



Food and Agriculture Organization
of the United Nations

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

Smallholders and family farms in the Republic of Moldova



Country study report

2019

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Abbreviations and acronyms

AA/DCFTA	Association Agreement including a Deep and Comprehensive Free Trade Area
ACED	Agricultural Competitiveness and Enterprise Development Project
ACSA	National Agency for Rural Development
AIC	Agricultural Information Centre
AIPA	Agency for Interventions and Payments in Agriculture
DFID	Department for International Development of the United Kingdom
EC TACIS	European Commission Technical Assistance to the Commonwealth of Independent States and Georgia
EIB	European Investment Bank
ESRA	European Union “Economic stimulation of rural areas” project
EU	European Union
EUnIAM	European Union programme on consolidating the higher educational system in the Republic of Moldova
FAO	Food and Agriculture Organization of the United Nations
FAO CPF	FAO Country Programming Framework
FAO REU	FAO Regional Office for Europe and Central Asia
GD	Government Decision
ha	hectares
HVA	high-value agriculture
IPM	integrated pest management
MAFI	Ministry of Foreign Affairs and European Integration
MARDE	Ministry of Agriculture, Regional Development and Environment
MDL	Moldovan leu
MTS	machinery and technology station
NBS	National Bureau of Statistics of the Republic of Moldova
NGO	non-governmental organization
NNRAS	National Network of Rural Advisory Services
PF	peasant farms
R&D	research and development
RAES	rural advisory and extension services
RI	Regional Initiative
RISP	Rural Investment and Services Project
SCA	savings and credit association
SDG	Sustainable Development Goal
SIDA	Swedish International Development Cooperation Agency
SPS	sanitary and phytosanitary standards
TCP	Technical Cooperation Programme
USAID	United States Agency for International Development
UTA Gagauzia	Territorial Administrative Unit Gagauzia
WB	World Bank
VE	vocational education
WUA	water users association

Executive summary



Background

Countries in the Europe and Central Asia region have either farm structures fully dominated by smallholders or dualistic farm structures with many small farms and few large, corporate farms. In many countries, the current farm structures are the outcome of land reforms implemented from the beginning of the transition from planned economy towards market economy that began after 1990.

These farms are often not economically viable, and rural populations remain poorer and more vulnerable than people elsewhere. Despite this, they represent a key resource for achieving sustainable economic, social and environmental development. Smallholders and family farms can achieve higher levels of income, production and productivity through the sustainable utilization of resources, intensification of production, better organization, increased access to adequate public services, and better integration into agrifood value chains. There is 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; it is important to recognize and understand these variations when designing support to smallholders and family farms in each specific country.

Objectives

The objective of the country studies is 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 the reduction of rural poverty.

Methodology

The methodology of this study combines desk research, interviews with key stakeholders and the use of case studies. The desk research and secondary data collection and analysis took place mainly during spring 2017, whereas field interviews and writing continued through the summer of 2017. Thus, the report mainly reflects developments as of that timeline, although, during the revision of the report, limited partial updates with new or more recent information were added.

Besides interviews, two workshops were organized: one introductory workshop, conducted right at the beginning of the working process, and a validation workshop in which the preliminary findings, conclusions and recommendations were presented to the stakeholders who participated in the first country workshop and to new stakeholders identified through the working process. The objective was to validate the analysis and to establish a common understanding about conclusions and recommendations. The workshop took place at the end of the process but before finalization of the study so that requests for adjustments from the workshop could be taken aboard.

Key Findings

Today, Republic of Moldova's agricultural sector has a dual structure, comprising two major subsectors: ***the corporate sector***, composed of large-scale enterprises, and ***the individual sector***, which includes peasant farms and household plots under private ownership. For the purpose of this report, smallholders and family farms in the context of the Republic of Moldova are considered ***peasant farms, individual farms and rural households that farm less than 10 ha of agricultural land***.

Small-scale farms that are mainly subsistence and semi-subsistence in nature produce for self-sufficiency, and there is a limited surplus of high-labour-intensive, high-value-added crops such as fruits, nuts, grapes, vegetables and potatoes. What surplus does exist is largely sold for cash. Large-scale enterprises are specialized in the production of low-value crops such as cereals, oilseeds and sugar beets and employ little labour due to the high mechanization level of their farm operations. This specialization has been determined by several factors, such as relatively low production costs for these crops, the availability of agricultural machinery enabling the cultivation of large areas, relatively simple and low-cost post-harvest handling requirements, and ensured markets for these commodities.

Small-scale farming is a predominant model in the Republic of Moldova, and small farms (including family farms) play an essential role in the country's agriculture and rural development and in the economy as a whole. ***Smallholders and family farms generate over 62 percent of the total volume of agricultural produce of the country***, thus contributing fundamentally to overall food production and food security in the Republic of Moldova.

The dominant position in the structure of agricultural production in the Republic of Moldova is plant production. In 2017, its share in the total agricultural production was ***74 percent***, with ***about 60 percent*** coming from smallholders and family farms. These also account for the largest share of overall livestock production – ***95 percent of the total milk*** production, ***62 percent of the livestock and poultry*** production, and ***56 percent of egg*** production.

The land and post-land reforms in Republic of Moldova resulted in a differentiated agricultural structure, with a relatively small number of large corporate farms and a large number of very small and fragmented family farms. In most cases, the use of small plots of land is not efficient, as production of many traditional crops is dependent on scale and mechanization and can therefore be undertaken only on larger, field-scale operations.

Given the structural problems of high fragmentation of parcels and small farm sizes – especially relevant in the case of smallholders – **land consolidation is an urgent need**. In the first decade of the 2000s, considerable progress had been made towards addressing the problems experienced by small and fragmented farms, although currently there is no land consolidation programme. The number of agricultural holdings decreases each year, and this is mainly because of the decrease in the number of **small-scale holdings, which accounted for 94 percent** of the total number of agricultural holdings in 2017.

The agrifood sector as a whole is facing **problems with creating market institutions**; establishing marketing and distribution channels; meeting European Union quality, veterinary and phytosanitary standards; and building the administrative capacity to support these processes. The agrifood value chain is expected to change substantially in the coming years as the share of supermarket sales in the retail sector is expected to increase significantly, similar to other transition and developing countries.

Cooperation may contribute to achieving economies of scale that make it more attractive for buyers to deal with smallholder farmers and that can strengthen the bargaining power of organized farmers in the contracting process. This is particularly the case for smallholders in Republic of Moldova; considering the small size and high fragmentation, cooperation also could contribute towards addressing limitations arising from fragmentation.

Access to finance for agricultural producers, including smallholders and family farms, has improved modestly in recent years. This is due to several interventions from the side of Government and with support from international organizations and donors. Despite this increase, most farms remain poorly financed. The major deficiencies relate to insufficient collateral options overall; almost no supply of long-term loans; hardly any support instruments to facilitate access to credit, such as loan-guarantee funds; and high interest rates, amounting to 15–20 percent annually, with annual inflation below 5 percent during recent years.

Moldovan smallholders and family farms cultivate land manually or with **obsolete machinery** obtained from former cooperatives or at auction. There are very rare cases in which small farms have succeeded in buying new machinery. To minimize costs, farmers frequently limit cultivation and apply low doses of fertilizer. Small farmers also often lack the appropriate knowledge about production technology and the use of inputs and equipment. They also lack basic equipment, such as pesticide spray pumps that ensure the proper spray of pesticides. **Mechanization services** are used only if necessary (such as for ploughing), while **most smallholders harvest and weed manually**.

The impact of **climate change on agriculture** is already being felt through extreme weather events and effects such as hailstorms, droughts, floods, soil erosion, declining crop yields, and the increased presence of pests and diseases. Smallholders and family farmers, though vulnerable, are also better at adapting to climate change than large agricultural enterprises. The biodiversity, native seed varieties, sustainable practices and local and traditional knowledge that peasant farmers maintain – even under difficult conditions – are key to rebuilding ecological resilience. Various studies have shown that diversified, sustainable small farms can withstand the variability of climate change far better than industrial monocultures.

Since the independence of Republic of Moldova, the **irrigation sector** has been declining, and there are several reasons for that. The primary reasons for the decline have been economic factors and the fact that the old irrigation systems were unfit for the newly emerging pattern of private farming. There are no specific data on the access of smallholders and family farms to irrigation facilities.

The availability of food in Republic of Moldova is overall not a major challenge, but production volatility suggests caution. The population's needs largely are being met by domestic production, with imports filling the gap. There are several factors that impede the stability of the food supply, such as the severe droughts that have affected the country, not only devastating the crop sector but also negatively affecting the livestock sector. Access to food in urban and rural areas is determined by numerous factors, because urban and rural households source their food differently. While urban households must primarily purchase their food, rural households largely rely on self-produced foods. As a result, the access to food of urban households is almost entirely dependent on their purchasing power and on food price patterns, while for rural households, agricultural activities represent not only a source of income but also a safety net in terms of actual food.

Pensioners in the agricultural sector account for approximately 40 percent of the total number of old-age pensioners. The share of women among the total number of pensioners in the agricultural sector is nearly 68 percent, while the share of men is 32 percent. Since 2009, individual landowners and tenants who work on an individual basis are not included in the list of the mandatory insured. They have the option to make voluntary insurance payments by signing an individual state contract with the National Social Insurance Office and by paying a fixed annual contribution, which is four times lower than the amount paid by other sectors.

The bad condition of the **physical infrastructure** is another factor limiting development possibilities in rural Republic of Moldova. The quality and reliability of the country's water supply and wastewater services are generally in poor condition, especially in rural areas, where the quality of water does not always meet hygienic requirements. The road network is probably in the poorest condition among all physical infrastructures. An assessment carried out by the Government in 2006 estimated that only 7 percent of the road network could be considered to be in a good or satisfactory condition, while the remaining 93 percent was in a bad or very bad technical state.

The main national development policy in Republic of Moldova is the National Development Strategy "Moldova 2020." Despite the importance of the agriculture and food processing industry as a main contributor to the gross domestic product of the Republic of Moldova, the NDS "Moldova 2020" does not specifically mention among its seven priorities the agrifood sector.

Despite being a large sector, there are no laws specifically regulating the activity of smallholders and family farms in Republic of Moldova. This category of agricultural producers is ruled by the general laws regulating agricultural activity, food safety, cooperation regulations and subsidy policies. So, the activity of all smallholders and family farms that have officially registered is ruled by the respective laws and also by the civil code, labour code, land code, fiscal code and others.

According to the fiscal code, the income tax rate for peasant farms is 7 percent of their taxable income (as in the case of individuals), while legal persons pay 12 percent. Something to keep an eye on for smallholders and family farms is the introduction of a consolidated tax in agriculture that would contribute to the simplification of the tax system for farmers. The draft law on introducing a consolidated tax in agriculture is in the process of revision by the competent authorities.

