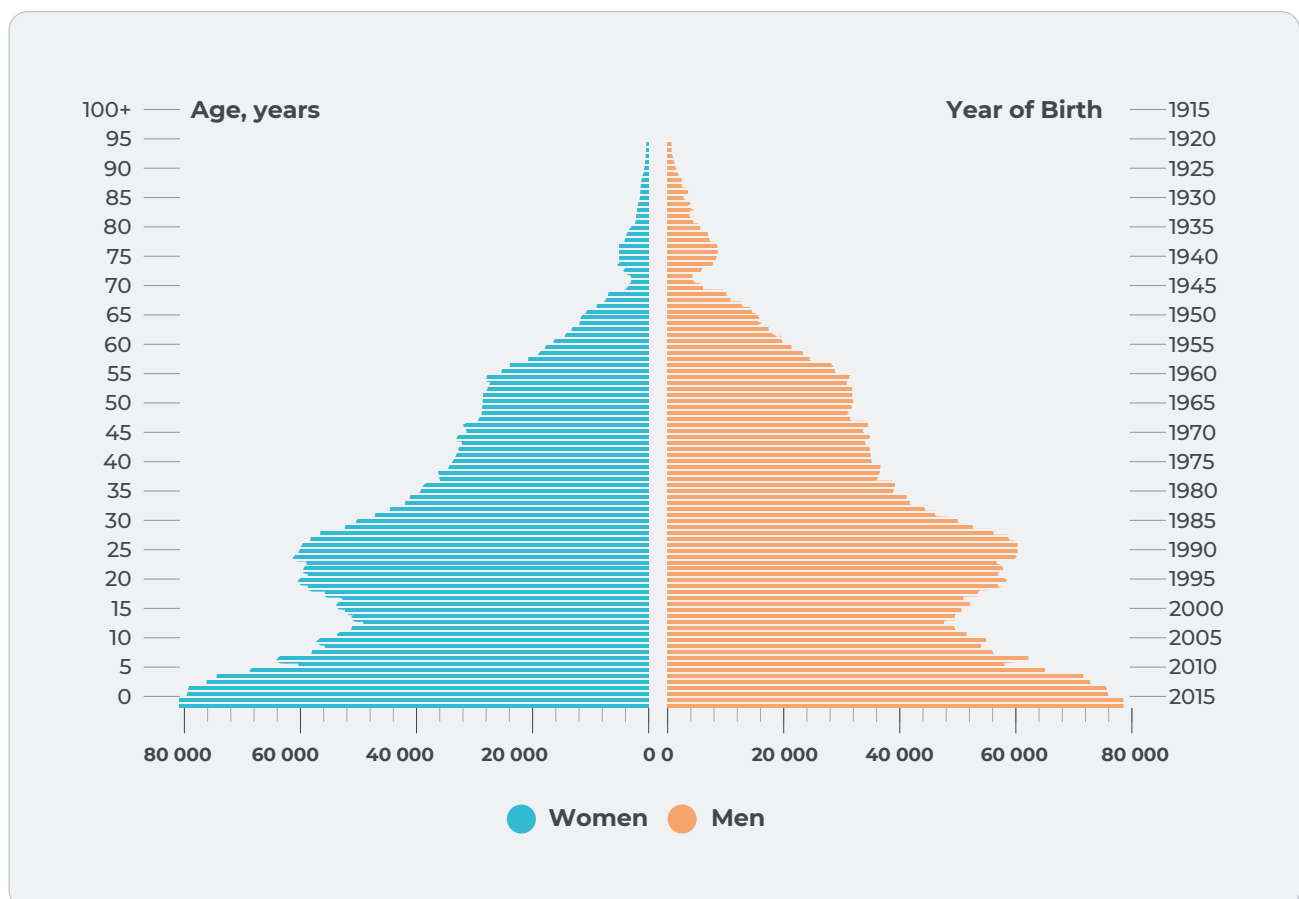
• ¹⁰ According to the Development Programme of the Kyrgyz Republic for the period 2018–2022, "Unity. Trust. Creation."

3.4 Rural areas: Population and rural economy

In the population structure, the younger generation prevails; the share of children and youth¹¹ is one-third of the total number of residents. The average age of the population in the country as a whole is 27.4 years old, and for rural populations the average age is 26.8. The share of people of working-age is 60 percent of the whole population, and people older 65 are only 4.4 percent (Figure 25).

A difference between men and women starts to be visible after 40 years of age. After the age of 80-plus, the percentage of women is already twice as big as of men. The decline of birth rates between 1996 and 2003 is graphically visible, and that shift in the birth rate will be later reproduced when a person born in that period reaches procreational age. The population of the country increased from 2005 to 2016 by nearly 1 million people, with an average of 1.56 percent annual growth. The share of the rural strata is stable over the observed period, on the level of around 64 to 65 percent (Figure 26).

Figure 25. Age structure of the population in Kyrgyzstan in 2015

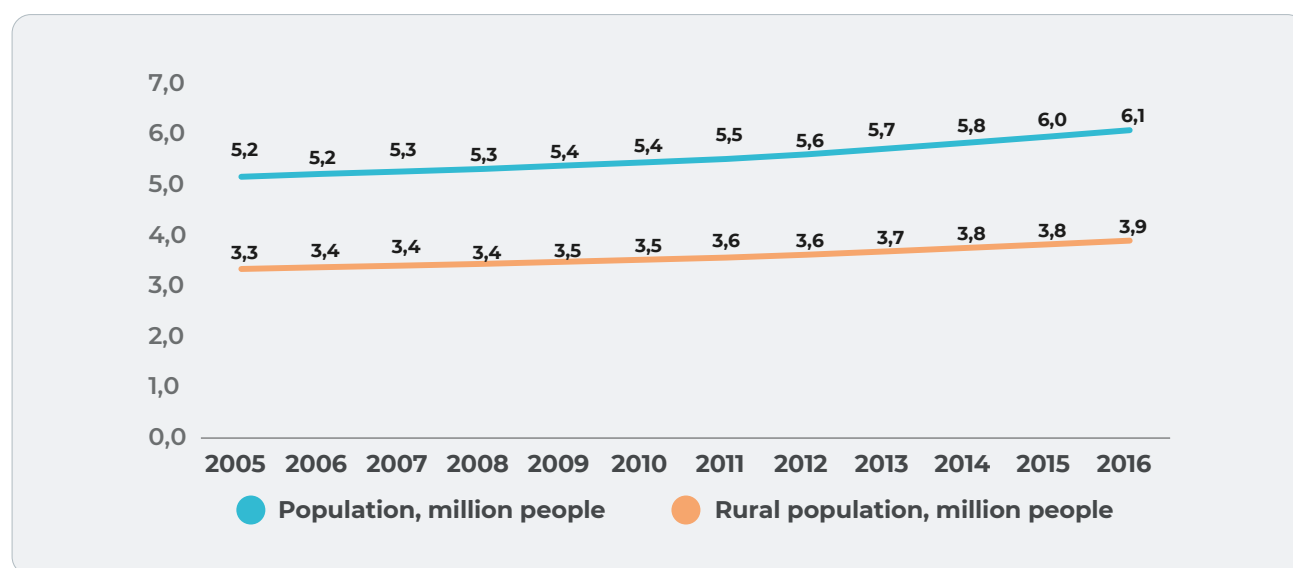


SOURCE: NSC, 2016K.

¹¹ "Kids" are persons younger than 18 years old (Kyrgyz Republic, 2012), and "youth" are persons from 14 to 28 years old (Kyrgyz Republic, 2009b).

The average annual rate of population growth is 2.06 percent, with rural population growth a little higher, at 2.14 percent. The dependency ratio is slowly increasing in the country, from 640 dependants per 1 000 people of working age in 2012 to 679 per 1 000 in 2016. In rural areas, the ratio is higher; it increased from 687 to 707 per 1 000. It should be noticed that the dependency ratio increased higher in urban areas; the growth of indicator there was 12.4 percent, while in rural areas it increased by 3 percent. This means that the gap between rural and urban areas declined in the observed period. The defined increase of the dependency ratio is linked with the shift of the share of the population born from 1995 to 1999. In that period, the birth rate declined strongly. Those kids are now moving to the working age group, and proportionally this age group is smaller than those who were born earlier or later that period (Figure 25).

Figure 26. Dynamics of rural population in Kyrgyzstan, 2005–2016, millions of people



SOURCE: WORLD BANK, 2017.

Labour migration in the country is a visible trend. The destination for the majority of them is the Russian Federation. Data on the migrants are contradictory. National statistics reported 140 000 to 180 000 migrants from 2008 to 2013, based on the estimations of national surveys. However, the State Service on Migration under the Government of the Kyrgyz Republic reported 640 000 migrants from Kyrgyzstan in the Russian Federation in 2018. Another important trend is the growth of the share of unskilled labour among migrants; the proportion of unskilled labour increased from 21 percent to 55 percent from 2008 to 2013, based on the estimation of national statistics. This observation is also supported by the covered smallholders and family farms. Youth do not intend to get a good education anymore but instead are focused on an opportunity to leave rural areas. Previously, males have prevailed among migrants, but young women now also actively move from their families to cities and abroad. As a result of labour migration, remittances have increased in the country during the past decade – from 24 percent in 2008 to 33 percent in 2017. Currently, Kyrgyzstan is one of the three countries mostly dependant on remittances.

Employment figures demonstrate quite a modest level of unemployed people in the country. According to statistics, 58.8 percent of people in rural regions are employed. Among them, 70 percent of men employed, including those who are self-employed, compared to 44 percent of women. The difference between urban and rural populations is not significant and varies in a range of 2 to 3 percent (NSC, 2016a).

For the rural population, the primary places of work are smallholder farms (30.6 percent) and rural household activity (7.9 percent). Employment in smallholder family farming declined in 2006–2015 (see Table 7). Work in the formal economic sector, for example in registered companies or in public institutions, is available for 23.4 percent of rural residents, and a choice of work as a hired labourer for a private person was reported by 22.6 percent. Individual entrepreneurs are 15.5 percent of rural citizens (NSC, 2016a). Smallholder activity is a choice of employment for 54 percent of workers in the countryside. The level of informal employment in rural zones reaches 97.4 percent. The unemployment rate reached a modest level of 7.3 percent in 2015. During the previous decade, it varied between 8.5 percent and 7.5 percent (World Bank, 2017). Unemployment is predictably higher for rural women (9.1 percent) than for men (6.1 percent) (NSC, 2016a).

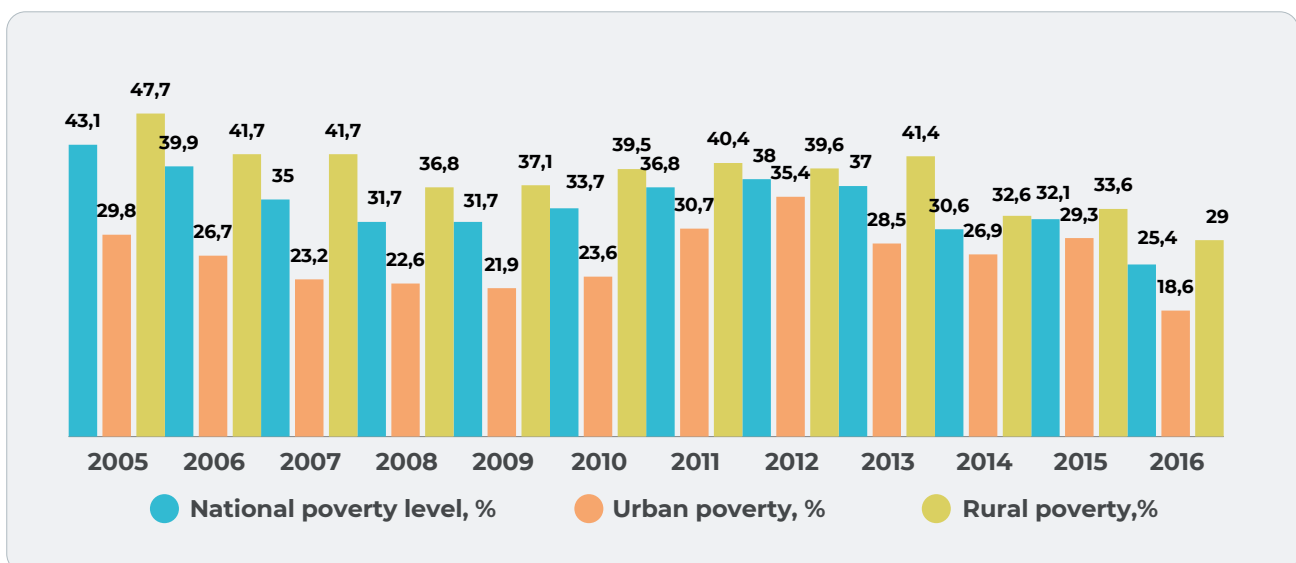
Table 7. Labour employment indicators in the rural population

	2006	2010	2015
Employed rural population, millions of people	1.35	1.47	1.54
Employed people, %	36.7	45.8	44.9
Self-employed (all categories), %	63.3	54.2	55.1
Farmers, %	40.1	31.8	30.6
Rural household employed, %	9.3	9.7	7.9

SOURCE: NSC, 2016A.

National poverty headcount rate dynamics demonstrate changing trends from 2005 to 2016. Poverty declined in the period 2005–2009 (Figure 27), from 43.1 percent to 31.7 percent. Poverty started to grow in 2010–2012 and again declined, all the way to 25.4 percent in 2016. The prevalence of rural poverty in comparison with urban poverty is a common feature observed in most of the countries. The gap between urban and rural poverty rates has decreased and increased again in different years. The national poverty line deflated on the consumer price index. The reason for recalculation is the high inflation (more than 10 percent per annum).

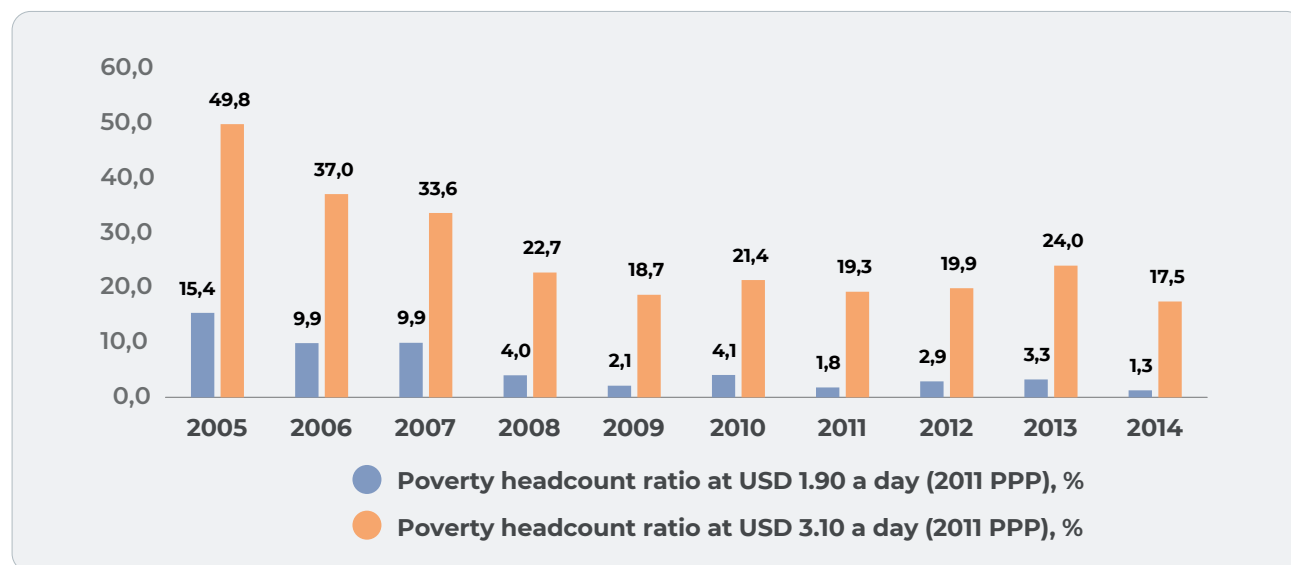
Figure 27. National poverty rate dynamics in Kyrgyzstan, 2005–2016, % of the population



SOURCE: NSC, 2009, 2012A, 2017C.