Recommendations

To address the abovementioned issues and problems for the sector, a set of recommendations are put forward, specifically:

- *Develop a concept for the business-oriented smallholder and family farming sector and identify a number of fields in which policies should be developed to empower and unlock the potential of this sector.* The current legal and policy framework favours them; however, it is recommended to focus more policy attention to the development of small- and middle-sized business-oriented family farms.
- *Restructure the following institutions and programmes*, adjusting their objectives to the actual trends in the development of the small farms sector: (a) research institutes; (b) irrigation systems (a new model for the functioning of water agencies and water users associations); and (c) the food safety system.
- Consider funding for: (a) enhanced risk management programmes, after improving the current programmes; (b) extension services, with tailored support measures dedicated to smallholders and family farms and that generate positive results and impacts; and (c) subsidy schemes, again dedicated to smallholders and family farms and tailored to their specific needs.
- *Local employment alternatives are crucial to avoiding rapid rural depopulation* and mass migration, which are certainly not desirable for Republic of Moldova. To make the rural space economically viable and attractive, rural-urban linkages need to be part of the rural development agenda, along with education as the main door opener for skilled non-farm employment.
- Develop and adopt a new strategy for agricultural education, focusing on the education of a new generation of business-oriented family farmers, who would form the backbone of a strong rural middle class.
- Encourage *market integration* for those smallholders who have the potential and willingness to develop and to ensure that any surplus resulting from the intensification of production can be profitably sold on the market (through, for example, opening local agricultural produce collection points). This can be a mechanism with social impact that leads to better inclusion of agricultural producers.
- Farmers have to be *encouraged to cooperate and associate* and to set up their own processing and marketing channels in order to strengthen their bargaining positions and get better access to input and output markets. These also might help them gain access to financing and storage facilities, which farmers have identified as important to successful marketing. Thus, this is also a field in which cooperation could be beneficial for smallholders.
- Enhance the *access of smallholders to viable financial services*. Both limited access to credit and the cost of credit pose significant constraints to the agricultural sector, and in particular to small-scale farmers, who are currently almost completely ignored by the financial sector. At the same time, high interest rates lead to a low demand for bank loans. The provision of subsidies to cover interest rates could be an efficient measure to overcome smallholders' lack of access to finance; those subsidies are already in place but are not accessible to smallholders.
- *Organic farming* can also be promoted as a way of differentiating production and competing in higher-value market segments. This would require that farmers acquire the relevant knowledge, adopt appropriate production methods, and obtain necessary certifications. This type of farming is not only seen as particularly suitable for smallholders, but markets are expected to further grow. That could be a niche with some potential for Republic of Moldova if smallholders receive the

necessary support for certification and marketing. Participatory or group certification schemes could be one important door opener for smallholders.

- Enhance *statistical data collection by improving the capacities of the National Bureau of Statistics* to collect and process data on smallholders and family farms. In this context, specific indicators and statistics relevant to smallholders must be identified and implemented. Without such data, regularly collected and made available no efficient policies can be developed.

Rezumat



Scurt istoric

Țările din regiunea Europei și a Asiei Centrale dispun fie de structuri agricole pe deplin dominate de proprietari mici, fie de structuri agricole dualiste cu multe gospodării mici și câteva exploatații mari, corporative. În multe țări, structurile agricole existente sunt rezultatul reformelor funciare implementate de la începutul tranziției de la economia planificată către economia de piață care a început după 1990.

Adesea, aceste ferme nu sunt viabile din punct de vedere economic, iar populația rurală rămâne mai săracă și mai vulnerabilă decât cea din alte regiuni. Totuși, ele reprezintă o resursă cheie pentru realizarea unei dezvoltări durabile în domeniile economic, social și de mediu. Proprietarii mici și gospodăriile de familie pot atinge niveluri mai ridicate de venit, producție și productivitate prin utilizarea durabilă a resurselor, intensificarea producției, o mai bună organizare, accesul sporit la servicii publice adecvate și o mai bună integrare în lanțurile valorice agroalimentare. Ar fi necesară o platformă de informare și înțelegere mai bună a principalelor provocări, nevoi și constrângeri ale fermierilor mici și ale gospodăriilor de familie în contextul specific al țării. Chiar dacă multe dintre aceste provocări sunt identice în întreaga regiune, există totuși variații semnificative între țări și prin urmare, este important să recunoaștem și să înțelegem aceste variații atunci când planificăm sprijinirea proprietarilor mici și gospodăriilor de familie în fiecare țară specifică.

Obiective

Obiectivul studiului de țară este în primul rând de a analiza direcția de dezvoltare și starea curentă a micilor fermieri și a gospodăriilor țărănești (de familie) din Republica Moldova, în al doilea rând de a studia prioritățile politicilor curente și politicile care afectează activitatea micilor fermieri și a gospodăriilor țărănești (de familie), și, în cele din urmă, în baza concluziilor trasate, de a oferi recomandări, în marea majoritate la nivel de politici, referitor la faptul cum se poate de susținut în continuare dezvoltarea gospodăriilor comerciale de familie și în același timp cum să se asigure creșterea general incluzivă, să fie îmbunătățite mijloacele de subsistență și să fie redusă sărăcia rurală.

Metodologie

Metodologia realizării acestui studiu combină consultarea documentelor existente, interviurile cu actorii cheie și utilizarea studiilor de caz. Consultarea materialelor, colectarea și analiza datelor secundare au avut loc în cea mai mare măsură în primăvara anului 2017, în timp ce interviurile pe

teren și scrierea propriu-zisă au continuat până la sfârșitul anului 2017. Astfel, raportul reflectă în general evoluțiile care au avut loc în această perioadă de timp, deși, în timpul revizuirii raportului, s-au adăugat actualizări parțiale care conțin informații noi sau mai recente.

În afară de interviuri au fost organizate două ateliere de lucru, unul introductiv chiar la începutul procesului de lucru și atelierul de validare în cadrul căruia părților interesate li s-au prezentat constatările, concluziile și recomandările. Acestea au fost prezentate principalilor actori care au participat la primul atelier organizat pe țară precum și noilor actori care au fost identificați pe parcursul procesului de lucru. Obiectivul atelierului a constat în validarea analizei și stabilirea unei înțelegeri commune asupra concluziilor și recomandărilor. Atelierul a avut loc la sfârșitul procesului de lucru dar înainte de finalizarea studiului astfel ca cererile de ajustare parvenite în cadrul atelierului să poată fi luate în considerație.

Constatări Principale

Astăzi sectorul agricol din Republica Moldova are o structură duală care constituie două subsectoare: sectorul corporativ, compus din întreprinderi agricole mari, și sectorul individual, care include gospodăriile țărănești și gospodăriile casnice (de familie) cu terenuri agricole în proprietate privată. Pentru scopul acestui raport, fermierii mici și gospodăriile de familie cu terenuri agricole în proprietate în contextul Republicii Moldova sunt considerate și utilizate următoarele noțiuni: ***gospodăriile fermier țărănești de fermier, care au în folosință terenuri mai mici de 10 hectare de teren agricol și gospodăriile ale populației (individuale).***

În cazul gospodăriilor de dimensiuni mici care produc doar pentru subsistență și semi-subsistență, adică pentru consum propriu, și, când există un surplus limitat de culturi cu valoare adăugată mare și nivel înalt de muncă intensivă cum ar fi fructele, nucile, strugurii, legumele și cartoful, acest surplus se vinde pe piața locală. Întreprinderile agricole mari se specializează în producerea culturilor cu valoare adăugată mica cum ar fi cerealele, semințele oleaginoase și sfecla de zahăr, și angajează forță de muncă limitată datorită nivelului ridicat de mecanizare a exploatațiilor agricole. Această specializare a fost determinată de mai mulți factori, cum ar fi costurile de producție relativ scăzute pentru aceste culturi, disponibilitatea mașinilor agricole ceea ce permite cultivarea unor suprafețe mari, cerințele de manipulare post recoltare relativ simple și cu costuri reduse și asigurarea pieței de desfacere pentru aceste mărfuri.

Activitatea agricolă prin întreprinderi agricole de dimensiuni mici este modelul predominant în Republica Moldova, gospodăriile mici (inclusiv fermele de familie) jucând un rol esențial în dezvoltarea sectorului agricol, dezvoltarea rurală a țării și dezvoltarea economică în general. ***Fermierii mici și fermele de familie generează peste 62% din întregul volum de producție agricolă pe țară***, astfel contribuind fundamental la întreaga producție alimentară și securitatea alimentară din Republica Moldova.

Poziția dominantă în structura producției agricole în Republica Moldova este ocupată de producția vegetală. În 2017, ponderea sa în producția agricolă totală a constituit 74%, cu aproximativ 60% din

partea producătorilor mici și fermelor de familie. Acestea reprezintă, de asemenea, și cea mai mare parte a producției totale de animale (producție agricolă de origine animalieră) - 95% din producția totală de lapte, 62% din producția de animale și păsări de curte și 56% din producția de ouă.

Reformele funciare și procesele post reformă din Republica Moldova au dus la o structură agricolă diferențiată, cu un număr relativ mic de întreprinderi agricole (ferme corporative) mari și un număr mare de ferme de familie foarte mici și fragmentate. În majoritatea cazurilor, utilizarea parcelelor mici nu este eficientă, deoarece producția multor culturi tradiționale depinde de volum și de mecanizare și, prin urmare, poate fi efectuată numai prin operațiuni mai mari, pe scară largă.

Având în vedere problemele structurale de fragmentare ridicată a parcelelor și a dimensiunilor mici ale fermelor - în special relevante în cazul micilor proprietari - **consolidarea terenurilor a devenit o necesitate urgentă**. În primul deceniu al anilor 2000, s-au înregistrat progrese considerabile în abordarea problemelor cu care se confruntă fermele mici și fragmentate, deși în prezent nu există un program de consolidare a terenurilor. Numărul de exploatații agricole scade în fiecare an, și acest lucru se datorează în primul rând scăderii numărului de exploatații mici, care reprezenta în anul 2017- **94%** din numărul total de exploatații agricole.

Sectorul agroalimentar în ansamblu se confruntă cu probleme în ceea ce privește crearea pieței/instituțiilor de comercializare; stabilirea canalelor de marketing și distribuție; respectarea standardelor de calitate, veterinară și fitosanitare; și crearea capacității administrative de susținere a acestor procese. Se așteaptă ca lanțul valoric agroalimentar să se modifice substanțial în următorii ani, deoarece se estimează că ponderea vânzărilor în supermarketuri în sectorul comerțului cu amănuntul va crește semnificativ, similar cu cele din alte țări în tranziție și în curs de dezvoltare.

Cooperarea poate contribui la crearea economiilor de scară mare care sunt mai atractive pentru cumpărători și pot mai ușor să se ocupe de agricultorii mici și care pot consolida puterea de negociere a agricultorilor organizați în procesul de contractare. Acest lucru se întâmplă în special în cazul micilor deținători de terenuri din Republica Moldova; având în vedere dimensiunea redusă și fragmentarea ridicată, cooperarea ar putea, de asemenea, să contribuie la soluționarea limitărilor care decurg din fragmentare.

Accesul la finanțare pentru producătorii agricoli, inclusiv pentru micii producători și fermele de familie s-a îmbunătățit modest în ultimii ani. Acest lucru se datorează mai multor intervenții din partea Guvernului și mulțumită sprijinului organizațiilor și donatorilor internaționali. În ciuda acestei creșteri, majoritatea gospodăriilor rămân slab finanțate. Deficiențele majore se referă la opțiunile insuficiente de gaj în general; lipsa aproape în totalitate a ofertelor de împrumuturi pe termen lung; lipsa instrumentelor de sprijin pentru facilitarea accesului la credite, cum ar fi fondurile de garantare a împrumuturilor; și ratele ridicate ale dobânzii, care se ridică la 15-20% anual, cu o inflație anuală mai mică de 5% în ultimii ani.

Micii proprietari și fermele de familie de obicei cultivă terenurile manual sau cu mașini învechite obținute din fostele cooperative sau din licitație. Există cazuri foarte rare în care gospodăriile mici au reușit să cumpere mașini noi. Pentru a minimiza costurile, producătorii agricoli mici limitează frecvent cultivarea și aplică doze mici de îngrășământ. De asemenea, adesea ei nu dispun de cunoștințele adecvate despre tehnologiile de producere și despre utilizarea eficientă a resurselor (inputurilor) și utilajului sau echipamentului agricol. De asemenea, aceștia nu dispun de utilajul de bază, cum ar fi de exemplu semănătorile sau stropitorile care asigură utilizarea adecvată a inputurilor. Serviciile de

mecanizare sunt folosite numai în cazuri strict necesare (cum ar fi pentru arat), în timp ce majoritatea proprietarilor mici recoltează și seamănă manual.