Besides the national poverty line, there also exists international lines of USD 1.90 per person per day, for an extreme poverty rate, and USD 3.10 per person per day, for the absolute incidence of poverty. The international poverty lines also have demonstrated reductions of poverty in the country. The extreme poverty line declined strongly during the last decade. The general trend of the international poverty line is similar to the trend observed at the national poverty line.

Figure 28. International poverty rate dynamics in Kyrgyzstan, 2005–2014, % of the population



SOURCE: WORLD BANK, 2017.

Box 7. Labour Migration, Poverty and Impact on the Labour Market

For more, see Section 6.3.

Case background: Southern Kyrgyzstan is a densely populated area with a significant share of the rural population. Since 2000, labour migrants from Osh oblast in southern Kyrgyzstan have started to seek jobs in the Russian Federation. There are no exact figures about migration from the region. The total number of migrants from Kyrgyzstan in the Russian Federation was 640 000 persons in 2018, according to data from the State Service on Migration under the Government of the Kyrgyz Republic. It is supposed that most of those people are from southern Kyrgyzstan. This outflow of young people from rural regions has become an important feature of the labour market. Labour migration has several impacts on levels of consumption and poverty in the area. There are also effects on the labour market because of an absence of free labour in agriculture. This has led to increasing rates for hired manual labour and an inflow of unregistered farm workers from neighboring Uzbekistan during the farming season.

Unexpected result of labour migration: Farmers from Osh oblast have mentioned that the young generation in general are not oriented towards working on the land due to the overall

trend for migration to the Russian labor market. This brings several direct implications for agricultural activity in rural households. Previously, people from large, low-income families with limited access to land mainly find temporarily jobs as hired labourers. Now, most of the rural households in southern Kyrgyzstan prefer to orient their families based on the incomes from labour migrants.

The young generation of people in the village have not tended to obtain farming knowledge. All respondents mentioned that their kids already have decided to leave the country and work outside. All covered households have migrants. The farmers surveyed are not sure whether somebody in their family will continue working as a farmer. It helps to improve their consumption and increase savings through investment in housing conditions and livestock.

During the survey period, in the areas bordering Uzbekistan, daily labourers from Uzbekistan have replaced the local labourers who moved to the Russian Federation. The situation changed after interethnic clashes in southern Kyrgyzstan between Kyrgyz and Uzbek people. For several years, there were problems crossing the Kyrgyz-Uzbek border, and labour supply decreased. As a result, daily rates increased significantly.

After Kyrgyzstan entered the Eurasian Economic Union in 2015, the legal conditions for Kyrgyz migrants improved. Despite the economic crisis in the Russian Federation, migration rates from the Osh region did not decrease. More and more Kyrgyz young migrants of both genders work in the Russian Federation.

The inflow of Uzbek migrants has increased again due to improving rates for hired labourers.

Unresolved problems: The interethnic situation is complicated between Kyrgyz and Uzbek people, and tensions exist in a hidden form. Legal status for Uzbek labourers is not officially permitted. That potentially improves corruption on the borders and customs bodies on the both sides of the frontier. Both countries do not protect labour migrants' rights, such as fair payments, safety measures, social insurance and medical support.

Impact: Impacts of labour migration include that the poverty situation improves in the area, and people increase their consumption levels and invest in better conditions of life. There is a decreased level of education among the young population, with farmers' knowledge base weakening. The new generation of farmers may be diminished. Informal migration from Uzbekistan has resolved the situation for some farmers, but conditions of work and legal status are still unresolved issues.

Rural areas demonstrate higher poverty levels and other related indicators affecting the well-being of the population (IMF, 2014):

- The majority of poor people in Kyrgyzstan live in rural areas (66 percent). Important determinants affecting chances to be poorer are dependence on natural resources and fluctuating weather conditions. Thus, any changes in the environment may affect the volatility of poverty rates.
- There is a lack of jobs outside of agriculture, and there is limited access for people wanting to initiate businesses.
- Another important implication of poverty is altitude. Higher mountains provide fewer chances for

a stable and safe environment, and they also result in lower productivity. Therefore, poverty rates are higher at higher altitudes (51 percent) and lower in the valleys (37.4 percent), as of 2012.

- Child poverty is also higher in rural areas (47.6 percent) than in urban settlements, in some cases by as much as 8.9 percent.
- Access to medical service is complicated in remote rural areas due to a deficit of medical staff in rural areas.
- There is no specific relationship between poverty and gender, since poverty is measured at the household level. Gender disparity also is observed at the household level and usually appears in lower influence on the decision-making process related to using of the resources, such as the taking of credit.

One of the consequences of high rural poverty during the last generation is the prevalence of old technologies in agricultural production, which has resulted in the low productivity of agriculture (low yields) because of technological backwardness, outdated cultivation techniques and a low quality of inputs such as seeds, fertilizers and agrochemicals (Mogilevskii *et al.*, 2017). Besides the socio-economic impact of poverty, there also exists an environmental dimension of the problem. Because many farmers are poor, not well-equipped technologically, and have a lack of knowledge, they contribute a lot to a harm to the environment. The vicious cycle of poor farmers depending on old practices and inputs and contributing to climate change, further affecting themselves, needs to be resolved.

Table 8. Medical institutions and health care indicators in Kyrgyzstan, 2005–2015

	2005	2009	2012	2015
Hospitals and clinics, units	362	358	330	338
General care / obstetrical units, units	872	983	1 003	1 026
Number of doctors, persons	13 396	13 135	13 392	13 601
Paramedical personnel, persons	30 607	29 311	32 348	34 545
Annual number of people who received medical care at hospitals, people	691 930	866 917	907 629	808 323
Average duration of hospitalization, days	11.7	9.8	9.6	8.7
Annual number of outpatient visits / contacts, units	11 136 142	15 314 025	15 352 422	15 193 837

SOURCE: NSC, 2017B.

According to the data presented in Table 8, the number of hospitals, clinics and general care units located in the larger villages is stable. Similarly, the numbers of obstetrical units and doctors tend to be stable. At the same time, the number of medical staff has increased during the past five years. The number of patients getting treatment in hospitals varies from year to year, but the average length of the treatment period (duration of hospitalization) has declined by 25 percent. The population of Kyrgyzstan increased by 0.9 million persons between 2005 and 2015. That change has increased the workload for the healthcare system and makes necessary the further development of healthcare infrastructure (hospitals) and qualified staff (namely, doctors).

Table 9. Preschool institutions indicators in Kyrgyzstan, 2007–2013

	2007	2009	2011	2013
Preschool institutions, units	474	594	741	927
Preschool institutions in rural areas, units	208	312	433	612
Number of teachers in preschool institutions	2 520	2 895	3 647	4 492
Proportion of kids visiting kindergartens, %	10.8	12	14.5	17.5
Proportion of kids visiting kindergartens in rural areas, %	4.3	5.4	7.4	10.8

SOURCE: NSC, 2012B, 2014.

Table 9 shows that the number of kindergartens is increasing tremendously, following the growing number of kids overall. Moreover, the majority of kindergartens were opened in rural areas. A gap exists in the access of kids to kindergartens in rural areas compared to the urban conditions in the country. The gap has decreased in recent years, but still, 91 percent of rural kids cannot yet go to kindergartens. The shortage of child care institutions led to limited access of rural women to the labour market.

The rural infrastructure includes the basic facilities necessary for the overall quality of life. Besides drinking water, it includes an electricity supply and a sewage system. The electricity network covers the entire country. However, the supply of electricity often is irregular, especially during winter periods. Rural households are faced with a higher frequency of electricity outages than urban residents. The sewage system in the countryside is less accessible in comparison with urban areas. The majority of smallholders burn waste or bury it. Only 10 percent of rural households have access to the waste collection system.

3.5 Needs, challenges, and constraints for the economic, social and environmental development of smallholders and family farms

Smallholders and family farms in Kyrgyzstan represent almost the entire agricultural sector. This brings positive and adverse consequences. Small-scale production based on family resources – labour, land plot and livestock – can be very stable, especially in the periods of under-financing, limited access to market and absence of support from the state for producers.

A decline in poverty and an improvement in food security indicators have mainly happened due to the efforts of smallholder farmers. This also resolves, to a certain extent, the problem of rural employment.

However, such production brings a small-scale production trap. There is no possibility to benefit from economies of scale. Families cannot afford serious investment and are vulnerable to natural hazards, climate change, pestilence or economic shocks. The small sizes of land plots lead to numerous problems with production logistics and planning. Also, due to the patriarchal character of the family farm, men usually lead the household, in the majority of cases. The position of rural women has become weaker due to the absence of gender protection in institutional settings. Thus, all constraints, needs and challenges could be organized into five main groups:

1. weak knowledge base and technological gap and limited access to improved inputs;
2. access to resources;
3. markets and standards;
4. environmental issues and climate change; and
5. lack of specific social protection mechanisms for smallholders.

WEAK KNOWLEDGE BASE AND TECHNOLOGICAL GAP AND LIMITED ACCESS TO IMPROVED INPUTS:

- The limited level of agrotechnical and marketing knowledge of farmers reduces the potential for productivity growth. Improved access to improved seeds – quality control and support for purchase for farmers – is needed. Access to improved seeds could be supported through the development of service cooperatives.
- Mistrust of farmers towards each other is the reverse side of competition. It prevents the formation of service cooperatives and other forms of organization of the production process that could lead to specialization and efficiency. Cooperation rarely goes beyond local clan networks, and this needs to be overcome. An additional constraint towards the formation of cooperatives is the low level of agricultural and business-related knowledge and skills. Farmers hardly understand the meaning of economy of scale and the importance of technical standards.
- Institutional settings are complicated and cannot be easily copied or established during the short period by farmers, resellers, exporters, transport companies, technology services (seeders, combines, tractors) and carriers. This often makes an investment in value chain construction in a new market, region or product highly risky.
- Enhancing access to the new knowledge base is needed. Among the needs are information for the self-education of peasants and the development materials for all farmers in their languages (Kyrgyz, Uzbek and Russian); an information campaign for farmers, including demonstration plots, farmer fairs and training in the field; and regular and accessible extension services through a regular decentralized extension service provider at the local level.
- The development of new information techniques also is needed, including a mobile application for search by clients for the purchase of crops and animals, the assessment of diseases and pests, and agro-techniques.
- Research and development needs to be adopted for smallholder needs such as seeds, fertilizers, small machinery, processing technologies, and practical innovations.

ACCESS TO RESOURCES:

- A low level of attractiveness for investments is caused by the small size and high level of informality of economic operations. The low level of mechanization and its high level of manual labour limits

productivity frontiers. High investment costs become a serious limitation for the creation of an efficient market infrastructure consisting of modern logistics centres with established capacities to store, clean, sort, pack and consolidate products to a final destination.

- Natural resources – land, pastures and water – are limited, leading to a situation where small farmers easily reach their production limits due to the absence of an economy of scale effect to increase production efficiency and provide market quality standards on a production site. Monocultures and growth of livestock herds bring more and more harm to the soil and ecosystem. The absence of crop rotation is linked to a lack of production capacities of farmers. Insufficient and often improper use of fertilizers reduces the fertility of the soil and contributes to the growth of plant diseases and pest reproduction. Some resources, such as distant pastures, are underutilized. At the same time, village pastures are overloaded and there is a shortage of feed in winter. Lack of capital hinders the ability to develop a technological solution to the problem, such as the massive slaughter of livestock in the autumn, with subsequent freezing and gradual sale of meat in other seasons.
- Weak access to credit is due to the substantial number of potential business units. The procedures for access to subsidized credit are not transparent. The Government programme (Kyrgyz Republic, 2017a) stated that the amount of subsidized credits was KGS 17 billion in 2010–2016. However, there is no public document on the assessment of the effectiveness of the programme or an analysis of anti-corruption measures for the credit program.

MARKETS AND STANDARDS:

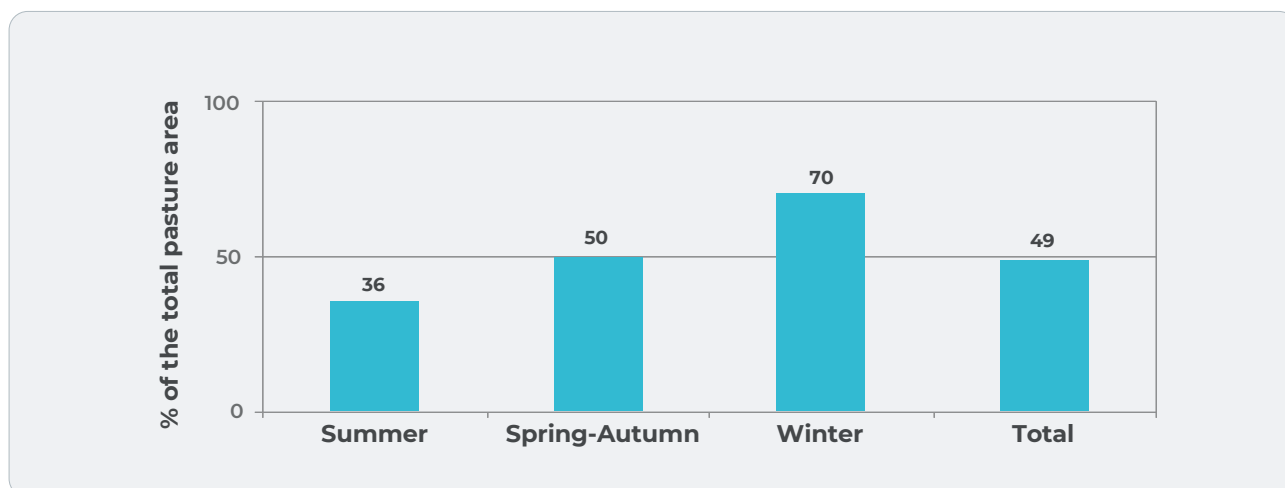
- The small sizes of market agents and small producers make the situation vulnerable to market volatility. The low adaptability of smallholders to technical standards (ISO, HACCP and Eurasian Economic Union requirements, for example) is evident.
- The logistics of supply and legal procedures for processing companies are complicated.
- Quality standards have become a serious barrier to exports to potential emerging markets, especially for livestock products. Existing epizootic risks and an inability to confirm the veterinary and sanitary safety of animal products produced in Kyrgyzstan require a fundamental modernization of the entire system of veterinary care and control. It is important to note that the reorganization of laboratories and other public services is a necessary condition. However, this also requires the involvement of the private sector and all value chain participants, to reduce and prevent the incidence of animal diseases and ensure compliance with the established technical regulations and other food safety requirements in developed countries' markets. Compliance with all of these standards requires a substantial capital investment and significant operating costs on behalf of farmers and companies involved in the industry.
- The cultural habits of consumers create an additional market limitation. For example, in the case of sheep meat, the nature of agriculture has resulted in a focus on traditional domestic consumption, when the population itself produces and consumes a considerable portion of sheep meat with high fat content. Not only the fat content of the meat but also the consumption of the flesh of adult animals is not typical of sheep meat consumption in developed countries.

ENVIRONMENTAL ISSUES AND CLIMATE CHANGE:

- Climate change adaption measures – new varieties of crops, new breeds of livestock, new agronomic techniques, zero tillage and irrigation innovations such as drip irrigation – need to be focused on small farmers.

- Volatile weather conditions drastically reduce the crops of smallholder farmers.
- The pasture management system is leading to the future unsustainability of livestock production. Remote summer pastures demonstrate a twice-lower level of degradation due to the inability of a significant share of rural households to send their livestock to remote summer pastures in most of the regions of Kyrgyzstan (Figure 29). A new agenda for pasture management is needed.

Figure 29. Pasture degradation by type of pasture



SOURCE: KYRGYZ REPUBLIC, 2015.

LACK OF SPECIFIC SOCIAL PROTECTION MECHANISMS FOR SMALLHOLDERS:

The comprehensive legal framework creates a basis for providing social protection and social services to the population of the Kyrgyz Republic. The right to social protection is anchored in the Constitution of the Kyrgyz Republic, in the law “On the state social pension insurance” and the law “On the state benefits.” The commitments of the Kyrgyz Republic to improving social protection are reflected in the Government Programme of the Kyrgyz Republic “Unity, Trust, Creation” for 2018–2022 and the Strategy of the Sustainable Development of the Kyrgyz Republic for 2018–2040 “Taza Koom – Jany Door.”

The current social protection system in the Kyrgyz Republic consists of the following components:

- social insurance and employers’ liability-based schemes (pension, health and temporal incapacity insurance);
- social assistance (social benefits for vulnerable groups and those who do not have the rights to receive social insurance payments); and
- labour market interventions.

The social insurance system comprises contributions paid by employers (17 percent of gross wages) and employees (10 percent of gross wages) and provides protection for workers in the event of social risks such as retirement, unemployment, disability, death of breadwinner and/or sickness (ILO, 2017). Smallholder farmers’ contributions vary by the amount of land they own, with many contributing 1 percent of their incomes or less (OECD, 2018). In the majority of cases, contributions are only made for landowners as part of land tax payments. A lack of effective and equitable tools for the control

of farmers' participation in social insurance schemes has led to seasonal agricultural workers and smallholders' family members not participating in the scheme and thus not being covered. Therefore, low contributory payments lead to lower old-age pension rates for self-employed smallholders, compared to farm enterprise workers, and to higher vulnerabilities throughout the life cycle (in the case of sickness or the loss of the breadwinner, for example).

The social assistance system includes non-contributory-based social benefits, monthly allowances and other types of social supports targeted to certain groups of the population (ILO, 2017), including but not limited to Monthly Benefit for Low Income Families with Children (MBLIF), Monthly Social Benefit for Disabled Citizens (MSB), and monetary compensation in return for privileges. MBLIF remains the only social cash transfer targeting poor households. Its coverage, however, has declined significantly in recent years, with only around 4.59 percent of the population living in households eligible for MBLIF in 2017.¹² This is much lower than the overall poverty rate, reflecting the fact that the MBLIF was established to eradicate extreme poverty, which today affects a very small proportion of the population. However, the MBLIF has been shown to exclude a large proportion of the poorest of the poor, due in large part to the programme's administrative challenges (OECD, 2018).

Depending on per-capita income and employment status, smallholder farmers (both peasant farmers and rural households) may be eligible for receiving MBLIF.¹³ However, MBLIF does not have a large impact on the incidence or depth of poverty. This is due in part to its low coverage and in part to low benefit value (KGS 810 per child), which remains far below the extreme poverty line (OECD, 2018) (KGS 1 456 in 2017) (NSC, 2017c). The low value of the MBLIF benefit also limits its productive impact and hinders investment in agriculture activities. One of the possibilities to maximize the impact of MBLIF cash transfers is to integrate them into broader livelihood promotion and rural development strategies. Cash Plus may serve as one of the strategies that can be adopted to start building cross-sectoral coordinated interventions, complementing social cash transfers with productive inputs, knowledge exchange, training and extension services. Active labour market policies for vulnerable groups exist on a very small scale. Public Employment Services acts as a gatekeeper for labour market policies, assisting with job searches, supporting training and re-training and connecting the unemployed with micro-credit, but it is constrained by a lack of information on the labour market. The largest active labour market policy are the public works programmes, which are available for the officially registered unemployed. These programmes are implemented in a highly decentralized manner and overwhelmingly employ men rather than women. An unemployment benefit exists, but the value is extremely low, and the strict eligibility criteria means it is paid to a very small number of the unemployed (OECD, 2018).

Smallholder farmers are largely ineligible to participate in labour market interventions due to the legal provision that considers those with 0.05 ha of land ownership as self-employed. Smallholders with 0.05 ha of land and more can officially register as job-seekers at Public Employment Services and undergo short-term retraining and job counselling. Delivered by Public Employment Services through professional training colleges, existing retraining programmes do not cover agriculture-related areas (such as crop production and animal husbandry) and thus further limit smallholders' access to knowledge exchange and training services. Nevertheless, the development of short-term agriculture-related retraining programmes and their integration into a professional training college

¹² Data retrieved from the Ministry of Labour and Social Development.

¹³ To be eligible for the Monthly Benefit for Low Income Families with Children (MBLIF), a household should have a per-capita income of less than the Guaranteed Minimum Income (GMI) of KGS 900 per month, including income estimated from landownership.

curriculum may allow the establishment of a more accessible system of knowledge exchange and enhance smallholders' opportunities for productive self-employment.

Overall, the social protection provision covers a wide range of risks, but the allocation of resources across the sector is very unbalanced, with inclusion and exclusion errors remaining relatively high. Smallholders, though eligible for some of the existing social protection programmes and interventions, do not fully benefit from them due to various constraints, including the design, implementation and administration of those programmes. Although there are no specific social protection programmes to support the rural poor, there are possibilities to maximize the impact of existing policies and interventions for smallholder farmers through cross-sectoral coordinated actions.

4. Current political priorities and policies affecting smallholders and family farms



4.1 Sector- and focus area-specific political priorities for agriculture and rural development

4.1.1 National policy

National policies related to smallholders

THE BEGINNING OF RURAL TRANSITION: INITIAL AGRICULTURAL REFORMS (1991–1993)

After declaring independence, Kyrgyzstan was forced to reform its economy and political structure urgently due to the destruction of the Soviet economic system. A serious decline happened in the economy after 1991, though the Government implemented urgent measures aiming to control the situation. The Government, at the early stage, simply was unable to define the development direction due to a lack of knowledge and resources. The agenda for agricultural reform started to be formulated in this period. The ideas of a decreased role of the state, a transition to market economy, and mass privatization were declared in 1991–1992. These were regulated by the certain programme package approved that year, which provided an initial legislative base for the beginning of the rural reform (see Table 10 in Annex 6.4).

In agriculture, there were two different types of farms, typical for the Soviet Union – collective farms (*kolkhozes*) and state farms (*sovkhoses*). After the programme was launched, some pilot farms started property distribution in 1992 by a share system – the worker could withdraw the share in land and property and work independently. “Of the 480 collective and state farms at the start of the process, 165 had been reorganized by August 1993,” according to a report from the World Bank. “Between 16 000 and 21 000 private farms have been formed” (World Bank, 1995). Only some of the farmers were able and wanted to work independently at that moment. The programme was frozen in 1993 due to a strong lobby from the local authorities and real problems in the transformation process (legal, technical and institutional). Another significant problem was uncertainty in the question of the land rights.

However, regarding the question of land rights, people were dominated by the old mentality of common property that should belong to the state. This is clear from first Kyrgyz Constitution, adopted in May 1993, which did not sanction full private ownership of land (Kyrgyz Republic, 1993).¹⁴ This norm restricted the purchase of the land. At the same time, in the Constitution the norm was stated of private use of land and of transferring it to people to use for private purposes.

According to the World Bank: “Collective and state farms functioned much as they did elsewhere in the Soviet Union.” Other researchers also noted evidence of “...limited progress made during first three years of reform” (Bloch, Delehanty and Roth, 1996, p. 9). Newly organized farms consist of a small part of production and land share. The old management system continued to work, despite declining output production (at 22 percent from 1990 to 1993) (World Bank, 1995, p. 1).

¹⁴ See Article 4.

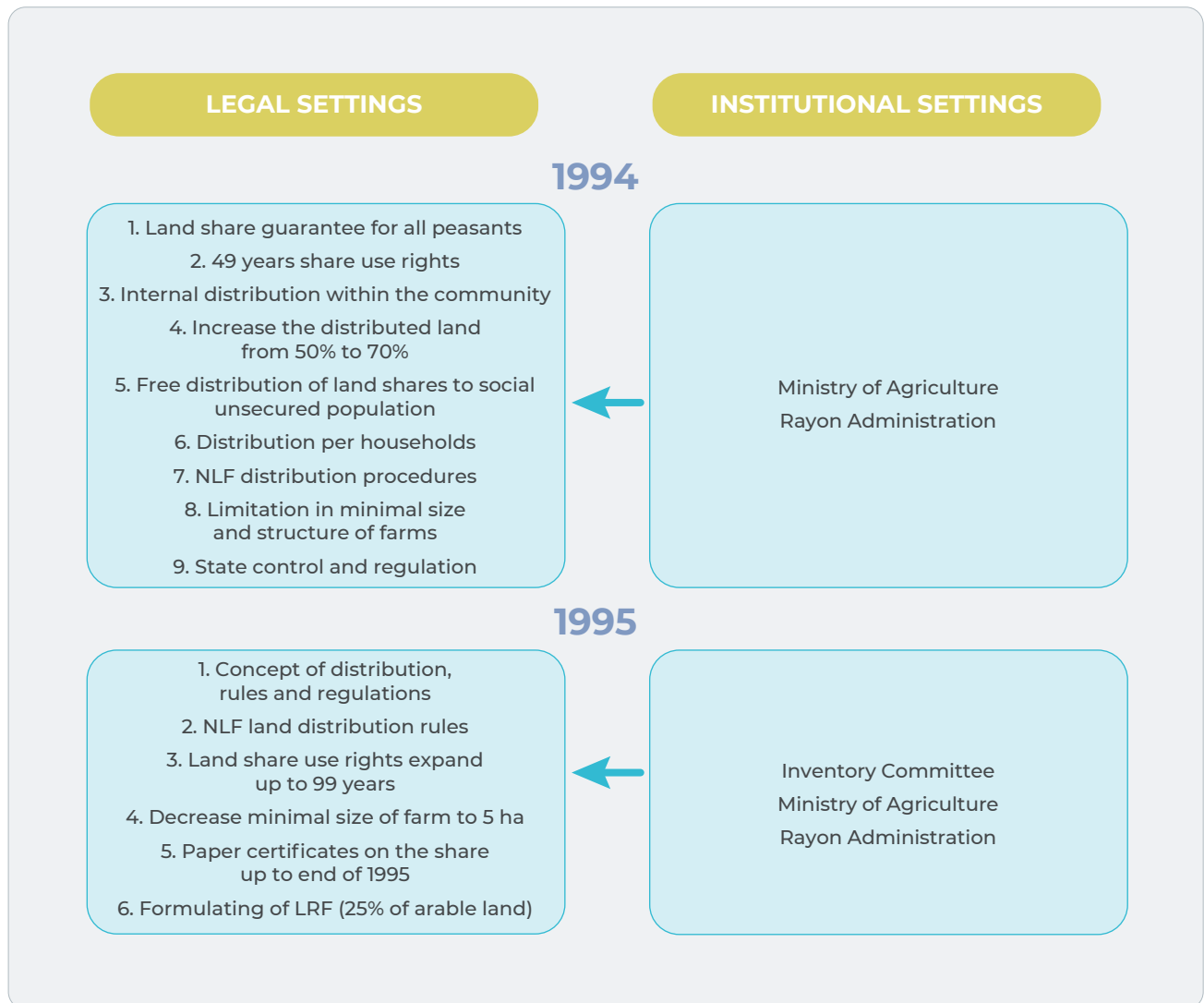
Transformation in the political and economic sphere of former Soviet countries led to a catastrophic crisis for Kyrgyzstan – significant budget deficit, hyperinflation and radical economic reform (introduction of national currency in 1993, state deregulation, mass privatization in selected sectors). In this condition, the serious growth of poverty, especially in rural areas, become and remains an important issue for the country.

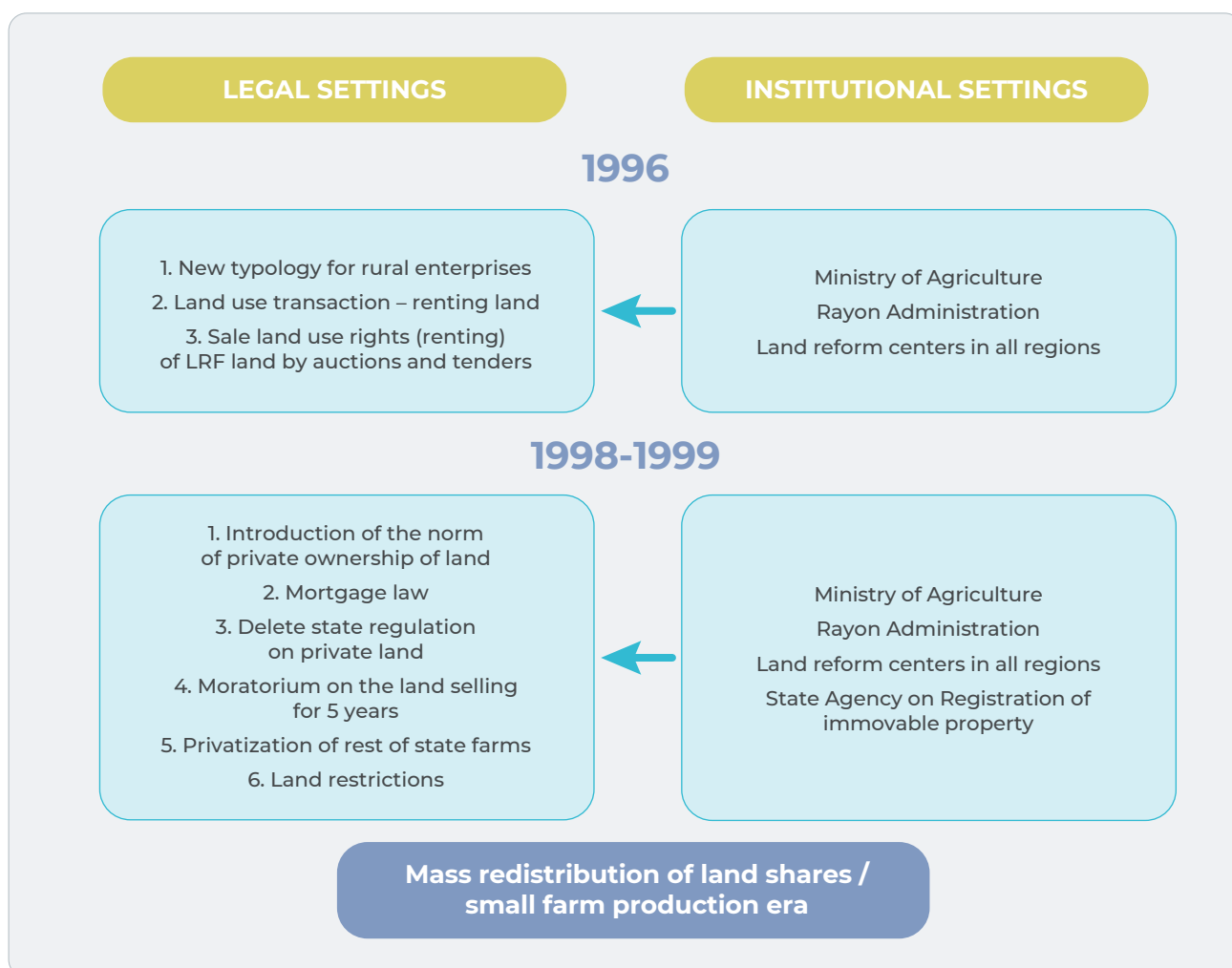
UPDATING OF AGENDA – NEW LEGAL AND INSTITUTIONAL FRAMEWORK OF LAND REFORM (1994–1999)

Within the next few years were created the core framework of the legal structure and of the institutional scheme of land reform. In addition, the process of land redistribution to private rural inhabitants was launched and finalized (see Table 11 in Annex 6.4).