Impactul **schimbărilor climatice** asupra agriculturii este deja resimțit prin fenomene meteorologice extreme și efecte cum ar fi furtunile cu grindină, secetele, inundațiile, eroziunea solului, scăderea recoltelor și prezența crescută a dăunătorilor și a bolilor. Producătorii mici și gospodăriile de familie, deși vulnerabili, sunt, totuși, mai buni în ceea ce privește adaptarea la schimbările climatice decât întreprinderile agricole mari. Biodiversitatea, soiurile de plante native, practicile durabile și cunoștințele locale și tradiționale pe care le întrețin proprietarii gospodăriilor țărănești - chiar și în condiții dificile - sunt esențiale pentru refacerea rezistenței ecologice. Diferite studii au demonstrat că gospodăriile mici, diverse și durabile pot rezista variabilității schimbărilor climatice mult mai bine decât exploatațile mari industriale.

În ultimii ani în Republica Moldova, sectorul de irigații a stagnat și există mai multe motive pentru aceasta. Motivele principale ale declinului au fost factorii economici și faptul că sistemele vechi de irigare nu erau potrivite pentru noul model de agricultură privată. Din păcate, nu există date specifice privind accesul proprietarilor mici și fermelor de familie la instalațiile de irigare.

Disponibilitatea alimentelor în Republica Moldova nu este în general o provocare majoră, însă volatilitatea producției sugerează prudență. Nevoile populației sunt în mare parte satisfăcute de producția internă, importurile completând diferența. Există mai mulți factori care împiedică stabilitatea ofertei de alimente, cum ar fi seceta gravă care a afectat țara, fiind nu numai devastatoare pentru sectorul culturilor vegetale, dar și afectând negativ sectorul zootehnic. Accesul la alimente în zonele urbane și rurale este determinat de numeroși factori, deoarece gospodăriile urbane și rurale se aprovizionează cu alimente în mod diferit. În timp ce populația urbană trebuie să-și procure alimentele, gospodăriile din mediul rural se bazează în mare parte pe alimentele produse în mod autonom. Ca urmare, accesul la alimente al gospodăriilor urbane depinde aproape în întregime de puterea lor de cumpărare și de prețurile la alimente, în timp ce pentru gospodăriile din mediul rural activitățile agricole reprezintă nu numai o sursă de venit, ci și o sursă sigură de hrană .

Pensionarii din sectorul agricol reprezintă aproximativ 40% din numărul total al pensionarilor pe limită de vârstă. Ponderea femeilor din numărul total al pensionarilor din sectorul agricol este de aproape 68%, în timp ce ponderea bărbaților este de 32%.

Începând cu anul 2009, proprietarii individuali și arendașii care cultivă terenurile în mod individual nu sunt incluși în lista plătitorilor de asigurări sociale obligatorii. Ei au opțiunea de a achita contribuțiile respective sub formă de asigurare voluntară, prin semnarea unui contract individual cu Casa Națională de Asigurări Sociale și prin plata unei contribuții anuale fixe, care este de patru ori mai mică decât suma plătită pentru asigurarea socială în alte sectoare.

Situația proastă a **infrastructurii fizice** este un alt factor care limitează posibilitățile de dezvoltare în mediul rural din Republica Moldova. Calitatea și fiabilitatea serviciilor de alimentare cu apă și de canalizare ale țării sunt, în general, în stare deplorabilă, în special în zonele rurale, unde calitatea apei nu corespunde întotdeauna cerințelor igienice.

În ceea ce privește rețeaua rutieră, aceasta este probabil cea mai rea dintre toate infrastructurile fizice. O evaluare realizată de Guvern în 2006 a estimat că doar 7% din rețeaua rutieră ar putea fi considerată a fi într-o stare bună sau satisfăcătoare, în timp ce restul de 93% erau într-o stare tehnică rea sau foarte rea.

Principalul document de politică națională de dezvoltare a Republica Moldova este Strategia Națională de Dezvoltare (SND) “Moldova 2020”. În ciuda faptului că industria agroalimentară este principalul factor contributor la produsul intern brut al Republica Moldova, SND “Moldova 2020” nu menționează în mod specific printre cele șapte priorități sectorul agroalimentar.

Deși este un sector mare, nu există legi care să reglementeze în mod specific activitatea producătorilor agricoli mici și a gospodăriilor de familie din Republica Moldova. Activitatea acestei categorii de producători agricoli este reglementată de legile generale care reglementează activitatea agricolă, siguranța alimentară, regulamentele de cooperare și politicile de subvenționare. Astfel, activitatea tuturor proprietarilor mici și gospodăriilor de familie care s-au înregistrat oficial este reglementată de legile respective, precum și de codul civil, codul muncii, codul funciar, codul fiscal și altele.

Potrivit codului fiscal, rata impozitului pe venit pentru gospodăriile țărănești este de 7% din venitul lor impozabil (ca și în cazul persoanelor fizice), în timp ce persoanele juridice plătesc 12%. Un aspect important pentru proprietarii mici și gospodăriile de familie este introducerea unui impozit unic, consolidat în agricultură, despre care se discută de părțile interesate și care urmează să contribuie la simplificarea sistemului de impozitare pentru agricultori. Proiectul de lege privind introducerea impozitului unic, consolidat în agricultură este în curs de revizuire de către autoritățile competente.

Recomandări

Pentru a aborda chestiunile sus menționate și problemele sectorului, se prezintă un set de recomandări specifice:

- *Elaborarea unui concept pentru sectorul micilor agricultori și gospodăriilor de familie orientați comercial și identificarea unor domenii în care ar trebui elaborate politici care să permită abilitarea și valorificarea potențialului acestui sector. Cadrul legal și politic actual îi favorizează; însă, se recomandă concentrarea atenției politice mai mult spre dezvoltarea unor gospodării de familie mici și mijlocii orientate comercial. Restructurarea următoarelor instituții și programe, ajustarea obiectivelor acestora la tendințele actuale în dezvoltare a sectorului producătorilor agricoli mici: (a) instituții de cercetare; (b) sisteme de irigare (un nou model pentru funcționarea asociațiilor de utilizatori de apă); și (c) sistemul de siguranță alimentară.*
- *Examinarea posibilității de finanțare pentru: (a) programe îmbunătățite de gestionare a riscurilor, prin îmbunătățirea programelor actuale; (b) servicii de extensiune, cu măsuri de sprijin adaptate, destinate micilor agricultori și fermelor de familie și care generează rezultate și efecte pozitive; și (c) scheme de subvenționare, dedicate, din nou, proprietarilor mici și gospodăriilor de familie și adaptate nevoilor lor specifice.*
- *Alternativele locale de angajare sunt esențiale pentru evitarea depopulării rurale rapide și a migrației în masă, care, cu siguranță, nu sunt de dorit pentru Republica Moldova. Pentru ca spațiul rural să devină viabil și atractiv din punct de vedere economic, legăturile dintre mediul rural și cel urban trebuie să facă parte din agenda dezvoltării rurale, împreună cu educația ca principalul facilitator la crearea oportunităților pentru ocuparea forței de muncă non-agricole, calificate.*

- Elaborarea și adoptarea unei noi strategii pentru educația agricolă, axată pe formarea unei noi generații de producători mici orientați spre afaceri comerciale, care să formeze baza unei clase de mijloc puternice în sectorul rural.
- Încurajarea *integrării pe piață pentru* acei producători mici care au potențialul și dorința de a se dezvolta și pentru a se asigura că orice surplus rezultat din intensificarea producției poate fi vândut în mod profitabil pe piață (de exemplu, prin deschiderea punctelor locale de colectare a produselor agricole). Acesta poate fi un mecanism cu impact social care să conducă la o mai bună includere a producătorilor agricoli mici.
- Fermierii trebuie să fie *încurajați să coopereze* și să se asocieze și să-și înființeze propriile canale de procesare și comercializare pentru a-și consolida pozițiile de negociere și pentru a obține un acces mai bun la piețele de desfacere dar și la cele de mijloace de producție. Acestea ar putea, de asemenea, să le ajute să obțină acces la oportunități de finanțare și depozitare, pe care agricultorii le-au identificat ca fiind importante pentru succesul comercializării. Astfel, acesta este, de asemenea, un domeniu în care cooperarea ar putea fi benefică pentru producătorii mici.
- Îmbunătățirea *accesului micilor fermieri la servicii financiare* viabile. Atât accesul limitat la credite, cât și costul creditelor reprezintă constrângeri semnificative pentru sectorul agricol și, în special, pentru agricultorii mici, care în prezent sunt aproape complet ignorați de către sectorul financiar. În același timp, ratele ridicate ale dobânzii conduc la o cerere scăzută de credite bancare. Furnizarea de subvenții pentru acoperirea ratelor dobânzilor ar putea constitui o măsură eficientă pentru a elimina lipsa de acces la finanțare a micilor producători; aceste subvenții sunt deja în vigoare, dar nu sunt accesibile pentru fermierii mici.
- *De asemenea, agricultura ecologică* poate fi promovată ca o modalitate de a diferenția producția și de a concura în segmentele de piață cu o valoare mai mare. Pentru aceasta ar fi necesar ca agricultorii să dobândească cunoștințele relevante, să adopte metode de producere adecvate și să obțină certificările corespunzătoare. Acest tip de agricultură nu este privit doar ca fiind deosebit de potrivit pentru producătorii mici, dar se așteaptă ca piețele în acest domeniu să crească în continuare. Aceasta ar putea fi o nișă cu un potențial pentru Republica Moldova, în cazul în care micul proprietar va primi sprijinul necesar pentru certificare și marketing. Sistemele participative sau de certificare a grupurilor ar putea juca un rol important în deschiderea ușilor pentru proprietarii de terenuri mici.
- Îmbunătățirea sistemului de *colectare a datelor statistice prin îmbunătățirea capacităților Biroului Național de Statistică* de colectare și prelucrare a datelor privind producătorii mici și gospodăriile de familie. În acest context, trebuie identificați și implementați indicatori specifici și statistici relevanți pentru gospodăriile mici. Fără aceste date, colectate și disponibile în mod sistematic, nu se pot elabora politici eficiente.

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

Europe and Central Asia is largely a region of smallholders and family farms. The Food and Agriculture Organization of the United Nations (FAO) has in the region 18 programme countries, of which the large majority have farm structures dominated by smallholders and family farms. These countries have either farm structures fully dominated by smallholders or dualistic farm structures with many small farms and few large, corporate farms. In most of the countries, but not all, the current farm structures are the outcome of land reforms implemented from the beginning of the transition from planned economy towards market economy that began after 1990. Smallholders and family farms in the FAO programme countries usually suffer from a wide range of needs and constraints. These farms are often not economically viable, and rural populations remain poorer and more vulnerable than people elsewhere. Despite this, they represent a potentially key resource for 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, intensification of production, better organization, increased access to adequate public services, and better integration into agrifood value chains. Getting family farming right in this respect is a key component of enhancing food security, ensuring equitable and decent livelihoods for all rural women and men, achieving sustainable rural development and diversification, and reducing rural poverty.

Supporting smallholders and family farms is one of the four priorities for FAO in Europe and Central Asia, confirmed by the FAO Regional Conference in 2016. In the region in 2014, FAO launched the Regional Initiative on Empowering Smallholders and Family Farms for Improved Rural Livelihood and Poverty Reduction. This Regional Initiative builds on the legacy of the International Year of Family Farming in 2014. In addition, the United Nations General Assembly, in December 2017, officially declared 2019–2028 the Decade of Family Farming, and thus the Regional Initiative will continue to provide the framework for FAO support to family farms in Europe and Central Asia.

The FAO REU Regional Initiative has two main components:

1. Support policy development and innovative practices for increased sustainable agricultural production.
2. Support the improvement of rural livelihoods and enhanced access to natural resources.

Through the first component, support is provided for the development of competitive and commercial smallholders and family farms. There is a need to increase the capacities of farmers in terms of sustainable agricultural production, using pilot projects, farmer field schools and strengthened extension services. In this context, FAO supports policy development and practices in line with the sustainable food and agriculture principles (FAO, 2014), such as efficient use and management of natural resources and adaptation and resilience to climate change. More specifically, FAO intends to focus on the promotion of good agricultural practices in the region, such as integrated pest management, organic agricultural techniques, conservation of plant genetic resources and proactive drought risk management. In addition, work will be done on modern irrigation systems, sustainable forest management and fish production, including the improvement of fish seed and a focus on supporting smallholders.

Another main challenge of the Regional Initiative (RI) is to ensure inclusive growth through improved rural livelihoods. This is supported through the second component of the RI. There is a need, both at policy and community level, to ensure that disadvantaged and vulnerable groups also benefit from economic growth and to accelerate gender equality and rural women's economic empowerment. In this context, under the programmatic approach of the RI, FAO supports multi-sectoral rural development policies, integrated community development, improved access to value chains, and the implementation of the Voluntary Guidelines on the Responsible Governance of Tenure,¹ including addressing structural problems with land fragmentation and small farm sizes through land consolidation instruments, statistics, decent rural employment and social protection.

As part of the preparation of the workplan for the Regional Initiative for 2018/19, the RI has been re-focused to ensure a strong and increased contribution to the implementation of the 2030 Agenda and to achieving the Sustainable Development Goals (SDGs). The Regional Initiative will contribute to SDG 2 on zero hunger, particularly to SDG target 2.3 on doubling the agricultural productivity and income of small-scale food producers. Furthermore, the RI contributes to SDG 1 on ending poverty (target 1.4 on ensuring equal rights to land and other natural resources and target SDG 1.b on pro-poor and gender-sensitive development strategies), to SDG 4 on ensuring inclusive and equitable quality education (especially target 4.3), to SDG 5 on promoting gender equality (target 5.a to undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, and target 5.b to enhance the use of enabling technology to promote the empowerment of women). The RI also contributes to SDG 8 on the promotion of sustainable and inclusive economic growth (target 8.2 on achieving higher levels of economic productivity through diversification and target 8.3 to promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation and that encourage the formalization and growth of micro, small and medium-sized enterprises) and to SDG 10 on reducing inequality within and among countries (target 10.2 to empower and promote the social, economic and political inclusion of all and target 10.4 to adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality).

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 country levels. 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

¹ <http://www.fao.org/docrep/016/i2801e/i2801e.pdf>

throughout the region, there are still significant variations among the countries; it is important to recognize and understand these variations when designing support to smallholders and family farms in each specific country.

FAO has during 2017–18 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 those that have been the focus countries of the Regional Initiative during 2014–17; these are Albania, Armenia, Georgia, Kyrgyzstan, Republic of Moldova, the former Yugoslav Republic of 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 livelihood and the reduction of rural poverty. It is hoped that each country study will not only be relevant for FAO but also for governments, donors and other international organizations when formulating policy and preparing programmes. Furthermore, it is the intention that the recommendations from each study will feed directly into the formulation of the Country Programming Framework (CPF), the multi-annual cooperation agreement between FAO and each country.

Furthermore, the seven country studies contribute to raising awareness on the needs and constraints of smallholders and family farms while also promoting support for 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, along with donors and international organizations. In this way, it is hoped 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.

As mentioned, it is a global observation that smallholders and family farms face needs, constraints and challenges, limiting their development and reducing their potential, and that only to a limited extent do current policies 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 current role and weight of smallholders and family farms in economic, social and environmental development in the covered countries, and what are the trends?*
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, institutional settings and policy interventions support and/or prevent 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 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



2.1 The overall methodological principles of the country study on smallholders and family farms

The methodology summarized below is common for all seven country studies, while the country-specific approach is presented in section 2.2.

The research methodology combines desk research, interviews with key stakeholders and the use of case studies.

The desk research and secondary data collection and analysis took place mainly during spring 2017, whereas field interviews and writing continued through the summer of 2017. Thus, the report mainly reflects developments as of that timeline, although, during the revision of the report, limited partial updates with new or more recent information were added.

DESK RESEARCH:

The desk research covers an assessment of 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 to answering all main research questions.

INTERVIEWS:

Interviews were accomplished with the aim of contributing data and information in answer to the four research questions listed above. They contributed by filling in data gaps identified during the desk research. Interviews were conducted with selected resource persons representing key stakeholders. The interview matrix is available in Annex 3.

The interviews targeted different stakeholders and were streamlined to the individual interviewee or group 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. The national expert/consultant accomplished the primary round of interviews of national stakeholders and resource persons. The interview template was targeted to the expertise of the person being interviewed. The national expert/consultant made additional interviews during the final stage of writing the report to address gaps that emerged during the analysis of the primary and secondary data.

CASE STUDIES:

Case studies were used to illustrate or demonstrate various topics. Case studies of policy interventions, for example, were used to demonstrate the results and impacts of these interventions. Based on the documentation and information gathered from these interventions – which could be in the form of investment support schemes, for example, or training of farmers accomplished by advisory services – recommendations were formulated to existing or to new policies. These good policy examples are useful not only for the country in question but also for other countries facing similar challenges.

The case studies also include studies of needs, challenges and constraints identified through stakeholder interviews, and they exemplify or illustrate certain topics. The case studies were prepared at the family, village or municipality level, depending on the selected topic and in order to ensure diversity.

Furthermore, case studies also include examples of administrative procedures and/or institutional settings that prevent or support the development of smallholders and family farms. These cases are also identified through stakeholder interviews.

WORKSHOPS:

Two workshops were organized in each country.

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

- a. the definition of smallholders and family farms;
- b. the current situation and the state of play of smallholders and family farms;
- c. the analysis of problems regarding needs, constraints and challenges for smallholders and family farms;
- d. the analysis of policy, identifying and targeting administrative procedures, institutional settings and policy solutions to the identified needs, constraints and challenges; and
- e. 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 stakeholders who participated in the first country workshop and to new stakeholders identified through the working process. The objective was to validate the analysis and to establish a common understanding about conclusions and recommendations. The workshop took place at the end of the process but before finalization of the study so that requests for adjustments from the workshop could be taken aboard.

A synthesis report was prepared based on the seven country reports, and a regional validation workshop was organized in Budapest in March 2018 for the purpose of discussing and validating the synthesis report and further enhancing the support to smallholders and family farms in Europe and Central Asia through the Regional Initiative.

2.2 Approach – Description of the specific approach taken in Republic of Moldova

The study was carried out applying the following techniques:

Desk research covered the assessment of available policy documents, research papers, reports, studies, and more from public authorities, from academia and from international donors and organizations. Furthermore, the desk research covered the available official statistics from public sources, supplemented with poverty and living conditions surveys and data/statistics from academia, donor organizations and other contributors.

Interviews were aimed at filling in the data gaps identified during desk research. Interviews were carried out with different stakeholders and were streamlined to the individual interviewee or groups of interviewees, depending on the findings from the desk research phase.

There were two rounds of interviews. The first round was conducted at the initial stage of the study, in parallel with the desk research and analysis. The second round was conducted after the finalization of all planned interviews with stakeholders and resource persons in order to cover the themes and questions raised and uncovered during the first round of interviews.

The selection of interviewees was balanced in terms of profile, representing various sectors and nodes of the value chain.

Case studies. In order to illustrate and/or demonstrate various topics, six case studies were developed. The case studies covered the needs, challenges and constraints of smallholders and family farms that identified through stakeholder interviews.

For various issues/indicators, analysis was based on secondary data, including macroeconomic and structural data. One important constraint faced in this study report was the availability of reliable and valid data. For some indicators, there are no available statistics, while for others there are no recent statistics (for more details, see further explanations provided in various sections of the report). The last General Agricultural Census, which provides the most reliable data, was conducted back in 2011, and most of the research and studies consulted during the research were based on those data. Also, this report makes use of the dataset of the Moldovan Household Budget Survey, which is conducted annually by the National Bureau of Statistics (NBS) and covers a representative sample of the whole population. Also, data available in the NBS survey “Agricultural activity of small agricultural producers in the Republic of Moldova” were extensively used in this report. The survey is conducted annually and presents the results of the agricultural activity of households and farms that own land plots with an area smaller than 10 ha. The data cover sown areas, structure, number of livestock, and volume of agricultural production, in addition to information regarding revenues obtained from agricultural activity, the size and structure of consumptions, and expenditures for plant and animal production.

Data available at the Agricultural Information Center (AIC), a statistical department of the Ministry of Agriculture, Regional Development and Environment (MARDE), also was used during the research – specifically, segregated data on smallholders and family farms.

3. Development trends and the current state of smallholders and family farms in Republic of Moldova



The concepts of smallholders and family farms are often used as interchangeable or complementary concepts; the second is often characterized as having family-focused motives (FAO, 2012a), while the first usually includes smallholder farms as well. While there is no formal definition of family farms, all family-based units that are involved in agricultural activities, are managed and operated by a family, and are predominantly reliant on family labour (including both women and men) are generally considered as family farms (FAO, 2013). At the same time, the definitions of smallholder farms are widespread and are different from country to country. The most popular criteria according to which smallholders are defined is the utilized agricultural area (ha). Other criteria include the number of persons working on the farm, the monetary value of the farm's output, the percentage of marketed production, and others.

3.1 Definition of smallholders and family farms in Republic of Moldova

The farm sector of Republic of Moldova consists of two major subsectors: the corporate sector, represented by large-scale enterprises, and the individual sector, which includes peasant farms and rural households.

In the statistical research and reporting, the National Bureau of Statistics (NBS) distinguishes three major categories of agricultural producers:

- agricultural enterprises
- peasant farms
- rural households.

Agricultural enterprises comprise all enterprises and organizations registered as legal entities that own and/or use agricultural land and carry out agricultural activity, irrespective of the legal or organizational type of ownership (such as limited liability companies, joint stock companies, and cooperatives). This category includes enterprises with agriculture as a primary or secondary activity. It also includes institutions and organizations (such as monasteries, military units and more) that have in their property agricultural land and/or livestock.

Large-scale enterprises are specialized in production of low-value crops (field crops) such as cereals, oilseeds, and sugar beets, and they employ little labour due to the high mechanization level of their farm operations. This specialization has been determined by a number of factors, such as relatively low production costs for these crops, the availability of agricultural machinery enabling quick cultivation of large areas, relatively simple and low-cost post-harvest handling requirements, and ensured markets for these commodities.

Peasant farms include two types of farms: legally registered farms and individual farmers without registration.

A peasant farm is a legal form of agricultural activity carried out by individuals who predominantly use their own land plots and patrimony² to produce, process and sell agricultural products.

The activity of peasant farms is regulated by the Law on Peasant Farms, which defines the status of a peasant farm as an individual enterprise (legally registered but still with a status of a natural person) and regulates the various aspects of its activity. Particularly, the law stipulates that a peasant farm uses the personal labour of family members, who are the members of a peasant farm. Peasant farms can also hire non-family workers on individual employment contracts. Peasant farms have the right to a stamp and a bank account and are obliged to keep simplified accounting records and to regularly submit simplified fiscal reports.