The gradual process of the implementation of the legislative process can be seen in Figure 30.

Figure 30. Legislative and institutional process in agricultural reform in Kyrgyzstan, 1994–1999





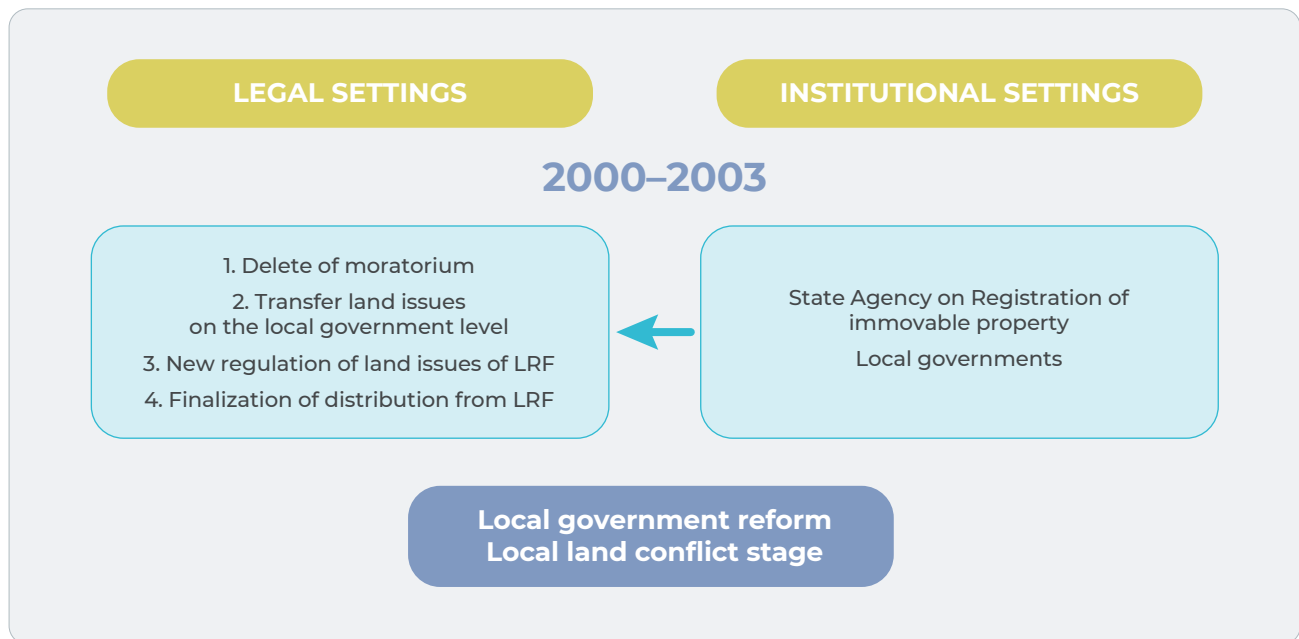
SOURCE: REPRESENTATION FROM TILEKEYEV, 2014.

The process of land reform was complicated and required large efforts from the Kyrgyz Government and significant support from international organizations. In 1997–1999, land shares were distributed on a massive scale to farmers, who started to work independently.

A NEW STAGE OF SMALLHOLDERS AND FAMILY FARMS – LAND REFORM FINALIZATION (2000–2003)

After the private ownership of land come into force, strong debates in society continued. During the final stage of the reform, the moratorium on land sales was removed, and the transfer of land issues management was arranged on the level of local government (see Figure 31 and Table 12 in Annex 6.4).

Figure 31. Legislative and institutional process in agricultural reform in Kyrgyzstan, 2000–2003



SOURCE: REPRESENTATION FROM TILEKEYEV, 2014.

The final step for land reform was the transfer of land issues management to local governments. Local governance reform is still in the process of implementation; in addition to land regulation issues, it also includes issues of political self-administration, fiscal decentralization and local resources management aimed at increasing the power of local communities. The Kyrgyz Government has made serious efforts with the strong support of international organizations.

Among the impacts of land reform are:

- the transition from state-planned economy happened without strong tension in society;
- agricultural production started to demonstrate substantial growth rates in that period and become one of the stable sectors of the Kyrgyz economy;
- basic legislation and institutional transformation finished successfully;
- farmers got more than 75 percent of all arable land in the country by 2003; 940 000 ha (76 percent of all arable land) were distributed to private landowners (Lerman and Sedic, 2009, p. 4);
- initial local governance reform was implemented through land reform; and
- state regulation in the agricultural sector became minimal.

The serious transformation of the main institutional arrangement in the Kyrgyz society (private land property) and the change in economic principles from centralized planned economy to an open market economy oriented on individually based rural households led to fundamental economic and social consequences. Different researchers have mentioned a new evident factor: Farmers did not want to work together anymore. According to K. Jones, M. Childress assumes that individual farmers are “moving back to farming their own strip of land” (Jones, 2004, pp. 266–267). Since that period, smallholders and family farms become the basis of the agricultural sector. During the whole process, small-scale farmers were in the focus of the Kyrgyz Government, which aimed to make them independent economic agents responsible for their own economic and social performance.

Three stages of the land reform observed from 1991 to 2003:

- initial stage – reformation and privatization principles;
- second stage – private ownership institution and implementation, and land distribution; and
- final stage – opening of the land market and removal of the moratorium on land sales.

UPDATING OF AGENDA FOR POST-DISTRIBUTION AGRICULTURAL POLICY (2004–2017)

Since the distribution of land, the newest stage of transition rural reform has prioritized the new directions of work: the creation of a system of state support for agriculture in the new liberalized economic conditions with the established market forces (see Table 13 in Annex 6.4).

The main directions of the transforming agriculture in 2004–2010 can be described in three main paradigms:

- support of the liberalized discourse of the Kyrgyz Government – low barriers to international trade, minimal support of the sector (absence of subsidies and other interventions for rural producers), low taxation, low administrative control, mainly monitoring tasks by the Ministry of Agriculture;
- support of the main infrastructural frameworks for the support of micro-scale farming – mainly through rehabilitation of the irrigation system; and
- creation of institutional and organizational framework for sustaining agriculture – support of veterinary services, agrochemical services, technical services and seed services, in addition to the development of financial institutions and of educational, consulting and information services.

The Rural Advisory Service (RAS), created by donor support, received substantial financial and technical support from donors during 1998–2008. However, without donor support the RAS did not demonstrate sustainability. In 2010, the private sector and rural clients were contributing only 3 percent of the turnover, and volumes of operation were down strongly (World Bank, 2011b). Numerous advisory institutions were created during recent decades by a number of the development projects, and they implemented specific project activities and tasks. None of these had sufficient coverage, and the lack of policy and financing from the state budget is evident.

Pasture reform was initiated in 2009. The main idea of this reform was the transfer of pasture management to local communities. In all, 454 pasture users unions were created – one per *Aiyl Okmotu* (rural municipality council). Reform is still underway; the registration of associations has finished, but the demarcation of pastures is still in process, and fee collection is gradually increasing. At the same time, the capacity of pasture unions to provide advisory services requires additional resources and support (World Bank, 2011b).

The main policy document in the country, the National Strategy for Sustainable Development of the Kyrgyz Republic for 2013–2017 (NSSD) was approved in January 2013. The strategy defines the main priorities for the development of the country in the medium term. For the agricultural sector, the Strategy defines the basic problems of the sector: land degradation, deterioration of irrigation and other public infrastructure, weak private investments and insufficient level of financial resources in the sector, dependence on imported basic food security products, trade barriers for agricultural exports, and low level of processing of agricultural products.

FOUR MAIN GOALS WERE INTRODUCED FOR THE AGRICULTURAL SECTOR IN THE NSSD:

- the growth of the quality and quantity of agricultural products, to assure improvements in the food security of the country;
- improvements in the efficiency and competitiveness of agriculture and the agro-processing industry;
- efficient use of government budget resources in the sector; and
- prioritization of the resolution of peasants' social issues.

There wasn't any evaluation done of the NSSD. Implementation of the programme was supported by development organizations and the state budget.

Starting in 2005, smallholders and family farms gradually moved from the focus of public policy and were analysed as a constraint to sector development, due to weak production capacity, the absence of economies of scale, an insufficient knowledge base and a low level of administration regarding tax and social payments. There are currently no agricultural policy measures specifically supporting smallholders and family farms in Kyrgyzstan. Previously, the creation of the category of independent farmer on the basis of the rural household in the country was the main task of agricultural policy articulated in laws, concepts and programmes during the period of 1994–1999.¹⁵ **Currently, small-scale farmers are not in the focus of the agricultural policy.**

Certain developments in the sphere of strategic programmes happened in 2017–2018. The National Council for Sustainable Development of the Kyrgyz Republic, under the leadership of the president of the Kyrgyz Republic, has prepared the country's medium- and long-term strategic development projects:

1. The first document, the Programme of the Government of the Kyrgyz Republic “Jany Doorgo Kyrk Kadam” (“40 steps to the future”) for 2018–2023, was presented by prime minister candidate S.J. Isakov at the end of August 2017. The document was approved by the *Jogorku Kenesh* (Parliament) of the Kyrgyz Republic in August 2017. The programme functioned from the end of August 2017 until mid-April 2018.
2. The second document was the National Strategy of Development of the Kyrgyz Republic for 2018–2040. The document, after several updates and revisions, was approved by President S. Sh. Jeenbekov in August 2018.

Both documents consider the agrarian sector of the economy as an important priority in the country's development. The Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic is the coordinator of relevant activities presented in general terms in a long-term strategy and more specifically prioritized in the medium-term programme “Kyrk Kadam.”

In 2018, the situation developed further. In April, the new prime minister, M. D. Abylgaziev, presented the new country development programme for 2018–2022 “Unity, Trust, Creation.” The programme was approved by the Kyrgyz Parliament.¹⁶ The programme rearranged the mid-term goals for the Kyrgyz

¹⁵ For reference, here needs to be analysed the content of the legal documents listed in Annex 6.4, Chronicles of Legislative Acts of Agricultural Reform in Kyrgyzstan, in Table 11 and Table 12.

¹⁶ According to the website of the Parliament of the Kyrgyz Republic: <http://www.kenesh.kg/ru/article/show/3678/2018-zhildin-20-aprelindegi-2377-vi-kirgiz-respublikasinin-okmotunun-ishinin-programmasin-bekituu-zhonundo>

Government's action for the next four and a half years.

In the long-term development strategy for 2018–2040, the agricultural sector is presented through the prism of economic well-being and a high-quality environment for the development in the following aspects:

1. Programs creating a sustainable environment for the development through high-quality infrastructure, as well as the environment, climate change adaptation and disaster risk reduction.
2. Programs for the development of priority sectors, including the development of the agro-industrial complexes and cooperation, as well as the development of light industry clusters.

4.2 Donor-funded policies

4.2.1 Donor-funded policies related to smallholders

The World Bank and the International Fund for Agricultural Development were the major players in the previous period in agriculture, irrigation and livestock development. FAO has not been involved in providing technical assistance to these major projects so far, but the new development demonstrates targeted involvement in the selected areas in the next few years.

The European Union is providing support to rural development in the sector mainly through non-governmental organizations. The project “Empowering rural communities to sustainably address their development needs” (2013–2015) aimed to strengthen the capacity of grassroots civil society organizations and local communities in Kyzyl Unkur and Kara Alma to engage in community-led sustainable development initiatives through diversified livelihoods and income-generation opportunities. Other projects supported the development of community-based tourism, handicrafts and business through regional integration and fair trade markets in 2014–2015. A new project, the “Integrated Rural Development Programme,” targets the development in Jalal-Abad of a long-term programme for 2014–2020 to reduce poverty – especially among women, children and the most vulnerable segments of the population – through increasing social and economic opportunities and the promotion of income-generating activities in rural communities. The project will distribute grants to civil society organisations. This project is co-financed by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit Company).

The United States Agency for International Development (USAID) is implementing sustainable livelihoods projects in the south through their contractors, and the Russian government is also providing funding through the United Nations Development Programme for rural development projects in selected oblasts. The USAID Agro-Input Enterprise Development project helps address long-term challenges related to agricultural productivity. To reduce the impact of rising food prices and low agricultural productivity, USAID is helping to introduce modern technologies to increase the ability of the agricultural sector to provide food and incomes and is encouraging public-private partnerships.

The Aga Khan Development Network is working in remote mountain areas of Naryn and Osh. The Aga Khan Foundation aims to empower communities through different types of interventions, which aim to increase the production and profitability of livestock, select crops, and non-farm enterprises and improve community resilience to environmental impacts. The work has facilitated the establishment of private veterinary points, trained private veterinarians, held farmer field schools, introducing solar greenhouses to smallholders farmers in Naryn, and rehabilitated infrastructure. Danish Church Aid is implementing a project on the right to food, funded by the European Union. The Government of the Russian Federation has promised significant funds for adjustment to enter the Eurasian Economic Union. A good deal of infrastructural investment happened in 2014–2016. However, the level of support has declined since 2017, and future investments for finalization of this process are needed.

FAO Country Programming Framework

FAO interventions related to smallholders, including recent support, for the period 2014–2017

In support of implementing the National Strategy of Sustainable Development, FAO – in collaboration with the Ministry of Agriculture, Food Industry and Melioration – prepared the **Country Programming Framework for 2015–2017**. It identifies four priority areas: enhanced capacity to assess, plan and implement action for achieving sustainable food and nutrition security; strengthened core conditions to ensure sustainable natural resource use for agricultural productivity growth, effective inclusive agricultural value chains, and increased rural income, with special emphasis on the fisheries and livestock sectors; improved resilience in responding to climate change, crises and disasters; and enhanced capacity for strengthening a socially sensitive market economy to reduce rural poverty, especially among women-headed households.

FAO has also collaborated with Government in the preparation of the first **National Food Security and Nutrition Programme 2015–2017** as well as in the design of **national policies for the livestock, fisheries, and seed subsectors**. The policy documents are done in guidance with the FAO Country Programming Framework (CPF) in the Kyrgyz Republic for the period of 2015–2017.