Farmers who haven't acquired the legal status of a peasant farm are nonetheless the same in nature, and both types operate on land received during the land reform in the 1990s.

Peasant farms can be considered semi-subsistence in nature, and a significant number of them have a clearly commercial orientation, while individual households produce mostly for self-sufficiency. Peasant farms also can be called private family farms with a commercial orientation, as they rely heavily on family labour. These farms produce mainly high-value-added, high-labour-intensive crops such as fruits, nuts, grapes, vegetables, and potatoes, and they sell surpluses on the local markets. The contribution of individual farms to the global output of some categories of fruits and vegetables is prevalent.

Rural households and their family members carry out agricultural operations on a small scale – primarily for subsistence to meet their own needs for food – on household plots and on so-called “gardens” (small land plots adjacent to the village and received during the land reform by some categories). Most households are subsistence and semi-subsistence with a non-commercial orientation. An important source of income for this category is income from renting out land plots that the families received as “equivalent” land share during the land privatization process.

The National Bureau of Statistics conducts regular surveys on the agricultural activity of small agricultural producers,³ in which “small agricultural producers” includes legally registered peasant farms, individual farms without registration, and rural households that farm up to 10 ha of land. Since the majority of small-scale producers use family labour, in essence they fit into FAO's concept of smallholders and family farms. Thus, for the purpose of this report, smallholders and family farms in the context of Republic of Moldova are considered peasant farms, individual farms and rural households that farm less than 10 ha of agricultural land.

² The term “patrimony” refers to all rights and obligations of economic value, as well as all material assets to which the respective rights and obligations refer, belonging to a person (natural or legal entity); an asset inherited legally from parents (or relatives); parental property.

³ http://www.statistica.md/public/files/publicatii_electronice/Activitatea_agricola/Activitatea_agricola_ed2018.pdf

3.2 Structural analysis and a qualitative description of the sector

3.2.1 Development of role/importance of smallholders and family farms in the economy in the period 2005–2016

The status of the agricultural sector of Republic of Moldova has changed dramatically over the past two decades, after the country gained independence from the Soviet Union in the beginning of the 1990s and transformed from a socialist economy to a market economy. The transition had some dire effects, such as the disruption of production chains and distribution channels, and the reassigning of land rights necessitated the development of a new agricultural extension system, new marketing channels, new modalities of input purchases, and new sources of working capital.

Land reform was among the key reforms implemented after independence. Although land privatization formally began in 1991, shortly after independence, the large-scale distribution and registration of land plots occurred only between 1998 and 2001. During that period, agricultural land and assets (farm buildings, tractors, combines, and more) that previously constituted the patrimony of a collective farm were distributed as the private property of individuals. Some landowners started to work land themselves and thus became small family farmers, while others rented out their land plots to agricultural enterprises – often, reorganized collective farms under new management.

ANALYSIS OF FARMS ACCORDING TO TYPOLOGY, SIZE AND GEOGRAPHICAL DISTRIBUTION

Today, Republic of Moldova's agricultural sector has a dual structure, comprising two major subsectors: the corporate sector, composed of large-scale enterprises, and the individual sector, which includes peasant farms and household plots under private ownership. Small-scale farms that are mainly subsistence and semi-subsistence in nature, produce for self-sufficiency, and there is limited surplus of high-labour-intensive, high-value-added crops (fruits, nuts, grapes, vegetables, potatoes). What surplus does exist is largely sold for cash. Large-scale enterprises are specialized in the production of low-value crops (such as cereals, oilseeds, and sugar beets), and employ little labour due to the high mechanization level of their farm operations. This specialization has been determined by several factors, such as relatively low production costs for these crops, the availability of agricultural machinery enabling the easy cultivation of large areas, relatively simple and low-cost post-harvest handling requirements, and ensured markets for these commodities.

Small farms play an important role from the point of view of household food security but have negative impacts on land market development and on the productivity and competitiveness of landholders. A General Agricultural Census (GAC) conducted in 2011 reported about 900 000 agricultural holdings in Republic of Moldova, with an average land size of 2.5 ha. The level of land fragmentation varies from village to village (some owners received only three parcels, whereas others received up to 12), and the preliminary data from the GAC showed that an agricultural holding is on average divided into three parcels. Although this distribution led to the fragmentation of land ownership, land use remained, in practice, consolidated by active farmers and new corporate farms leasing land from the

new smallholder farmers, many of whom had never practiced farming before. Currently, about 1.2 percent of registered corporate farms operate over 63 percent of agricultural land under production. The average number of parcels per agricultural holding (farm), as separate properties registered in the cadastre, equals 4.4 parcels. The level of fragmentation is highest in the central part of the country, however enlargement of farms and reduction of fragmentation at the same time, remains critical for the improved productivity and competitiveness in the entire country.

The GAC covered all types of holdings, such as legally registered agricultural enterprises, registered peasant farms, individual landowners who received land and cultivate it individually, auxiliary holdings of the population in both urban and rural areas, households, members of horticultural associations, and owners of horticultural plots.

The distribution of agricultural holdings by size class is presented in Table 1.

Table 1. Agricultural holdings by size, 2011

Size class	Agricultural holdings, number			Total area, ha		
	Agricultural holdings with juridical status	Agricultural holdings without juridical status	Total	Agricultural holdings with juridical status	Agricultural holdings without juridical status	Total
up to 0.1	8	38 169	38 177	0	2 565	2 566
0.1 up to 0.3	29	188 468	188 497	5	34 822	34 827
0.3 up to 0.5	14	233 221	233 235	5	84 889	84 895
0.5 up to 1	44	180 485	180 529	31	123 295	123 327
1 up to 2	60	139 102	139 162	85	199 517	199 602
2 up to 5	115	104 881	104 996	387	306 598	306 985
5 up to 10	150	11 359	11 509	1 064	73 075	74 138
10 up to 20	222	1 646	1 868	3 151	21 829	24 980
20 up to 30	131	443	574	3 193	10 693	13 886
30 up to 50	199	439	638	7 827	16 741	24 568
50 up to 100	343	274	617	25 141	19 285	44 425
100 up to 500	1 339	245	1 584	356 313	47 963	404 276
500 up to 1000	521	29	550	358 651	19 768	378 419
1000 and over	271	7	278	516 812	9 835	526 646
TOTAL	3 446	898 768	902 214	1 272 666	970 874	2 243 540

SOURCE: AUTHORS' ELABORATION BASED ON GENERAL AGRICULTURAL CENSUS 2011.

It is noteworthy that, as of the time of the General Agricultural Census, agricultural enterprises with a legal entity – representing just 0.4 percent of total agricultural holdings – farmed 57 percent of all agricultural lands.

The NBS survey “On the agricultural activity of small agricultural producers”⁴ provides a more specific focus on small agricultural producers. The survey covers registered peasant farms, individual landowners and rural household that farm up to 10 ha of land.

⁴ http://www.statistica.md/public/files/publicatii_electronice/Activitatea_agricola/Activitatea_agricola_ed2018.pdf

Table 2. Number of peasant farms and other owners

Indicator	2013	2014	2015	2016
Total number of farms:	292 977	289 501	289 138	263 745
1) PFs with 10 ha or more of land	2 101	2 707	3 009	3 125
2) PFs with less than 10 ha of land	290 876	286 794	286 129	260 620
Persons who received land and cultivate it individually but have not registered as a farm	179 729	177 495	176 397	195 168

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD/](http://www.statistica.md/)

As Table 2 reveals, the number of agricultural holdings decreased every year from 2013 to 2016, and that is mainly or even exclusively because of the decreasing number of small farms, which dropped from 290 876 in 2013 to 260 620 in 2016 (a decrease of more than 10 percent). The number of farmers cultivating their land by themselves, without being registered as peasant farms, increased by 9 percent.

Table 3. Agricultural land on types/categories of ownership/owners

Indicator	2013		2014		2015		2016	
	ha (thousands)	%	ha (thousands)	%	ha (thousands)	%	ha (thousands)	%
A) Total	2 235.9	100	2 235.4	100	2 235.4	100	2 235.6	100
of which, by ownership of land								
B) Companies and other organizations	875.4	39.2	881.3	39.4	884	39.5	886.9	39.7
C) Peasant farms	649.3	29.0	654.5	29.3	645	28.9	637.5	28.5
from which PF of less than 10 ha	523.7	23.4	523.6	23.4	508.4	22.7	479.7	21.5
E) Households of the population (household plots and gardens)	331.5	14.8	321.9	14.3	328.1	14.6	334.1	14.9
F) Other ownership of land	379.7	17.0	378.6	16.9	378.3	16.9	377	16.9

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD/SECTOR STATISTICS/AGRICULTURE/DATABANK](http://www.statistica.md/sector-statistics/agriculture/databank)

The share of smallholders of the total number of agricultural producers is 98.8 percent (2016), and this category cultivates 36.4 percent of the total agricultural land of the country. This is a slight decrease from the percentage in 2013, when it was 38.2 percent.

CONTRIBUTION OF SMALLHOLDERS AND FAMILY FARMS TO THE ECONOMY IN THE PERIOD 2005–2015

Hereinafter, the role of smallholders in various sectors of agriculture is presented in more detail. Small-scale farming is a predominant model in Republic of Moldova, and small farms (including family farms) play an essential role in the country's agriculture and rural development and in the economy as a whole. Smallholders and family farms generate over 62 percent of the total volume of agricultural produce of the country, thus contributing fundamentally to overall food production and food security in Republic of Moldova.

A favorable climate and high-quality soils historically have determined Republic of Moldova’s agricultural specialization, particularly in the production of high-value crops like fruits and vegetables. However, after independence, land areas used for high-value crops have been reduced by half. The shift in production also has been accompanied by significant reductions in land productivity, particularly in the case of large-scale farm operations.

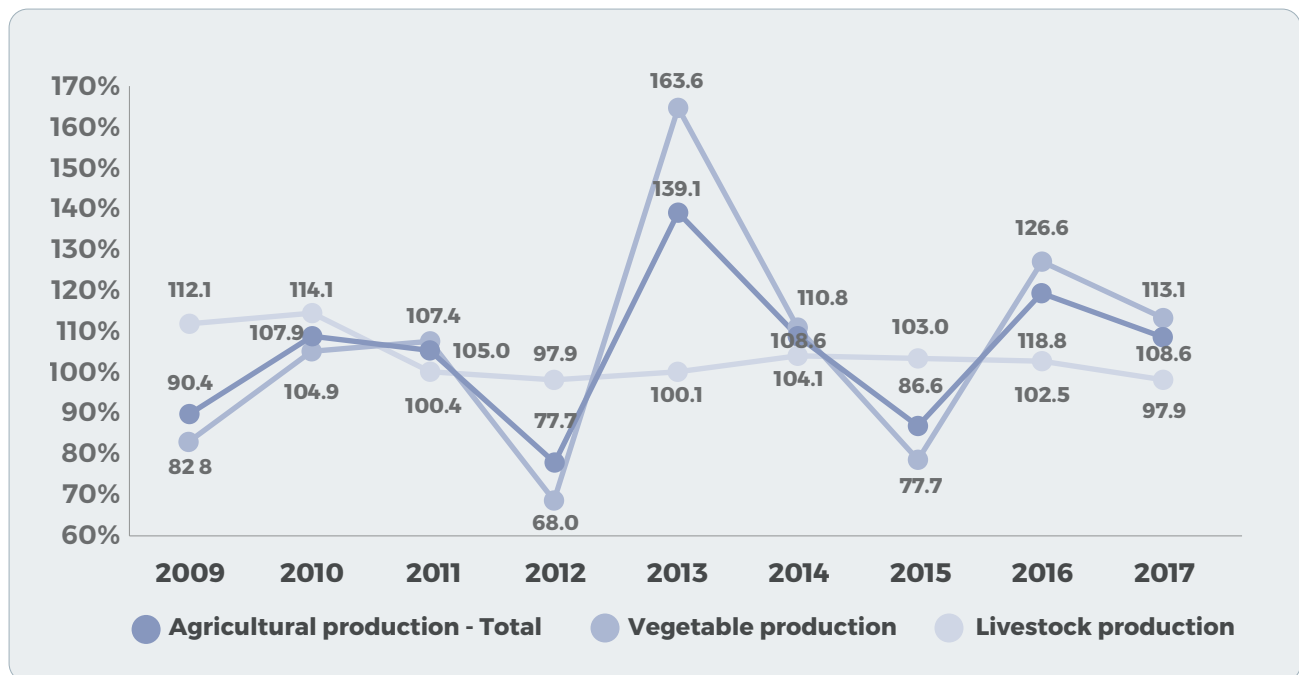
In Republic of Moldova, smallholders usually practice a crop mix of high-value crops (vegetables, berries, herbs, vines, and others) and grains (usually maize and wheat), which they use to feed their animals and poultry. The fact that small farms combine crop and livestock production implies crop rotations, which leads to better land productivity and preservation of soil fertility. Being smaller and less specialized, smallholders and family farms also ensure greater biodiversity than large farms. They also have higher labour input and are greater contributors to rural employment and ecological resilience. Additionally, the land productivity of small farms is considered to be higher, due to the more intense use of labour and to the variety of crops they grow.

GLOBAL AGRICULTURAL PRODUCTION IN 2016

According to the National Bureau of Statistics, the global agricultural production in all types of households (agricultural enterprises, farms and rural households) registered an increase of 19 percent from 2015 to 2016 and an increase of 8.6 percent from 2016 to 2017.

The growth of global agricultural production was buoyed by increases in vegetal production, which grew by 27 percent from 2015 to 2016 and by 13 percent from 2016 to 2017. Livestock production increased by 2 percent in 2016 compared to 2015 but decreased by 2 percent from 2016 to 2017.

Figure 1. Indices of global agricultural produce volume, 2009–2017 (previous year=100)



SOURCE: [HTTP://WWW.STATISTICA.MD/PUBLIC/FILES/COMPRESA/AGRICULTURA/PROD_AGRICOLA_2017](http://www.statistica.md/public/files/compresa/agricultura/prod_agricola_2017).

Although the global agricultural production – one of the key sectors influencing the increase of the gross domestic product (GDP) – during the past three years, its share in the GDP has gradually decreased.

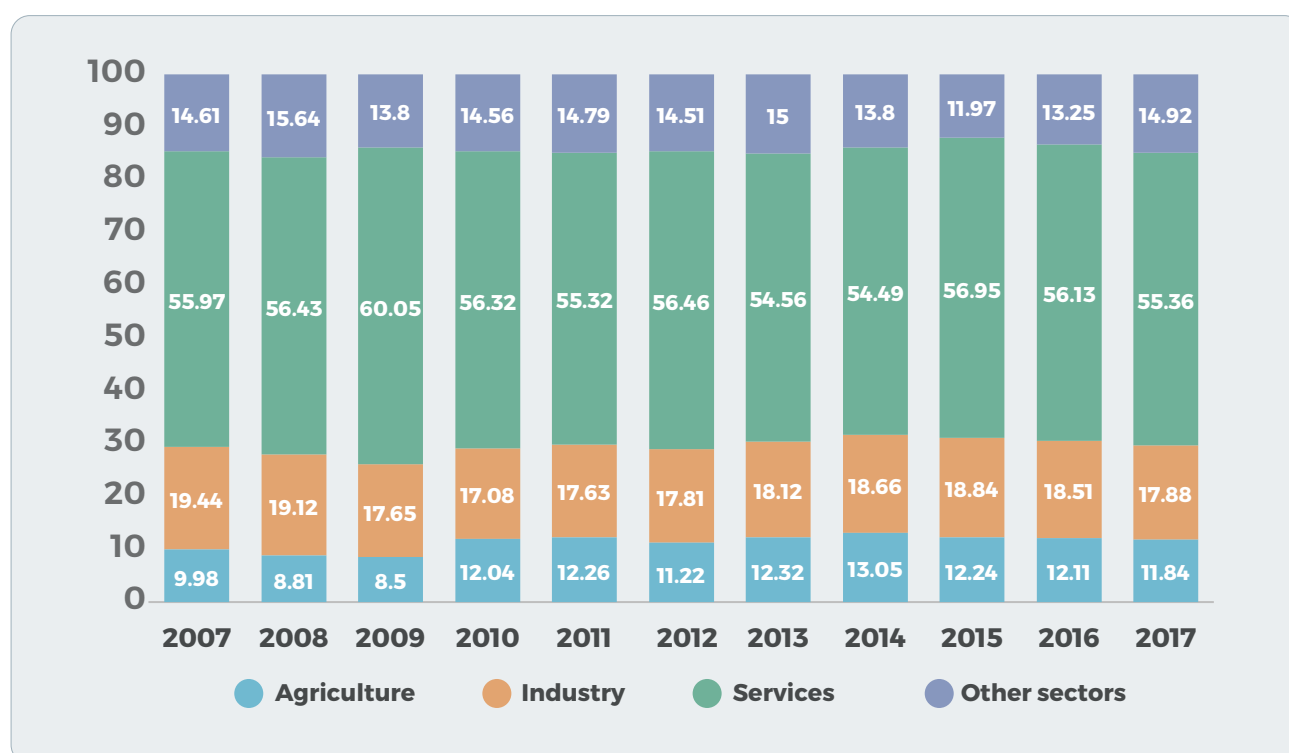
Table 4. Share of global agricultural production in GDP

Indicator	2013	2014	2015	2016	2017
Gross domestic product, thousands MDL	100 510	112 050	122 563	135 397	150 369
Global agricultural production, thousands MDL	12 383	14 619	15 002	16 396	17 806
Share of global agricultural produce in GDP, %	12.32	13.05	12.24	12.11	11.84

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://STATBANK.STATISTICA.MD/PXWEB/PXWEB/RO](http://statbank.statistica.md/pxweb/pxweb/ro)

The statistical data in Figure 2 show the distribution of GDP across Republic of Moldova's economic sectors from 2007 to 2017. In 2017, agriculture contributed around 11.84 percent to the country's GDP, while industry and services contributed 17.88 percent and 55.36 percent, respectively. The other 14.92 percent came from other sectors.

Figure 2. Distribution of gross domestic product across economic sectors, 2007–2017

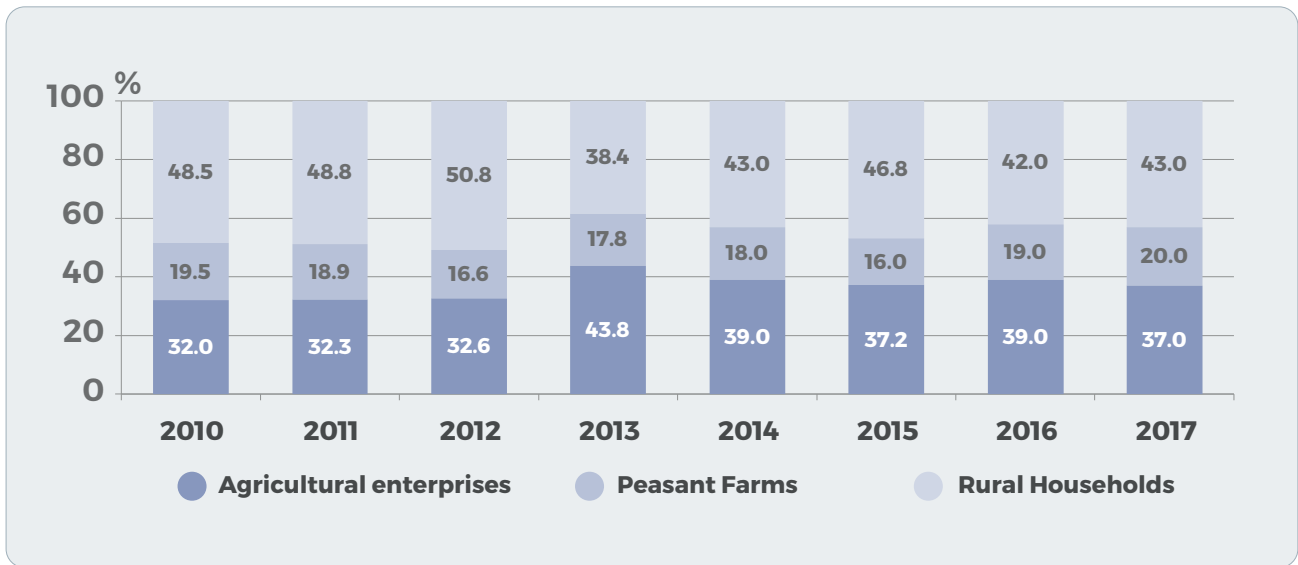


SOURCE: NATIONAL BUREAU OF STATISTICS,

[HTTP://WWW.STATISTICA.MD/PUBLIC/FILES/PUBLICATII_ELECTRONICE/ACTIVITATEA_AGRICOLA/ACTIVITATEA_AGRICOLA_2017.PDF](http://www.statistica.md/public/files/publicatii_electronice/activitatea_agricola/activitatea_agricola_2017.pdf)

Referring to the structure of agricultural production, sorted by categories of producers, 43 percent of global agricultural production comes from rural households (Figure 3). This number is down from a recent high in 2012, when it was over 50 percent.

Figure 3. Structure of agricultural production, by categories of producers (% of total production volume)



SOURCE: NATIONAL BUREAU OF STATISTICS,
[HTTP://WWW.STATISTICA.MD/PUBLIC/FILES/PUBLICATII_ELECTRONICE/MOLDOVA_IN_CIFRE/2018/BREVIAR_RO_2018.PDF](http://www.statistica.md/public/files/publicatii_electronice/molдова_in_cifre/2018/breviar_ro_2018.pdf)

INCOME OF SMALLHOLDERS AND FAMILY FARMS OBTAINED FROM AGRICULTURAL ACTIVITIES

Agricultural activity is an important source of income for smallholders and family farms. However, as the annual NBS survey “On the agricultural activity of small agricultural producers”⁵ reveals, the share of income from farming has started to decline during recent years. Looking at rural households (small agricultural producers with household plots only) and peasant farms (producers with household plots and farm land), the survey reports on incomes from selling agricultural produce and processed products, from providing services (work), and from other sources (Table 5).