During June and July 2017, the FAO Representative Office in Kyrgyzstan developed, in cooperation with the Ministry of Agriculture, Food Industry and Melioration and other ministries and state agencies, a draft of the formulation of the **Country Programming Framework for 2018–2022**. The key points of the final draft of the CPF for 2018–2022 include the following priorities, outputs and targets (FAO, 2017):

FAO CPF priorities:

Priority 1: Coherent and gender-sensitive policies and programmes for agriculture, food security and nutrition, social protection and rural development (estimated resources required: USD 3.4 million)

Priority 2: Reducing rural poverty through support for smallholders and family farms (estimated resources required: USD 7.4 million)

Priority 3: Sustainable management of natural resources and resilience to climate change and disasters (estimated resources required: USD 46.4 million)

In general, all priorities target the improvement of the institutional capacity of the Kyrgyz Government towards agriculture, directly and indirectly. However, Priority 2 directly targets improvement of support for smallholders and family farms in the next term of FAO activities in the country. Improvement in technical support for animal rearing and crop production will help to improve agricultural productivity. Support for handicrafts and new types of plants will diversify opportunities for smallholders.

Output 2.1. Technical support in small animal rearing

Target 1. Provide capacity development support to at least 3 000 smallholders by 2022.

Output 2.2. Technical support in crop production

Target 1. Support innovative technologies in the development of horticulture and vegetable growing by 2022.

Output 2.3. Technical support in off-farm income-generating activities

Target 1. Support at least 1 000 smallholders by 2022 in the development of traditional handicrafts.

Target 2. Support at least 1 000 smallholders by 2022 in growing herbs and mushrooms.

Output 2.4. Coherent agriculture and social protection programmes for small vulnerable farmers strengthened

Target 1. By 2020, pilot in at least two rayons a Productive Social Contract / Cash Plus methodology, based on linking agriculture to social protection.

FAO supports the orientation of support to Kyrgyzstan through the redefinition of policy opportunities (Priority 1), the creation of direct projects oriented towards smallholders (Priority 2), and better natural resource management and climate change adaptation (Priority 3).

4.3 Fulfilment of preconditions for comprehensive policymaking for smallholders and family farms, including the development of the regulatory framework, administrative procedures and institutional settings

Weak land market development is one of the crucial obstacles for a future gradual development towards the creation of an effective investment process in the sector. The development of local markets cannot create sufficient incentives for farmers in the creation of investment opportunities in agricultural land. Most of the efforts were made by USAID in 2005–2008 in the framework of the Land Reform and Market Development Project. Efforts focused on the creation of strengthening the developing market economies by facilitating the development of vibrant, modern agricultural markets and by facilitating the creation and development of an urban land market. USAID also has tried to continue efforts in the Kyrgyzstan Land Policy Reform Project through addressing problems related to the realization of land rights, weakly functioning land markets and unstable land use management. The Kyrgyzstan Land Policy Reform Project worked at the national and local levels to inform local people about their land rights during 2010–2013 (USAID, 2008, 2013).

Access to water is one of the priorities consistently supported by the Kyrgyz Government. The separate directions were specified in the previous country strategy (the National Strategy for Sustainable Development of the Kyrgyz Republic for 2013–2017). Water-related agricultural policies were recently reformulated in the state irrigation development programme of the Kyrgyz Republic for 2017–2026.

Important work is being carried out by FAO and the European Union under the FIRST Programme, focused on providing policy assistance and capacity development support to the Ministry of Agriculture, Food Industry and Melioration for developing a comprehensive and consistent agricultural and rural development policy framework and contributing to the preparation of the new Food Security and Nutrition Programme for 2019–2023. At the moment, a draft of the programme is being discussed and promoted by the Ministry to be approved by the Government.

Also, the FIRST Programme is now focusing on providing assistance in advancing its integrated water resource management sector, together with support from other development partners. In this context, a Policy Effectiveness Analysis Study is being carried out and will be finalized in 2019. Proposed results will be to identify policy implementation bottlenecks and capacity development priorities to improve resource allocation and investment decisions in support of food security and nutrition and sustainable agriculture.

5. Conclusions and recommendations



5.1 Conclusions

5.1.1 Role and weight in the economy of smallholders and family farms

Agriculture is an important sector, providing food to two-thirds of the country's population and assuring employment of 29 percent of the country's labour force, or 689 000 people. The importance of the sector is ensured by its extensive small-scale production; more than 400 000 business units (100 000 individual entrepreneurs and more than 300 000 farmers) work in agriculture. Also, the majority of households in rural areas (more than 700 000 in all) produce 36 percent of all agricultural output, or KGS 71.1 billion (EUR 0.92 billion) in 2016. An aggregate share of small-scale family farmers and producers reaches over 95 percent of the total agricultural production, or KGS 189.1 billion (EUR 2.4 billion or USD 2.7 billion) in 2016.

5.1.2 Needs, challenges and constraints

Smallholders and family farms in Kyrgyzstan represent almost the entire agricultural sector. This brings with it both positive and adverse consequences. All constraints, needs and challenges are represented by four main groups of problems:

1. weak knowledge base and technological gap and limited access to high-quality inputs, especially for female farmers;
2. limited access to resources and services, especially for female farmers;
3. markets and standards; and
4. environmental issues and climate change.

KNOWLEDGE BASE, TECHNOLOGICAL GAP AND ACCESS TO HIGH-QUALITY INPUTS:

- A lack of technological knowledge has decrease productivity growth.
- Improved inputs are insufficiently available or inaccessible (costly).
- Access to improved seeds could be supported through the development of service cooperatives.
- Mistrust of farmers prevents the use of economies of scale that would be reachable through cooperation.
- Institutional settings are localized and rarely copied by other market agents, preventing the development of value chains.
- A new knowledge base is needed for support of self-study for farmers.
- Regular and accessible training, re-training and extension services are needed.
- New information techniques need to be supported.
- Research and development need to be adopted for smallholder needs – seeds, fertilizers, small machinery, processing technologies and practical innovations.

ACCESS TO RESOURCES:

- Low investment attractiveness is caused by small sizes and high levels of informality in economic operations.
- Natural resources – land, pastures and water – are limited.
- There is no economy of scale in small limited land plots; and
- The growth of livestock herds brings more and more harm to the soil and ecosystem.
- Access to credit is insufficient; increased coverage of the programme is needed, along with transparency of the subsidized credit programme.

MARKETS AND STANDARDS:

- A study of the constraints of the development of the land market shows serious institutional problems in forming effective market mechanisms of land sales.
- The small sizes of market agents and producers make the situation vulnerable to market volatility.
- Low adaptability of smallholders to technical standards (ISO, HACCP, Eurasian Economic Union requirements) is evident.
- The logistics of supply and legal procedures for processing companies are complicated.
- Quality standards become a serious barrier to the export of agricultural products (specifically, for livestock products).
- A market limitation also exists due to the cultural habits of consumers, including food habits and behaviours.

ENVIRONMENTAL ISSUES AND CLIMATE CHANGE:

- Climate change adaption measures need to be focused on small-scale farmers – new varieties of crops, new breeds of livestock, new agronomic techniques, zero tillage agriculture, and irrigation innovations such as drip irrigation.
- Rehabilitation of the irrigation system would decrease the loss of water and increase the capacity of the system.
- Volatile weather conditions drastically reduce the crops of smallholders and family farms.
- The current pasture management system is leading to future unsustainability in livestock production.

5.1.3 State of play of policy

The National Strategy of the Development of the Kyrgyz Republic for 2018–2040 declares newly formulated areas of prospective development for the country. Agriculture-related priorities are described in the section 4.1 dedicated to prioritized sectors development.

The Kyrgyz Government, after its approval by Parliament, has accepted the new country development programme for 2018–2022 “Unity, Trust, Creation.” In the new mid-term programme, two main chapters related to agriculture are Chapter 5.1 (“Agro-industrial complexes”) and Chapter 8.4 (“Development of the regions”).

The chapter on agro-industrial complexes describes the main priorities for development of the agriculture sector: abolishing the smallholder structure of agriculture, support of agro-processing capacities, support of logistics improvement, and reduction of the role of intermediate agents on the commodity markets. The main principles for prioritization of the Government efforts will be high-value-added, labour-intensive agro-processes. The targeted indicators in agricultural development will include the growth of agricultural production volumes and the effectiveness of production, improvement of quality, assurance of food security, and development of the food processing industry.

The selected list of prioritized products will help to select a regional specialization for supporting large-scale farmers. To increase farm enlargement processes, support will help large-scale farms obtain available local government land resources and will introduce systems of guaranteed public purchases of futures contracts, primarily with large-scale farmers.

A programme for the development of large commodity and logistics centres for agricultural products will be realized in the north and south of the country. Also, specialized warehouses will be created in each region. Construction of new warehouse procurement complexes will be a basis for centralized purchase of agricultural products with subsequent export to foreign markets. The issues of consolidation and quality standards will be resolved within those complexes. Appropriate quality and value chain infrastructure will be created, including laboratories, logistics centres, slaughterhouses, processing enterprises and transport companies.

The practice of subsidized credits will be continued for agricultural producers. The Government will create new financial incentives to promote export for farmers. Quality seed producers and selected breed producers will be supported, as will be producers of organic fertilizers. Efforts to increase support for irrigation systems will be continued. Specific efforts will be focused on transboundary areas where irrigation networks are interconnected and interrelated. More effective water use methods will be introduced.

Separate efforts will be provided for support of cooperatives, including a legislative base, registration conditions, taxation and credits, and support for cooperative unions (associations).

Agriculture-related issues also are defined in the chapter, dedicated to the development of tourism and light industry. Gender and environmental protection aspects of country development also are defined as cross-cutting issues.

The new programme defines development directions in a more concise manner and places emphasis on development programmes. The agriculture-related development programme is the regional development programme (in Chapter 8.4). The chapter is based on the Decree of the President dated 10 January 2018 “On Approval of 2018 as Year of the Regional Development” and the Concept of Regional Policy of the Kyrgyz Republic, approved by the Decree of the Government No. 184 dated 31 March 2017.

Regional development priorities will include measures on industrial development, including investments in storage facilities and the creation of slaughterhouses for the agricultural products processing industry. Clusters of agricultural cooperatives development, light industry and tourism sectors will be created in the regions. Twenty small cities in all regions of the country will be local growth centres for rural areas. Rural development will focus on the development of infrastructure – water and irrigation infrastructure, energy and heating systems, culture, and sport and resort rehabilitation systems.

The new programme is not oriented towards smallholders and family farms. The main efforts are focused on bigger farmers, associations of cooperatives and infrastructure improvement. Also missed are support for extension services and investment in new technological decisions aiming at productivity improvements for smallholder producers. Neglecting the majority of agricultural producers may lead to the failure of this strategy.

5.2 Recommendations

5.2.1 Policy recommendations

From the point of view of public management, small farm sizes are a serious problem for the development of agriculture. It is practically impossible to influence change in the actions of hundreds of thousands of small producers, large numbers of whom are not even registered as legal entities. Meanwhile, they are the main objects of the action and the driving force of the agrarian sector.

There are several main directions in which recommendations for developing agriculture through improved conditions and capacities of smallholders and family farms could be formulated:

PRIORITIZATION OF SMALLHOLDERS AND FAMILY FARMS IN PUBLIC AGRICULTURAL POLICY:

- Analysis of the prospective public documents defining the future agenda of public policy reveals that smallholders and family farms are not prioritized in the country documents. Therefore, it is suggested that smallholders and family farms need to be in the focus of the state. From the practical side, it is required to introduce in the state programs such measures as quotas for small-scale farmers in subsidized credits (at least 70 percent); development of materials for increased productivity among small-scale farmers on methods, techniques and equipment tailored to small-scale business operations; development of a separate program for increased access among smallholders and family farms to improved inputs such as seeds, fertilizers and agrochemicals; development of a separate program for small-scale farm mechanization with machines suitable for small land plots, and an accompanying campaign for leasing those machines to smallholders and family farms.
- Inclusion of farmers as a crucial element of agriculture and sustainable development requires a systematic basis of information. Therefore, data collection on smallholders and family farms (for all types and sizes of farms) needs to be established. This would provide the basis for policymaking that addresses the needs of smallholders.

IMPROVEMENTS IN KNOWLEDGE AND ACCESS TO IMPROVED INPUTS:

- Develop a system of state support for rural advisory services across the country – develop new standards for the provision of extension services and provide financial support.
- Provide technological knowledge to small-scale farmers:
- Provide new information technologies, including a Web-based platform supporting direct access to knowledge on plant and animal diseases, pests, treatment methods, required medicines, pesticides, herbicides and methods of using of fertilizers.
- Develop manuals for farmers in the Kyrgyz, Russian and Uzbek languages on agronomy, livestock breeding and basic treatment methods.
- Use mass media resources – TV, radio and the internet – for dissemination of this new knowledge and technologies for farmers. The resources currently available on the website of the Ministry of Agriculture are limited.
- Make access easier to improved supply of inputs, including seeds, fertilizers and newly improved breeds of livestock. At the current stage, visible efforts in supply and dissemination belong to private suppliers of improved seeds, fertilizers and means of plant protection; service providers of veterinary medicines; processing companies; and rural advisory services. The role of public institutions in the quality of input controls is insufficient. Financial support to farmers also is needed in order to facilitate the purchase of inputs.
- Support for research is needed into technological decisions appropriate for smallholder farmers – small machinery, agrotechnical methods and new varieties of seeds. Increases in the capacity and scientific infrastructure – laboratories, demonstration plots and production workshops – of the Kyrgyz Agricultural University and research institutes also is needed.

IMPROVEMENTS IN ACCESS TO RESOURCES:

- Improve access to irrigation for agricultural users, and support improvements to the management of water users associations:
- institutional support in the form of the teaching of managerial skills for the mobilization of farmers, the resolution of conflict situations, fundraising techniques for farmers, regular training and knowledge, and a skills dissemination platform on the intraregional level;
- investment in infrastructure, for example in the rehabilitation of channels; and
- legal improvements, such as clarification of the status of adjacent land areas.
- Research pasture management to improve access to pastures and pilot new ideas in different types of institutional settings and availability of pastures. A differentiated regional approach is needed for different geographical zones. Support of technical expertise for appropriate geobotanic studies of pastures capacity is needed.
- Improve access to subsidized credit:
- The coverage of the subsidized credit for farmers needs to be improved. More farmers should have a chance to get subsidized credit, and special focus needs to be provided for female farmers.
- The transparency of the credit programme needs to be improved to overcome the potential threat of corruption. The lists of recipients of the credit programme should be available on national and local levels, and waiting lists for credits should be updated regularly online.
- Improve child day-care facilities in rural areas for early-childhood development opportunities and enhanced engagement of female smallholders in productive activities.

MARKETS AND STANDARDS:

- Increase public investments in the creation of working and effective state infrastructure for the quality of food products – laboratories, certification centres and increased capacity of staff.
- Increase public investment in the sanitary and veterinary system to decrease the threat of animal disease: Introduce an animal identification system for horses and sheep, implement a regional zoning system, and ensure 100-percent vaccination for all types of livestock.
- Improve linkages among value chain participants: Create a platform through which food processing companies can arrange contracts with farmers and link those contracts, for example, with subsidized credits.
- Another possibility is to ensure (in law and in practice) that a certain percentage of products for meals in state public institutions (schools, hospitals and others) is procured from smallholders locally.
- Research potential products for export markets; for example, support a value chain study for supplying sheep meat to China and introduce agronomic studies for the introduction of a new type of beans.
- Develop a programme for the development of food security and nutrition issues on the level of local government. A new food security and nutrition programme draft is under discussion now. Also needed are the introduction of measures for increasing the capacity of rural municipalities, through training programmes, the dissemination of information and the introduction of activities.

ENVIRONMENTAL ISSUES AND CLIMATE CHANGE:

- Support the introduction of a mechanism of knowledge dissemination for smallholders and family farms about new varieties of crops, new breeds of livestock, new agronomic techniques such as zero tillage and irrigation innovations such as drip irrigation.
- Train farmers to overcome the volatility of weather conditions.
- Train farmers to improve the sustainability of pasture grazing modality.
- Develop and introduce insurance schemes for small farmers for crops and livestock, such as the involvement of donor support for a pilot project. For example, the Leibniz Institute of Agricultural Development in Transition Economies is now launching a new project for piloting a winter wheat insurance scheme in Chu oblast in cooperation with financial institutions from Germany and with the local insurance company Jubilee.

LEGISLATIVE FRAMEWORK AND PUBLIC POLICY:

- Introduce gender-related indicators and measures for all public programmes, such as a quota for females for subsidized credits for farmers (more than 30 percent of all credits). The same quota also could be introduced for farmer training.
- Develop new amendments to the legislation that make the registration of land contracts cheaper and easier (in sales and leases, for example) to promote land market support and attract investment in the agricultural sector.
- Clarify the taxation situation for water users associations; decrease the number of taxes and remove the practice of abusive taxation.
- Improve the situation regarding the rights of water users associations regarding irrigation infrastructure and adjacent lands; decrease the price of state services and support water users

associations technically.

- Improve water tariff policy. Water price methodology needs to be transparent and easy to apply.
- Decrease corruption in renting land from the State Agricultural Land Fund on legal and enforcement levels.
- Support incentives for financial institutions to increase the use of agricultural lands as collateral for credit.
- Introduce legislative incentives for increasing consolidation of land – tax incentives for landowners and cooperatives – and increase state support for farmers who create associations, cooperatives and more.
- Introduce new methodology and definitions for smallholders and family farms in public policy documents and develop a new approach to state statistical bodies.
- Specify the importance of the small farmer as a central figure in strategic agriculture documents.

SUPPORT THE CREATION OF COOPERATIVES:

- Support the creation of associations and cooperatives and any types of common action institutions, to:
 - improve access to market supply;
 - provide improved inputs;
 - improve access to knowledge; and
 - study the most effective forms of institutional settings of cooperation at rural community levels.

IMPROVE IRRIGATION INFRASTRUCTURE:

- Investment from the state is needed to improve the water supply infrastructure – for both irrigation and potable water – to support the development of rural areas and attract investments. The current financing of irrigation rehabilitation is insufficient. Besides investing in physical infrastructure, studies are needed to understand how to build a more sustainable water supply system without hidden subsidization of the sector.

References



- Akramov, K. & Omuraliev, N.** 2009. *Institutional Change, Rural Services, and Agricultural Performance in Kyrgyzstan*. IFPRI Discussion Paper 00904. <https://pdfs.semanticscholar.org/fca2/05a1a253b7a373e16b1d56c5375bca972abf.pdf>
- Asian Development Bank (ADB).** 2013. *Kyrgyz Republic: Country Partnership Strategy 2013–2017. Climate Change Assessment*. <https://www.adb.org/sites/default/files/institutional-document/33943/files/cps-kgz-2013-2017.pdf>
- Bloch, P., Delehanty, J. & Roth, J.** 1996. *Land and Agrarian Reform in the Kyrgyz Republic*. Madison, Wisconsin, University of Wisconsin–Madison. <https://core.ac.uk/download/pdf/7055469.pdf>.
- CISSTAT.** 2018. Agricultural Censuses of the Commonwealth of Independent States. In: CISSTAT [online]. http://www.cisstat.com/agr_census/KG_agr_census.htm.
- FAO.** 2016. *National Gender Profile of Agricultural and Rural Livelihoods - Kyrgyz Republic*. Country Gender Assessment Series. Ankara, FAO. <http://www.fao.org/3/a-i5763e.pdf>.
- FAO.** 2017. Meeting minutes for High-Level Meeting for Formulation of Country Programme Framework for 2018–2022, 12 July 2017.
- FAO.** 2018. Analytical Assessment Report (Draft). Implementation of the Voluntary Guidelines on the Governance of Tenure of Land, Water and Forests in the Kyrgyz Republic.
- Ilyasov, Sh., Zabenko, O., Gaydamak, N., Kirilenko, A., Myrsaliev, N., Shevchenko, V. & Penkina, L.** 2013. *Climate profile of the Kyrgyz Republic*. Bishkek, Kyrgyzstan. http://www.kg.undp.org/content/dam/kyrgyzstan/Publications/env-energy/kgz_Kyrgyzstan%20Climate%20profile_ENG_for%20web-opt.pdf
- International Labour Organization (ILO).** 2017. *Social Protection Assessment-Based National Dialogue: Towards a Nationally Defined Social Protection Floor in the Kyrgyz Republic*. ILO Decent Work Technical Support Team and Country Office for Eastern Europe and Central Asia. Moscow, ILO. http://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/---sro-moscow/documents/publication/wcms_623030.pdf
- International Monetary Fund (IMF).** 2014. *Poverty reduction strategy paper*. IMF Country Report No. 14/247. <https://www.imf.org/external/pubs/ft/scr/2014/cr14247.pdf>.
- Jones, K. D.** 2004. Land privatization. Land Privatization and Conflict in Central Asia: Is Kyrgyzstan a Model? In: *In the tracks of Tamerlane: Central Asia's path to the 21st century*. Chapter 12, pp. 259–273. Honolulu, Hawaii, USA, University Press of the Pacific. <http://www.unece.org/fileadmin/DAM/hlm/prgm/cph/experts/kyrgyzstan/documents/Chapter12.land.privatization.pdf>.
- Kyrgyz Republic.** 1993. Constitution of the Republic of Kyrgyzstan, May 1993.
- Kyrgyz Republic.** 1998a. Decree of Government of Kyrgyz Republic No. 78, 17 February 1998.
- Kyrgyz Republic.** 1998b. Decree of the President of Kyrgyz Republic No. 310 “On Concept of Introduction of Private Land Ownership in the Kyrgyz Republic,” 13 October 1998.

Kyrgyz Republic. 1999. Land Code of Kyrgyz Republic No. 45, 02 June 1999.

Kyrgyz Republic. 2001. Law of the Kyrgyz Republic No. 4 “On the management of agricultural land,” 11 January 2001.

Kyrgyz Republic. 2002a. Standard Regulation “On the terms and order of providing land from the Agricultural Land Redistribution Fund for rent,” approved by the Resolution of the Legislative Chamber of the Parliament, 15 April 2002, L No 702-II.

Kyrgyz Republic. 2002b. Decree of the Government of Kyrgyz Republic “On the basic scheme of the classifier of types of enterprises” No. 78 of 17 February 1998, in the version of Decree No. 590 on 29 August 2002.

Kyrgyz Republic. 2003. Resolution of the Government of the Kyrgyz Republic “On granting land shares to citizens of the Kyrgyz Republic” No. 623, 02 October 2003.

Kyrgyz Republic. 2006a. Resolution of the Government of the Kyrgyz Republic “On granting land shares to citizens of the Kyrgyz Republic” No. 80, 08 February 2006.

Kyrgyz Republic. 2006b. Resolution of the Government of the Kyrgyz Republic “On granting land shares to citizens of the Kyrgyz Republic” No. 717, 04 October 2006.

Kyrgyz Republic. 2008. Resolution of the Government of the Kyrgyz Republic “On granting land shares to citizens of the Kyrgyz Republic” No. 589, 21 October 2008.

Kyrgyz Republic. 2009a. Decree of Government of Kyrgyz Republic No. 386 of 19 June 2009.

Kyrgyz Republic. 2009b. Law of Kyrgyz Republic “On the basis of the state youth policy” No. 256, 31 July 2009.

Kyrgyz Republic. 2012. Code of the Kyrgyz Republic on Children No. 100, 10 July 2012.

Kyrgyz Republic. 2014. Ministry of Agriculture and Melioration of Kyrgyz Republic Pasture and Livestock Management Improvement Project. Environmental and Social Management Plan.

Kyrgyz Republic. 2015. The Pasture Development Program of the Kyrgyz Republic for 2012–2015.

Kyrgyz Republic. 2016. Standard Regulation “On the conditions and procedure for provision to lease lands of the State Fund for Agricultural Lands,” approved by the Decision of the Government of the Kyrgyz Republic No. 243, 22 June 2007. As amended by the Government of the Kyrgyz Republic on 3 September 2012, No. 602, and 18 November 2016, No. 599.

- Kyrgyz Republic.** 2017a. Programme of the Kyrgyz Government: Forty steps to a new era 2018–2023. www.gov.kg/wp-content/uploads/2017/08/40_rus.docx.
- Kyrgyz Republic.** 2017b. The state irrigation development program of the Kyrgyz Republic for 2017–2026, approved by Resolution of the Kyrgyz Government No. 440, 21 July 2017.
- Kyrgyz Republic.** 2018. The Strategy of the Sustainable Development of the Kyrgyz Republic for 2018–2040. http://www.president.kg/ru/sobytiya/12774_utverghdena_nacionalnaya_strategiya_razvitiya_kirgizskoy_respubliki_na_2018_2040_godi.
- Kyrgyz National Agrarian University (KNAU).** Resolution of the Government of the Kyrgyz Republic “On issues of the Kyrgyz National Agrarian University” by April 20, 2011, No. 178. <http://cbd.minjust.gov.kg/act/view/ru-ru/95035>.
- Lerman, Z. & Sedic, D.** 2009. *Agrarian Reform in Kyrgyzstan: Achievements and the Unfinished Agenda*. Discussion Paper No. 11.09. Policy Studies on Rural Transition No. 2009-1. Budapest, FAO. <http://www.fao.org/3/aq333e/aq333e.pdf>.
- Mogilevskii, R., Abdrazakova, N., Bolotbekova, A., Chalbasova, S., Dzhumaeva, S. & Tilekeyev, K.** 2017. *The outcomes of 25 years of agricultural reforms in Kyrgyzstan*. Discussion Paper, Leibniz Institute of Agricultural Development in Transition Economies, No. 162. Halle (Saale), Germany, Leibniz Institute of Agricultural Development in Transition Economies (IAMO). <https://www.econstor.eu/bitstream/10419/155774/1/882056298.pdf>
- National Bank of Kyrgyz Republic.** 2018. *Kyrgyz Bank* [online]. <http://nbkr.kg/index.jsp?lang=ENG>.
- National Statistical Committee (NSC).** 1997. *State Classifier of Sectors of Economy (Государственный классификатор секторов экономики)*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2009. *Poverty rate in the Kyrgyz Republic, 2005–2008*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2011. *Agriculture of Kyrgyz Republic, 2006–2010*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2012a. *Poverty rate in the Kyrgyz Republic, 2007–2011*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2012b. *Education and science in Kyrgyzstan 2007–2011*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2014. *Education and science in Kyrgyzstan 2009–2013*. Bishkek, Kyrgyzstan.
- National Statistical Committee (NSC).** 2016a. *Employment and unemployment. The results of the integrated survey of the households' budgets and working force in 2015*. Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016b. *Men and women of the Kyrgyz Republic, 2011–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016c. *Agriculture of Kyrgyz Republic. 2011–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016d. *Living standards of the population of the Kyrgyz Republic in 2011–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016e. *Land resources by type of farmland.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016f. *Livestock and poultry by category of households in the Kyrgyz Republic, 2005–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016g. *Livestock and poultry by category of farm and territories in the Kyrgyz Republic, 2005–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016h. *Total agricultural output of agriculture, fishery, and forestry in Kyrgyzstan by all types of farms.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016i. *Total agricultural output of agriculture, forestry, and fisheries in 2004–2015 by categories of farms in the Kyrgyz Republic.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016j. *Natural environment in the Kyrgyz Republic, 2011–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016k. *Demographic Yearbook of Kyrgyz Republic, 2011–2015.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2016l. *SME in Kyrgyz Republic 2012–2016.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017a. *Amount of acting economic agents in Kyrgyzstan by the types of activity 2014–2017.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017b. *Healthcare indicators in Kyrgyzstan.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017c. *Poverty rate in the Kyrgyz Republic, 2012–2016.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017d. *Population of the Kyrgyz Republic in 2016.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017e. *Consumer Price Index in Kyrgyzstan.* Bishkek, Kyrgyzstan.

National Statistical Committee (NSC). 2017f. *Number of employees by types of economic activity, types of enterprises and gender.* Bishkek, Kyrgyzstan.

- Global Forum for Rural Advisory Services (GFRAS).** 2015. *The status of rural advisory services in Kyrgyzstan. A collaborative country assessment.* Bishkek, Kyrgyzstan. <http://www.g-fras.org/images/wwes/kyrgystan/documents/RAS%20Status%20Kyrgyzstan%202015.pdf>.
- Organisation for Economic Co-operation and Development (OECD).** 2010. *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Volume I).* <https://www.oecd-ilibrary.org/docserver/9789264091450-en.pdf?expires=1551200281&id=id&accname=guest&checksum=238E8B8F46741F6F2DBF717BE6BEEBA3>.
- Organisation for Economic Co-operation and Development (OECD).** 2018. *Social Protection System Review of Kyrgyzstan.* OECD Development Pathways. Paris, OECD Publishing. <https://doi.org/10.1787/9789264302273-en>.
- Tilekeyev, K.** 2014. *Role of Input Policies in Transforming Agriculture in Kyrgyzstan.* IFPRI-ReSSAKS Project Report (Unpublished).
- Tilekeyev, K., Mogilevskii, R., Bolotbekova, A., Dzhumaeva, Sh. & Uca, I.** 2016. *Sheep Meat Production Value Chains in the Kyrgyz Republic and Export Capacity to the EAEU Member States.* University of Central Asia's Institute of Public Policy and Administration Working Paper No. 36. 10.13140/RG.2.2.35990.96320.
- Tilekeyev, K., Mogilevskii, R., Abdrazakova, N. & Dzhumaeva, Sh.** 2018. *Production and Exports of Kidney Beans in the Kyrgyz Republic: Value Chain Analysis.* University of Central Asia's Institute of Public Policy and Administration Working Paper No. 43. https://www.ucentralasia.org/Content/Downloads/UCA-IPPA-Wp43-Kyrgyz%20Beans%20Value%20Chain%20Study_ENG.pdf.
- Undeland, A.** 2012. *The Development Potential of Forests in the Kyrgyz Republic.* Washington, DC, Program on Forests (PROFOR). https://www.profor.info/sites/profor.info/files/ProFor%20Kyrgyz%20report_web_0.pdf.
- United States Agency for International Development (USAID).** 2005. *Land Tenure and Property Rights Assessment for Kyrgyzstan.* https://www.land-links.org/wp-content/uploads/2016/09/USAID_Land_Tenure_LTPR_Assessment_for_Kyrgyzstan.pdf.
- United States Agency for International Development (USAID).** 2008. Central Asia: Land Reform and Market Development Project. In: *Land Links* [online]. <https://www.land-links.org/project/land-reform-and-market-development-project-central-asia/>
- United States Agency for International Development (USAID).** 2010. Land Reform and Market Development Project I. Final Report Kyrgyzstan 2008–2010.
- United States Agency for International Development (USAID).** 2013. Kyrgyzstan Land Policy Reform Project. In: *Land Links* [online]. <https://www.land-links.org/project/kyrgyzstan-land-policy-reform-project/>
- World Bank.** 1995. *Kyrgyz Republic. Agricultural Sector Review.* Report No. 12989-KG. Washington, DC. <http://documents.worldbank.org/curated/en/779061468772454667/pdf/multi-page.pdf>.