⁵ http://www.statistica.md/public/files/publicatii_electronice/Activitatea_agricola/Activitatea_agricola_2017.pdf

Table 5. Structure of income obtained from agricultural activities

Indicator	2011		2012		2013		2014		2015		2016	
	plots around the house only (%)	plots of land around the house and farm land (%)	plots around the house only (%)	plots of land around the house and farm land (%)	plots around the house only (%)	plots of land around the house and farm land (%)	plots around the house only (%)	plots of land around the house and farm land (%)	plots around the house only (%)	plots of land around the house and farm land (%)	plots around the house only (%)	plots of land around the house and farm land (%)
Total income obtained from agricultural activity	100	100	100	100	100	100	100	100	100	100	100	100
Income from selling agricultural produce (including processed products), including	91.4	93.1	95.6	88.6	91.3	91.6	90.5	92.5	92.3	95.6	80	93.4
Vegetables	23.0	50.1	17.1	42.3	10.9	47.3	19	46.7	25.9	55.7	23.8	48.7
Animals	68.4	43	78.5	46.3	80.4	44.3	71.5	45.8	66.4	39.9	56.2	44.7
Income from providing other services/works to third parties	3.0	3.3	4.1	3.3	3.2	6	4.4	3.7	5.3	2.3	2.5	3.5
Other income	5.6	3.6	0.3	8.1	5.5	2.4	5.1	3.8	2.4	2.1	17.5	3.1

SOURCE: NATIONAL BUREAU OF STATISTICS,

[HTTP://WWW.STATISTICA.MD/PUBLIC/FILES/PUBLICATII_ELECTRONICE/ACTIVITATEA_AGRICOLA/ACTIVITATEA_AGRICOLA_2017.PDF](http://www.statistica.md/public/files/publicatii_electronice/activitatea_agricola/activitatea_agricola_2017.pdf)

According to these data, income from selling both agricultural produce and processed products from plots around the house only was estimated at 91.4 percent in 2011. That percentage rose a little in 2012 and then dropped to 80 percent in 2016.

Surveyed family farms get slightly more than 90 percent of their total income from selling both agricultural produce and processed products from plots of land around the house and farm land, and that hasn't changed significantly over the past five years.

DISTRIBUTION OF LABOUR BY SIZE CLASS AND IMPORTANCE FOR SMALLHOLDERS AND FAMILY FARMS

According to the data of the National Bureau of Statistics, in 2017 the economically active population (the employed population plus the unemployed) of Republic of Moldova constituted 1 272 800 persons (42.6 percent of the total population). In 2016, the economically active population consisted of 1 219 500 persons (40.8 percent of the total population), a slightly higher number than in 2015, when that figure was 1 203 600 persons, or 40.3 percent).⁶

There were no significant disparities in the economically active population regarding gender and regarding persons in rural vs. urban areas: The share of men (50.3 percent) was practically equal to

⁶ <http://statbank.statistica.md/pxweb/sq/3c4a22eb-5be2-4355-80fe-0fbbee93488c>

the share of women (49.7 percent), and the share of economically active persons in rural areas (53.2 percent) was higher than in urban areas (46.8 percent).

Out of the 1 219 500 employed and self-employed persons in 2016, 410 900 (33.7 percent) worked in the agricultural sector. Of these, 44 percent (or 14.7 percent of the total occupation) were engaged in the production of agricultural products exclusively for their own consumption.

KEY AGRICULTURE DEVELOPMENT TRENDS BY SUBSECTORS

The status of the agricultural sector has changed over the past two decades. Land areas used for high-value crops have decreased twofold. The shift in production has also been accompanied by significant reductions in land productivity. This situation is directly related to a lack of investments, capital and credit availability in the agricultural sector – factors that have resulted in farmers applying low-yield technologies and drastically reducing their use of agricultural inputs, especially fertilizer and other agricultural chemicals. At the same time, decreasing agricultural employment in conjunction with increasing sector output has led to an increase in labour productivity, which tripled in Republic of Moldova from 2000 to 2016. Nevertheless, it remains well below the level of other countries in the region.

The recent trends of gross agricultural production in Republic of Moldova are characterized by high fluctuations of the gross agricultural product, depending first of all on the changing climate and weather.

PLANT PRODUCTION

The dominant position in the structure of agricultural production is plant production. In 2017, its share in the total agricultural production was 74 percent, up from 71 percent in 2016. The share of animal production was 26 percent in 2017, down from 29 percent in 2016. About 60 percent of plant production comes from smallholders and family farms.

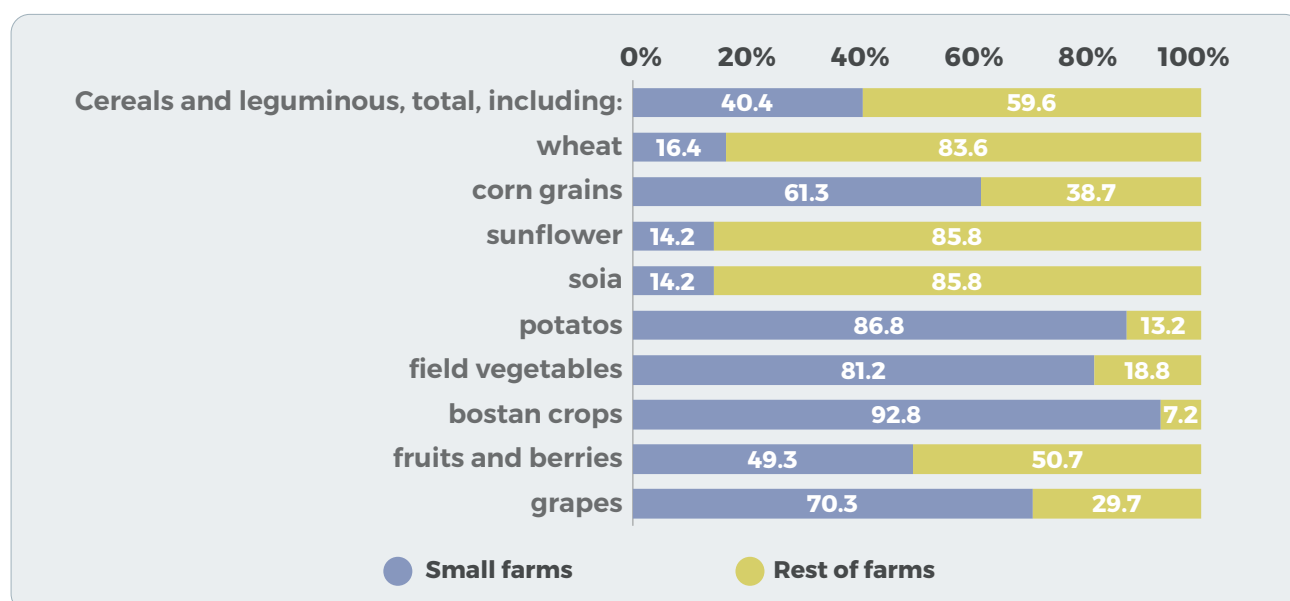
Table 6. Global harvest of agricultural produce in farms with land of up to 10 ha

Indicator	Total harvest, thousands of tonnes					
	2012	2013	2014	2015	2016	2017
Cereals and leguminous, total, including:	312.4	626.7	702.7	488.6	635.2	697.0
Wheat	88.3	186.2	191.5	137.3	203.8	
Barley	30	49.5	46.6	35.4	47.4	205.6
corn grains	189.6	386.9	456.7	310.3	376.9	47.6
Beans	0.6	0.9	2.6	1.5	1.6	437.6
Sunflower	59.6	26.3	81.1	77.5	100.4	0.7
Tobacco	0.2	1	0.7	1.1	0.8	107.3
sugar beat	23.3	13.4	7.7	5.5	8.9	0.3
Soya	9.6	6.2	11.1	8	5.8	21.1
Potatoes	24.6	30.5	33.3	17.5	29.5	6.5
field vegetables	11.8	25.5	33.9	12.8	12.5	23.2
cucurbit crops	29.2	23.8	24.3	33.3	37.7	14.4
fruits and berries	144.4	121.9	143.5	195.9	252.7	34.3
Grapes	176.6	192.7	199.7	230.4	182.4	248.5

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD/](http://www.statistica.md/).

The increase in the yield of plant production in 2017 was generated by increases in the average yield of agricultural crops and the areas sown that year. Thus, the yield of cereals and leguminous crops increased by 11.6 percent (and, from among them, corn production increased by 26.5 percent). Sugar beet production increased by 24.9 percent, sunflower by 18.1 percent, raps by 65.4 percent, vegetables by 5.1 percent, fruits and berries by 10.6 percent, and grapes by 9.6 percent.

Figure 4. Share of small farms (with land of up to 10 ha) in main agricultural crops in 2017, %

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD/](http://www.statistica.md/).

ANIMAL PRODUCTION

According to the Ministry of Agriculture, Regional Development and Environment, overall animal production is 36 percent cattle, 29.2 percent poultry, 27.7 percent pigs, 5.3 percent sheep and goats, and 1.8 percent other.

The ownership of livestock is currently very fragmented in Republic of Moldova. There are few organized livestock breeding farms in the country. In 2009, the share of householders in the production of cattle was of 94 percent. For pigs, that number was 78 percent, for sheep and goats 97 percent and for horses 96 percent. Those shares were maintained over the years, except for the production of pigs, which at the beginning of 2016 was 59 percent and which was down to 57.9 percent as of 1 January 2018.

Table 7. Livestock, distributed by agricultural holdings, as of 1 January 2018

	Thousands of head	in % compared to 1 January 2017	Weight (in % of the total)
Cattle, total	174.1	93.7	100
Of which:			
Agricultural enterprises	18.0	99.6	10.3
Rural households	156.1	93.0	89.7
Out of which cows, total	116.2	93.1	100
Of which:			
Agricultural enterprises	4.8	83.3	4.1
Rural households	111.4	93.6	95.9
Pigs, total	432.4	95.3	100
Of which:			
Agricultural enterprises	182.2	96.1	42.1
Rural households	250.2	94.7	57.9
Sheep and goats, total	859.9	97.9	100
Of which:			
Agricultural enterprises	23.9	97.6	2.8
Rural households	836.0	97.9	97.2
Poultry (agricultural enterprises)	4 646.5	109.5	x

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://STATBANK.STATISTICA.MD](http://statbank.statistica.md).

The production of livestock by large agricultural enterprises has increased in recent years, although insignificantly. Smallholders, though they maintain the leading position in the overall production of livestock, have seen decreases in output in all categories (Table 8), which has caused a decrease in overall livestock production.

Table 8. Livestock grown by rural households, thousands of head

	2010	2011	2012	2013	2014	2015	2016	2017
Cattle	209	204	192	180	176	178	171	156
of which								
Cows	156	150	140	130	125	125	122	117
Pigs	283	339	318	268	261	276	267	250
Sheep and goats	891	885	812	806	829	851	841	836
Horses	53	51	49	45	44	42	39	37

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://STATBANK.STATISTICA.MD](http://statbank.statistica.md).

Pig breeding is a traditional occupation practiced by most households in the rural areas of the country. Here is the largest quantity of meat (about 48 percent of the total meat produced in the country, by weight). In 2015, 72 000 tons of pork meat was produced in Republic of Moldova, up from 66 000 tons in 2008.

Rural households and peasant farms have the largest share of overall livestock production (95 percent of the total milk production, 62 percent of the livestock and poultry production, and 56.6 percent of egg production) (see Table 9).

An analysis of the number of animals kept in households and farms shows that farms with fewer than five animals in total, excluding poultry, are most common. In Republic of Moldova there are only 49 holdings with more than 50 milking cows. In essence, there is no significant commercial milk or meat industry. There are virtually no milk or meat producers who use large-scale mechanized technologies. The largest amount of milk comes from small family farms on which cows are milked manually.

Table 9 presents the dynamics of smallholders and family farms in the overall production of key products of animal origin in Republic of Moldova. According to the data, smallholders generate more than half of the respective commodities, and that share has been maintained over the past five years.