World Bank. 2010. *Access to financial services policy note. Kyrgyz Republic.* Report No. 70473. Washington, DC. <https://openknowledge.worldbank.org/bitstream/handle/10986/12600/704730ESW0P-1170Policy0Note0English.pdf>.

World Bank. 2011a. *Project performance assessment report. Agricultural Support Service Project.* Report No. 60946. Washington, DC. <http://documents.worldbank.org/curated/en/927871468263984612/pdf/609460PPAR0P040e0only0900BOX361497B.pdf>.

World Bank. 2011b. *Kyrgyz Republic. Agricultural Policy Update.* Report No. 70322(v2). Washington, DC. <http://documents.worldbank.org/curated/en/888771468047090229/pdf/703220v20ESW0P0e020110FINAL0CLEAN0V.pdf>.

World Bank. 2017. *World Development Indicators* [online]. <https://data.worldbank.org/data-catalog/world-development-indicators>

6. Annex



6.1 People met

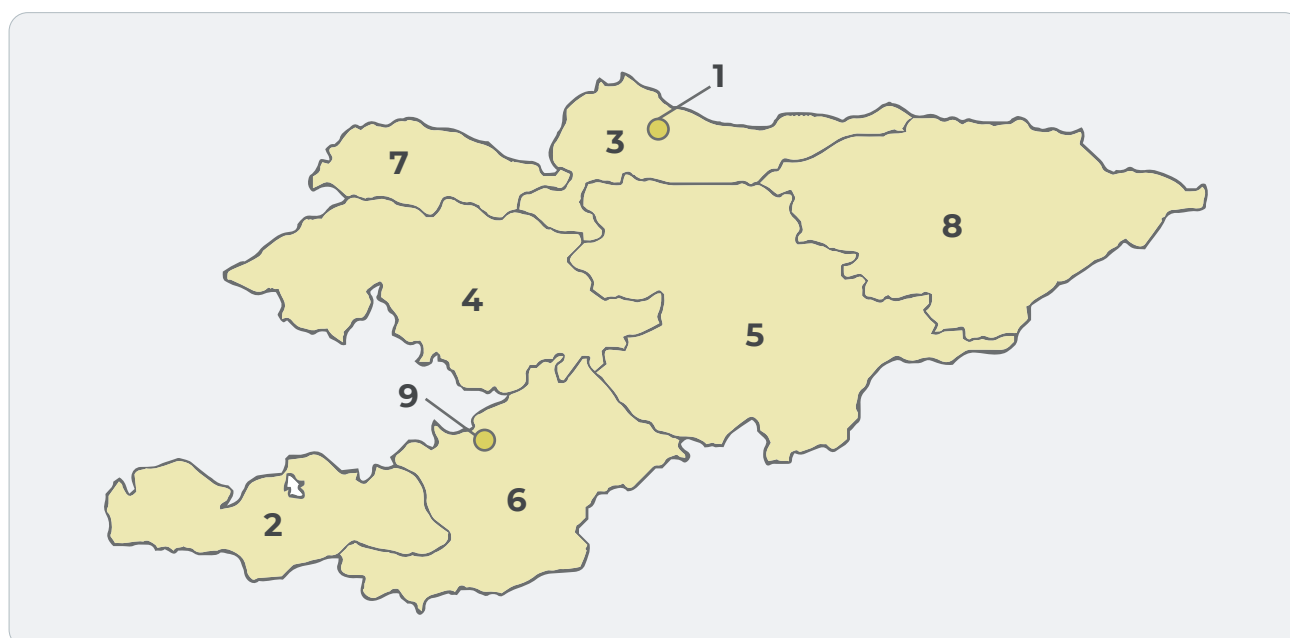
A set of interviews with stakeholders was done. The list of potential respondents includes two distinct groups of stakeholders: smallholders themselves and others, including state and non-state experts and policymakers. The total sample size required up to 30 interviews exploring the needs, constraints, challenges and policy recommendations for the smallholder farmers in the country. The sample was divided into two parts: small-scale farmers (20 respondents) and others (ten respondents).

The list of smallholders and family farms includes the four main agricultural areas in which family farmers are located. Since the sample was too small to provide a diversity of rural stakeholders on the national level, it was decided to provide sample diversity at least for different zones to show some variation of various subsectors of agricultural activity. The numbers on the map (Figure 32) demonstrate the areas in which the respondents were located.

Number on the map	Oblast / Region	Selected Subsectors	Number of Respondents
3	Chui	Fruit producers, wheat, potato, sugar beet	5
7	Talas	Bean production (export-oriented)	5
4	Jalal-Abad	Livestock breeders, beekeepers	5
6	Osh	Vegetable production, tobacco, cotton	5
	Total		20

SOURCE: SURVEY DATA.

Figure 32. Schematic map of the regions of Kyrgyzstan



SOURCE: [HTTPS://EN.WIKIPEDIA.ORG/WIKI/TEMPLATE:KYRGYZSTAN_REGIONS_IMAGE_MAP](https://en.wikipedia.org/wiki/Template:Kyrgyzstan_regions_image_map)

Smallholders and family farms in Kyrgyzstan

List of smallholders covered

#	Name, address, contacts	Gender
1	Chu oblast, Sadovoye village	M
2	Chu oblast, Sadovoye village	M
3	Jalal-Abad oblast, Totkogul Rayon, Uch-Terek village	M
4	Jalal-Abad oblast, Totkogul Rayon, Ozgorush village	F
5	Jalal-Abad oblast, Totkogul Rayon, Ozgorush village	M
6	Jalal-Abad oblast, Totkogul Rayon, Sovet village	M
7	Jalal-Abad oblast, Totkogul Rayon, Sovet village	M
8	Talas oblast, Cholponbai village	M
9	Talas oblast, Kyzyl-Adyr village	M
10	Talas oblast, Kyzyl – Adyr village	M
11	Talas oblast, Kyzyl-Adyr village	M
12	Talas oblast, Ak-Zhar village	F
13	Chu Oblast, Sokuluk Village	F
14	Chu Oblast, Sokuluk Village	M
15	Chu Oblast, Asylbash village	M
16	Osh Oblast, Kara-Suu Rayon, Ken-Sai village	M
17	Osh Oblast, Kara-Suu Rayon, Kyzyl-Shark village	M
18	Osh Oblast, Kara-Suu Rayon, Kyzyl-Shark village	M
19	Osh Oblast, Kara-Suu Rayon, Ken-Sai village	M
20	Osh Oblast, Kara-Suu Rayon, Ken-Sai village	M

6.2 Case studies

6.2.1 Case Study 1: On the success of the kidney bean value chain, oriented on export markets

1. THE PROBLEM DESCRIBED IN THE CASE

Kidney beans from the Talas region are a main agricultural export commodity from Kyrgyzstan. Between 55 000 and 60 000 tons of beans goes to external markets each year, and 26 percent of the agricultural products exported from the country is beans. They beans are exported to Turkey, Southern Europe, the Russian Federation and other destinations. The crop was introduced by merchants from Turkey in the mid-1990s. Today, 53 percent of arable land in the region is occupied by beans, and more than half of farmers are cultivating kidney beans. Natural and climatic conditions are favourable for growing beans, and the geographical concentration of the production and the location of the region – with convenient access to international automobile and railway highways – also have helped the development of bean production.

2. OBJECTIVES AND ACTIONS

Approximately 12 000 small-scale farmers are producing beans. Each participant in the value chain fulfils a function, including collecting, arranging logistics and providing services for consolidating, cleaning, processing, packing and transporting beans across the region. Several hundreds of intermediaries (small and wholesale agents) work to transfer the commodity to exporters. Transportation channels exist in few alternative routes, despite the temporary problems of transit. The absence of state interventions and open market conditions brings the situation to almost perfect competition, in which small-scale farmers can obtain most of the profit.

3. RESULTS AND IMPACTS

In the case of commercial kidney beans produced in Talas, access to export markets has been a primary factor in the success of this self-regulating cluster with relatively low transaction costs. The wealth of the farmers has increased in Talas, and the poverty rate has decreased to the lowest level in the country – from 42 percent in 2008 to 21 percent in 2015. Thousands of new workplaces were created in the sphere of production and post-harvesting processes. The supply of fertilizers and means for plant protection also increased significantly during recent years.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

The experience of Talas farmers needs to be expanded to regions with similar climates and natural conditions.

Potentially, new crops need to be found in addition to kidney beans.

5. CONTACTS/REFERENCES

Tilekeyev *et al.*, 2018.

6.2.2 Case Study 2: On market access for Kyrgyz honey through value chain development

1. THE PROBLEM DESCRIBED IN THE CASE

The absence of access to the external market led to the creation of the Association of Beekeepers of Toktogul Rayon to promote access to the markets of Eurasian Economic Union, mainly to the Russian market.

2. OBJECTIVES AND ACTIONS

Objectives:

The Association of Beekeepers of Toktogul Rayon was created to overcome the lack of technologies, finance and technical barriers that were preventing access to the markets of the Russian Federation and Kazakhstan.

Description of the actions:

The association was created in 2015 after Kyrgyzstan entered the Eurasian Economic Union. The original expectation that export to Russia would be easier was not realistic. The association faced numerous problems, including the protection of the domestic production of honey in the targeted Russian market.

It was enormously hard to overcome the technical barriers for small-scale production: There wasn't a certification centre in the country, and due that problem laboratory test for honey was available in Kazakhstan. Additional problems for small beekeepers are that the quantity of the marketed product is not sufficient for retailers, the quality of the honey might be not stable, packaging is absent or primitive, and there is no registered and promoted trade brand for Toktogul honey.

The association aimed at creating a network environment for resolving numerous problems and mobilizing resources for the beekeepers.

The following types of activities were done:

- Introduction of new types of treatments by biological medicines (medicine based on herbs) for bees instead of antibiotics; this helps the honey pass laboratory tests for the absence of antibiotics in the product.
- Training for association members on introducing new types of treatments for bees without antibiotics.
- Training for association members on the technical barriers for the honey supply on the Russian market.
- Introduction of the production of new types of beehives for own purposes and also for commercial purposes.

- Three weeks' training of members of the association in Altay State Agrarian University for beekeeping.
- Promoting Kyrgyz honey at fairs in the Moscow market.
- Preparation of a new project for bee reproduction in Kyrgyzstan in the isolated ecological area (as of now, all bees are imported from other countries, including the Republic of Moldova, the Russian Federation and Ukraine).
- Delivery of sample supplies of the product to the Russian market.

3. RESULTS AND IMPACTS

Association members increased their knowledge base regarding bee production and technical barriers, and they improved the treatment of bees and the localization of production factors.

The real impact on the farmers will be after creating a constant flow of supplies of an organic nature for use in producing Kyrgyz mountain honey.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

The first steps in consolidating beekeepers are done.

Continuing the efforts of farmers requires technical and financial support, including training, marketing and promotion, as well as support in the certification process.

Potentially, the honey will come to the stage of entering the markets of developed countries such as the United States of America and those in Europe.

The local potential of farmers is limited due to a weak base of knowledge, an absence of finance, and limited mobilization of resources.

5. CONTACTS/REFERENCES

Toktogul Rayon Beekeepers Association Director

6.2.3 Case Study 3. Mutual financing of kidney beans value chain participants

1. THE PROBLEM DESCRIBED IN THE CASE

The financing of the kidney bean operations in Talas oblast demonstrates the new institutional development of mutual funding of small rural producers such as bean farmers and market intermediates through the social clan network among value chain participants.

2. OBJECTIVES AND ACTIONS

Objectives:

A lack of funding exists among farmers during production season and among intermediates during the distribution stage. In both stages, a mutual funding scheme supports additional earning by members of network schemes.

Description of the actions:

Bean farmers in the Talas area face the problem of lack of financing of production operations to fulfil necessary field work, starting from spring and lasting until harvest time. During that period, farmers receive support from **market intermediates**, through a network of relatives based on clan linkages. The support aims at covering shortages in the purchasing of seeds, fertilizers, mechanized works and hired labour. The price of the beans is defined by an agreed-on lowered price (10 percent less than the market price).

After harvesting, farmers transfer **the rest of the beans** to the intermediate agent and make an oral agreement on the beans in natural volume (kilograms). During that period, the farmer can receive a certain proportion of that deposit for his or her own needs at the price fixed currently at the market, but the rest of the harvest typically is saved until the farmer decides to sell out the rest of the beans by the price formed at that time on the market. The price usually is low at harvesting time and then increases, reaching a peak usually four or five months after the harvesting period ends. Therefore, a farmer interested in getting the maximum price can wait. The price of the beans may be volatile. When prices are better, the farmer earns additional money. If the market is oversaturated, the price might be lower. However, the intermediate is guaranteed a certain minimum price. Usually, this price is decided at the moment of the transfer of beans. Typically, the farmer keeps beans at the intermediate for two to three months after the harvesting period.

The **intermediate**, by this consolidating process, resolves the problem of capital formation for market operations. When the intermediate sells out the beans to wholesale agents or exporter firms, he or she purchases new beans again and repeats this process several times until beans are finished on the market.

Information on networking and the involvement of people, organizational units and institutions:

The network formed includes farmers and an intermediate. This network covers one to two villages, typically. All bookkeeping is done by the intermediate. No formal contract is signed. All agreements are based on clan relations. One intermediate creates a network of 40 to 50 small farmers with whom to work.

Information about the resources:

Farmers and intermediate agents use their own resources only to create a synergy effect through a system that helps them share profit and support each side of that partnership during the agricultural season.

A description of the problems:

Risks do exist in this scheme; the price might be lower than expected. In that case, participants do not earn any profit. The minimum price is usually higher than the cost price.

Details of partners in designing and implementing good practice:

The clan system, based on the relative's network, guarantees that the intermediate does not steal the collected money.

3. RESULTS AND IMPACTS

Each farmer receives support during the season of approximately USD 500 each, and this reaches USD 20 000 to USD 30 000 in total for the group. The volume of beans kept by the intermediate is between 70 and 100 tonnes and potentially reaches a value of USD 80 000 to USD 90 000.

Farmers and intermediates avoid paying interest to the banks and thus increase their profit from operations. The mutually supporting scheme supports each side of the deal for additional profit. Farmers benefit from the credit for operational purposes and potentially can earn from expecting a higher market price through intermediates and a guaranteed minimum price.

Intermediates earn through increasing their operating capital to purchase and sell more beans than they could do with only their own funds.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

Value chain members create schemes in which smallholders and family farms and intermediate agents earn additional money through consolidating resources through the clan system.

An export-oriented crop (beans), the absence of state interventions (an almost perfect competition market situation), and the adaptation of smallholders and family farms to the free market are the main elements of this success story.

Cooperation among farmers and value chain agents led to improvements in the financial stability of chain participants.

Further steps discussed among network participants include the creation of a bean cleaning facility.

5. CONTACTS/REFERENCES

Ak-Zhar village, Sultankul Street
Kyzyl-Adyr village, T. Aitmatov Street
Kyzyl – Adyr village
Kyzyl-Adyr village, T. Aitmatov Street
Cholponbai village, Cholponbai Street

6.2.4 Case Study 4: Access to Subsidized Credit “Easy credit to farmers”

1. THE PROBLEM DESCRIBED IN THE CASE

Farmers interviewed stated that this line exists, but getting this credit is a complicated task.

2. OBJECTIVES AND ACTIONS

Most of the farmers surveyed (80 percent of respondents) have loans. Farmers note that information on state-supported loans at reduced rates is available from state banks and partner banks. Formal requirements for subsidized loans were fulfilled by few of the farmers interviewed; this required documents that could be collected in two to three days. However, the problem is that after the application was received by the bank, often the answer from the bank was a non-negative delay. The bank informed the farmers that a queue of applicants exists, and it was necessary to wait until the money was allocated from the state budget. However, often there was no money for a long period. One of the respondents reported that he has been waiting for two years. The situation with the queue on preferential loans was confirmed in all regions. To get a loan at reduced rates (from 7 to 10 percent annually, in the national currency) is very difficult.

3. IMPACT

The negative impact is obvious due to the difficult access of farmers to subsidized credits.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

Therefore, farmers informed that commercial banks and microfinance organizations are the main sources of credit. Commercial banks have interest rates on loans from 25 to 35 percent per annum. Microfinance organizations offer rates of up to 40 percent per annum. The difference in rates between banks and microfinance organizations declined during the past two to three years. The conditions for obtaining the credit from a bank requires collateral – usually the home in which the borrower lives.

Land as a pledge is practically not used. The representative of the microfinance organization explained that the procedures for the seizure of land in the case of non-payment of credit are very long, and the sale of mortgaged land is a complex procedure controlled by local authorities.

Microcredit organizations issue without collateral; borrowers need a good credit history and surety (or several guarantors). Many farmers believe that it is easier to work with microfinance organizations. Microfinance organizations can afford to pay in any amounts at any time. Banks usually require payment deadlines on schedule.

5. CONTACTS/REFERENCES

Ak-Zhar village, Sultankul Street
 Kyzyl-Adyr village, T. Aitmatov Street
 Kyzyl – Adyr village
 Kyzyl-Adyr village, T. Aitmatov Street
 Cholponbai village, Cholponbai Street
 Chu Oblast, Sokuluk Village, Lenin Street
 Jalal-Abad oblast, Totkogul Rayon, Sovet village

6.2.5 Case Study 5: Access to veterinary services in the Toktogul area of Jalal-Abad oblast

1. THE PROBLEM DESCRIBED IN THE CASE

For small farmers of the Toktogul rayon of Jalal-Abad oblast, livestock breeding is one of the main agricultural activities. Good pastures and low density of population are favourable for keeping cattle, sheep and horses. However, the area is quite remote from the main markets, and access to many types of services is limited. For many farmers, the complication in access to veterinary services and treatment of livestock is a big problem.

Small-scale farmers face the problem that the veterinarian from the neighbouring village is often unavailable or avoids coming to a smaller farmer because he prefers to work with larger farmers with a significant amount of livestock who more easily pay for services.

2. OBJECTIVES AND ACTIONS

The situation had been unresolved for a while, and farmers organized a group of relatives and decided to arrange an agreement and appeal to the veterinarian not as one small client but as a group.

The head of the group is a respectable man, of the older generation, who collects all fees and reports on the costs.

This increases the motivation and income for the animal doctor to deal with a group of regular

customers and decrease logistics costs.

This scheme is used for vaccination and prophylactic veterinarian examinations of cattle twice a year.

In the case of urgent needs, members of the group make a small monthly payment, which depends on the size of respective herds. From this monthly payment, the head of the group pays for the veterinarian service.

There are still some problems that some members of the group pay irregularly. This scheme is also not suitable for people with fewer livestock. Most of the members of the group are satisfied with the arrangement.

Members of the local community want to join the group, but members of the group have not wanted to expand the group.

3. RESULTS AND IMPACTS

The group includes 11 households; an average household has four head of cattle and around 30 to 40 sheep. The regular monthly fee is around USD 5. The examination of all livestock is paid separately. If the sum of the treatment exceeds the sum of the collected monthly fee, the owner of the cattle pays the difference. If there is no incident with animals, then the collected funds add up. However, diseases happened regularly, and the collected money usually is spent on veterinarian services. The main impact of this group arrangement is that access to resources becomes easy and guaranteed.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

In the case of the absence of a satisfactory individual decision, smallholder farmers arrange a group to resolve the problem of access to services.

The group acts successfully, but the main burden is on the head of the group. This activity is voluntary, and in the case of a long-term agreement, the situation may be not stable, despite the relatives network.

Local authorities can use the scheme for social mobilization to provide basic types of services for the inhabitants of remote villages, such as mechanized works, the supply of seeds and fertilizers, transportation services and the provision of forage.

5. CONTACTS/REFERENCES

Jalal-Abad Oblast, Totkogul Rayon, Sovet village

6.2.6 Case Study 6: Market demand on information search system in Talas oblast

1. THE PROBLEM DESCRIBED IN THE CASE

Farmers in Talas oblast earn sufficient income to raise the issue of the gap between the services suggested on the market and needs of the farmers.

Using kidney beans as a monoculture on one land plot leads to deterioration of the productive capacities of land, increased risk of diseases, increased pest invasions and other negative factors that decrease productivity.

Demand for information on the factors for increasing productivity is quite high among farmers.

There is no access to information resources on that matter in the area. All respondents mentioned that they are eager to purchase information on a regular basis on the following issues:

- land recultivation techniques and new methods of land protection;
- analysis of the soil characteristics, with the recommendations on improving the land quality;
- fertilizers, including the norms and periods of application, methods of fertilizer application and safety measures;
- herbicides, including standards and periods of application, methods of herbicide application and safety measures;
- pests, including methods of plant protection from pests, classification of pests dangerous for kidney beans and pesticides to control them, and safety measures; and
- diseases, including classification of diseases and effective medicines to fight them.

2. OBJECTIVES AND ACTIONS

The limited knowledge base complicates the search for information by farmers.

A unified platform is needed for farmers with the use of information technologies – a mixture of video, detailed instructions on using chemical substances, and background materials on diseases, pests and soil characteristics.

Basic materials might be free of charge through a Web platform or free for a certain period, and more detailed information might be available after subscription.

The absence of the initiative on the local, regional and country levels highlights the absence of that demand.

The gap between the needs of farmers and the supply of required services exist despite that several associations of bean producers are working in the area.

3. RESULTS AND IMPACTS

Because this service doesn't exist, farmers lack information about certain aspects of agriculture and have no way to acquire that information.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

Approximately 30 percent of the 14 000 to 15 000 bean farmers potentially might be commercial clients of that service.

Technical support from international organizations would be necessary to provide conceptual support and a sufficient quality of information.

Detailed analysis of the information required is a necessary step for the project.

5. CONTACTS/REFERENCES

Ak-Zhar village, Sultankul Street
Kyzyl-Adyr village, T. Aitmatov Street
Kyzyl-Adyr village
Kyzyl-Adyr village, T. Aitmatov Street
Cholponbai village, Cholponbai Street

6.2.7 Case Study 7: Hidden labour migration in cross-border areas of southern Kyrgyzstan

1. THE PROBLEM DESCRIBED IN THE CASE

Southern Kyrgyzstan is a densely populated area with a significant share of the rural population. Since the year 2000, a large number of labour migrants from Osh oblast has moved to the Russian Federation. This outflow of young people from rural regions has become an important feature of the labour market. Labour migration has several impacts on the levels of consumption and poverty in the area. There also are effects on the labour market; there is an absence of free labour for agricultural works. This has led to an increase of rates for hired manual labour and an inflow of unregistered farm workers from neighbouring Uzbekistan during the farming season.

2. OBJECTIVES AND ACTIONS

Farmers from Osh oblast mentioned that the young generation in general is not oriented towards working on the land due to the overall trend for migration to the Russian labour market.

This has several direct implications on agricultural activity in rural households.

Previously, low-income families with large numbers of working-age members with small or no land plots were oriented towards work as hired labourers. Currently, those households tend to send members of their families outside and receive transfers (remittances) from labour migrants.

The young generation of people in the village does not tend to obtain farming knowledge. All respondents mentioned that their kids already have decided to leave the country and work outside. All interviewed households stated that some family members are migrants, and farmers are not sure whether anybody from their family will work as a farmer in the future.

It helps for families to improve their consumption and increase savings through investment in housing conditions and livestock.

From 2000 period in the areas bordering with Uzbekistan, daily labourers from Uzbekistan replaced the local labourers who moved to the Russian Federation. The situation changed after interethnic clashes between Kyrgyz and Uzbek people in 2010 in southern Kyrgyzstan. For several years, there were problems with crossing the Kyrgyz-Uzbek border, and the labour supply decreased. As a result, daily rates increased significantly.

After Kyrgyzstan entered the Eurasian Economic Union in 2015, legal conditions for Kyrgyz migrants improved. Despite the economic crisis in the Russian Federation, migration rates from the Osh area did not decrease. More and more Kyrgyz young migrants of both genders now work in the Russian Federation.

The inflow of Uzbek migrants has again increased due to improved rates for hired labourers.

Several problems still are unresolved:

- Interethnic tensions between Kyrgyz and Uzbek people still exist in a hidden form.
- Legal status for Uzbek labourers is not officially permitted. This creates the potential for the corruption of border and customs bodies on both sides of the frontier.
- Neither country protects labour migrants rights such as fair payments, safety measures, social insurance and medical support.

3. RESULTS AND IMPACTS

The situation has improved based on Kyrgyz labour migrants' remittances from the Russian Federation, leading to three significant consequences:

The poverty situation has improved in the area; people have increased consumption levels and invested in better conditions of life.

The level of education among the young population has decreased. Farmers' knowledge base is weakening, and the new generation of farmers may be smaller.

Informal migration from Uzbekistan has improved the situation for farmers, but conditions of work and legal status are still unresolved issues.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

A study of unofficial unregistered migration of Uzbeks in neighbouring agricultural areas is needed, with focuses on the issues of safety measures, conditions of fair payment and the legal status of the migrants.

Policy stakeholders need to resolve this situation through legal permissions and improved monitoring of the situation.

Analysis of the education preferences of the younger generation of the rural population is required to improve the state educational policy. Otherwise, the erosion of human capital in Kyrgyzstan will continue.

5. CONTACTS/REFERENCES

Osh Oblast, Kara-Suu Rayon, Ken-Sai village, Kubandyk Street
Osh Oblast, Kara-Suu Rayon, Kyzyl-Shark village, Batyr Ata Street
Osh Oblast, Kara-Suu Rayon, Kyzyl-Shark village, Kelechek Street
Osh Oblast, Kara-Suu Rayon, Ken-Sai village, Kubandyk Street

6.3 Chronicles of Legislative Acts of Agricultural Reform in Kyrgyzstan

Table 10. List of the legislative documents of the initial rural reform, 1991–1992

Law "On Peasant Farms" (2 February 1991)
Law "On Land Reform" (19 April 1991)
Presidential Decree No. VII-369 "On Urgent Measures to Secure the Realization of the Laws of the Kyrgyz Republic Regulating Land Relations and Other Relations in Agriculture" (10 November 1991)
Presidential Decree "On the National Land Fund of the Republic of Kyrgyzstan," (10 March 1992)
Presidential Decree "On Measures for Further Implementation of the Land and Agrarian Reform in the Republic of Kyrgyzstan" (10 December 1992)

SOURCE: LIST OF LAWS FROM USAID, 2005, P. 75.

Table 11. List of the legislative documents of the second stage of rural reform, 1994–1999

Presidential Decree No. 23 "On Measures to Enhance (Deepen) Land and Agrarian Reform in the Kyrgyz Republic" (22 February 1994)
Government Resolution No. 345 "On the National Land Fund" (19 May 1994)
Government Regulation "On the Procedure for Determining Citizens' Land Shares and for Issuance of Certificates Containing Land Share Use Right," Adopted by Resolution No. 632 (22 August 1994)
"Program of Land and Agrarian Reform in the Kyrgyz Republic on 1995-1996." (January 1995).
Ministry of Agriculture Decision No. 7, "On the National Land Fund" (8 February 1995)
Presidential Decree "On Measures for Further Development and State Support of Land And Agrarian Reform in the Kyrgyz Republic" (3 November 1995)
Government Regulation "On Categories of Subjects of Agricultural Enterprises in the Kyrgyz Republic" (adopted by Government Resolution No. 158 "On Adoption of the Regulation on Categories of Subjects of Agricultural Enterprise in the Kyrgyz Republic" (12 April 1996)
Presidential Decree No. 327 "On Measures Aimed at Introduction of Market of Land Use Rights and on Establishment of the Market Credit System in Agriculture" (25 November 1996)
Government Resolution No. 14 "On Measures Aimed at Introduction of the Market of Land Use Rights" (9 January 1998) and accompanying Regulations "On Republican and <i>Rayon</i> Executive Commissions on Sale of Rights to Use Land Plots of the Agricultural Land Redistribution Fund Under the Ministry of Agriculture and Water of the Kyrgyz Republic," and "Temporary Regulations on Auction Sales of Rights to Use Land Plots of the Agricultural Land Redistribution Fund Under the Ministry of Agriculture and Water of the Kyrgyz Republic" (9 January 1998)
Presidential Decree "On Concept of Introduction of Private Land Ownership in the Kyrgyz Republic" (13 October 1998)
Land Code of the Kyrgyz Republic (2 June 1999)
Law on Effectuation of the Land Code (2 June 1999)

SOURCE: LIST OF LAWS FROM USAID, 2005, P. 75.

Table 12. List of the legislative documents of the final stage of rural reform, 2000–2003

Law on Administration of Agricultural Land (18 December 2000), and Regulation #427, “On the Procedure of Purchase and Sale of Agricultural Land” (approved by the GOK Resolution of 13 August 2001).
Government Resolution #10 “On the Reform of Local Governance Structures” (11 January 2000).
Standard Regulation “On the terms and order of providing land from the Agricultural Land Redistribution Fund for rent,” approved by the Resolution of the Legislative Chamber of the Parliament, 15 April 2002, L No 702-II
Amendment to the Effectuation of the Land Code (11 May 2002)
Government Resolution, “On Allocation of Land Shares to Citizens of the Kyrgyz Republic” (January 2003).

SOURCE: LIST OF LAWS FROM USAID, 2005, P. 75.

Table 13. List of the legislative documents of the ongoing rural reform, 2004–2013

Presidential Decree No. 142 “New Directions and Measures of Land and Agrarian Reform” (April 2004)
Law on Cooperatives No. 70 (11 June 2004)
National Strategy of the Kyrgyz Republic “Integrated development of the rural areas up to 2010” No. 210 (June 2004) approved by Decree of the President
Standard Procedure For Agricultural Land Leasing From The State Redistribution Reserve No. 243 (June 2007) Approved by the Decision of the Government
Tax Code (Section XIV, Chapters 48–51): Land Tax Regulations (July 2009)
Law on Pastures No. 30 (January 2009)
Strategy of the country’s development for 2007–2010 approved by Decree of the President No. 249 (May 2007) and adopted by Decree of the President No. 158 (May 2008)
Strategy of land use of the Fund for the Redistribution of Agricultural Lands, approved by Decree of the President of the Kyrgyz Republic No. 199 (April 2009)
National Strategy for the development of livestock breeding for 2011–2015 approved by the Decision of the Government No. 367 (July 2011)
Standard Regulation “On the conditions and procedure for provision to lease lands of the State Fund for Agricultural Lands,” approved by the Decision of the Government of the Kyrgyz Republic No. 243 (22 June 2007) (As amended by the Government of the Kyrgyz Republic on 3 September 2012, No. 602, and 18 November 2016, No. 599)
National Strategy of the Sustainable Development of 2013–2017 approved by the Decree of the President No. 11 (January 2013).

SOURCE: LIST OF LAWS FROM LERMAN AND SEDIC, 2009, P. 3, AND FROM THE MINISTRY OF JUSTICE OF THE KYRGYZ REPUBLIC ([HTTP://CBD.MINJUST.GOV.KG](http://cbd.minjust.gov.kg)).

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