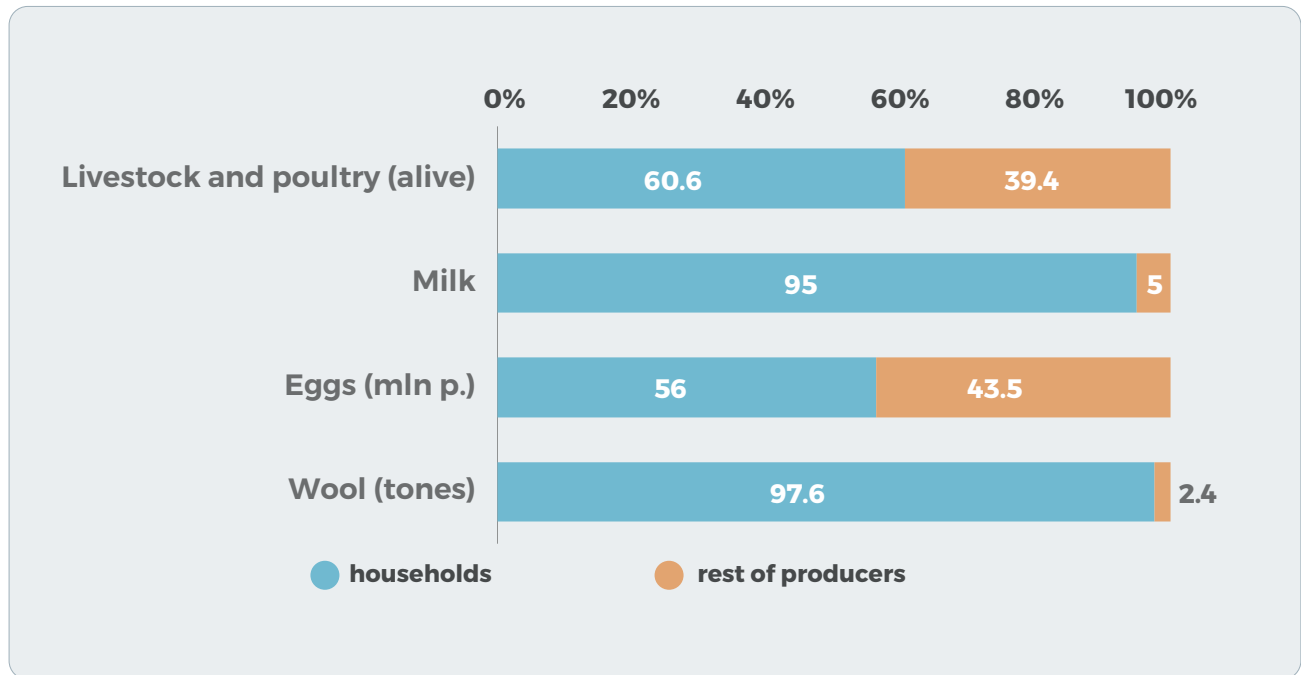
Table 9. Animal products from smallholders and family farms

Indicator	2012		2013		2014		2015		2016	
	Quantity	% of total	Quantity	% of total	Quantity	% of total	Quantity	% of total	Quantity	% of total
Livestock and poultry (alive) (thousands of tonnes)	112.2	71.9	101	65.3	105.9	64.5	104.1	59.6	117.6	60.6
Milk (thousands of tonnes)	508.7	97	510.9	97	503.1	95.9	496.9	95.6	479.2	95
Eggs (millions of pints)	379.7	61.1	381.7	61.2	398.6	61.8	375.3	59.7	380.9	56.5
Wool (tonnes)	1815	98.5	1870	98.5	1911	98.1	1865	98.2	1669.1	97.6

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD](http://www.statistica.md)

Sheep breeding is one of the oldest occupations of the indigenous rural population. This branch provides a wide range of products, such as meat, milk, wool, and skins – which contributes significantly to food security in vulnerable villages and provides raw materials for light industry. The total number of sheep and goats is 866 000 head. Annually, 5 500 tons of meat and 30 000 to 40 000 tons of sheep milk are produced.

Figure 5. Share of main animal produce per type of producer in 2016, %⁷



SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD](http://www.statistica.md)

DAIRY PRODUCTION

The dairy industry is based primarily on the supply of raw milk from small producers through company-owned collection centres and from dairy cooperatives with collection centres financed by the dairy companies or through donor programmes. While overall milk supply is adequate and animal productivity has been increasing slowly, dairy processors have seen only marginal improvements in the quality of milk. Foreign investment in agriculture in general (see Table 10) and in the dairy sector has been relatively strong in past years due to the potential for import substitution, but these investors are beginning to question the viability of the sector, considering its strong dependence on household milk production.

⁷ These are the sectors in which most of the produce comes from householders. The rest of producers are peasant farms and enterprises.

Table 10. Investment in long-term tangible assets for agricultural development, by forms of ownership, million MDL, current prices

	2008	2009	2010	2011	2012	2013	2014	2015
Investments in long term tangible assets,	1 020.2	923.3	1 045.6	1 808.2	1 641.8	1 851.7	2 332.7	1 801.8
of which								
Public	41.2	23.7	30.8	47.5	46.1	34.0	76.6	24.0
Private	861.9	795.8	862.5	1 444.2	1 434.7	1 709.4	2 118.8	1 622.9
Mixed (public and private), without foreign participation	14.9	2.6	0.9	3.0	0.7	0.5	2.0	1.7
Joint ventures	98.1	87.2	123.2	234.6	92.4	27.4	122.6	98.2
Foreign	4.0	14.0	28.1	78.9	67.9	80.4	12.5	55.1

SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD](http://www.statistica.md)

As part of its Association Agreement with the European Union, Republic of Moldova has committed to approximate its sanitary and phytosanitary and animal welfare law to that of the European Union. However, approximating the European Union legislation hasn't been an easy process. Decision No. 1/2016 of the EU-Moldova Sanitary and Phytosanitary Sub-Committee modifying Annex XXIV-B to the Association Agreement [2016/1074] adopts the full list of EU legislation to be approximated by Republic of Moldova and can be regarded as the official Moldova Sanitary and Phytosanitary Standards (SPS) Strategy. This SPS Strategy refers to around 240 directives and regulations, including general aspects; veterinary legislation; placing on the market of food, feed and animal byproducts; food safety rules; specific rules for feed; phytosanitary legislation; genetically modified organisms; and veterinary medical products. Adjusting to all those requirements would place a heavy burden on the small producers from the dairy industry.

A key requirement to be met by any food operator is the traceability and safety of any raw material used. Here, a key problem is the difficulty of monitoring and enforcing hygienic and safety requirements in households' production of milk for industrial use. The sector is composed of small herds scattered throughout the country, making it difficult to enforce and properly monitor milk quality, safety, and animal health standards. Any restructuring of the household milk production sector would necessarily involve costs and sustained efforts. Two figures are helpful to better understand the intimate relationship between the milk producing and milk processing sectors in Republic of Moldova. On one hand, 90 percent of the milk used by the domestic dairy industry comes from households; on the other hand, half of the milk produced by households is supplied downstream to the milk processing sector.

Box 1. Marketing the surplus of agricultural produce

Any surplus quantity of milk entering the official supply chain is supplied in small quantities, with a large number of bacteria, through an inefficient collection and distribution system. Average per-liter prices paid by dairies to milk providers in 2016 of MDL 3.2 (EUR 0.20) does not cover the estimated real cost to producers of MDL 3.5 (EUR 0.22) to MDL 4.0 (EUR 0.25). Most of the milk is used for domestic and local direct sales (raw and processed milk). Only about 10 percent of the total supply of 462 000 tons of milk – with a strong difference in the amount of milk obtained in the winter compared to the summer – reaches dairy plants. The same is true for pork and lamb. The producer's selling price of MDL 56 (EUR 3.5) per kg for pork does not cover the estimated production costs, and the price of MDL 34.5 (EUR 2.16) per kg for lamb does not cover the production cost of MDL 33.5 (EUR 2.09) per kg. Milk and grapes are the most value-added agricultural products, highlighting the importance of milk for rural households as a food and a source of cash.

Source: AUTHORS' ELABORATION

ORGANIC CROPS

Republic of Moldova has favorable conditions for the cultivation of a wide spectrum of ecological plants with high added value. Geographic proximity to the European Union market and increasing demand for organic products can provide valuable opportunities in this sector for smallholders and family farms. The organic farming concept was first introduced in Republic of Moldova in 2005, when Law No. 115 on Organic Agri-Food Production, dated 9 June 2005, was adopted together with a national programme for sector development. The organic agriculture sector was supported through state subsidies from 2007 to 2012.

The support increased through the years, reaching the following figures in 2011:

6. MDL 800 per hectare in the first year of conversion;
7. MDL 400 per hectare in the second year of conversion; and
8. MDL 400 per hectare in the third year of conversion (only in case of perennial plantations such as orchards and vineyards).

The support dropped significantly in 2012, when it was limited to certain multiannual plantations. Walnuts, fruit orchards and strawberry plantations received support in the amount of MDL 5 000 per hectare, and aromatic plants – roses for oil, lavender and other plants – received support of MDL 7 000 per hectare. As a result, the sector suffered significant drawback; the number of certified producers dropped from 185 in 2010 to 77 in 2012 and all the way down to 40 in 2015. These are the official numbers of organic producers certified by organic certification bodies accredited and recognized in Republic of Moldova.

According to a Government report on the results of subsidies in 2017,⁸ state support was provided to 30 organic producers in 2017 in the amount of MDL 1.59 million (EUR 78 000).

⁸ The Report on the Results of Subsidies: http://www.aipa.gov.md/sites/default/files/Rezultatele%20subventionarii%20pentru%20anul%202017_0.pdf

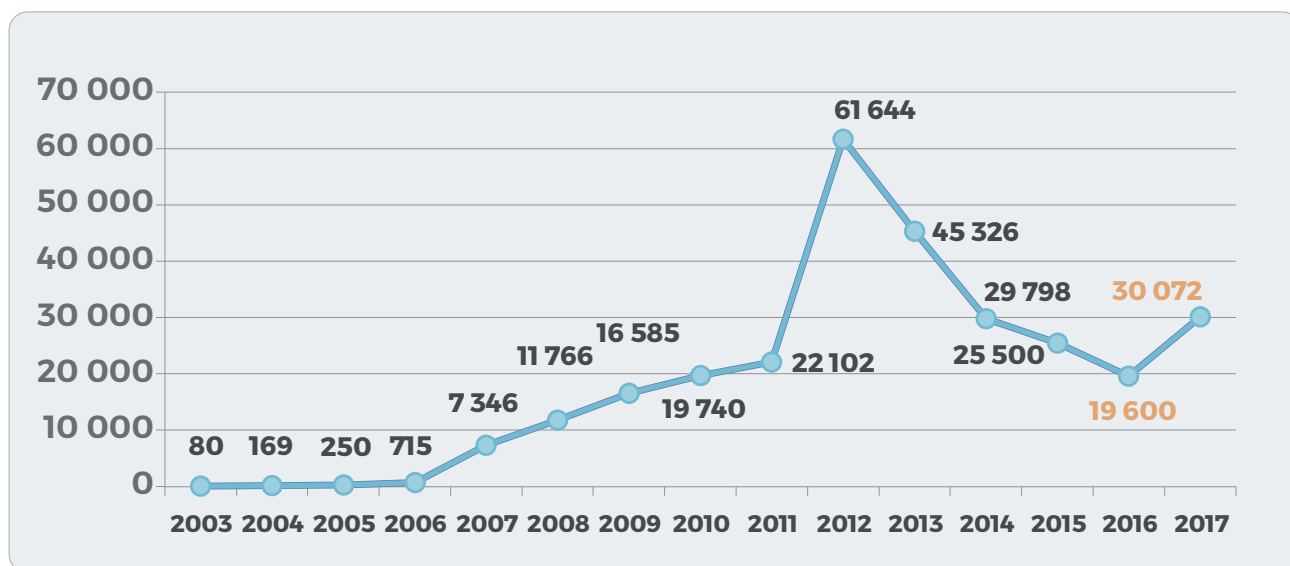
Figure 6. Number of agricultural producers certified as organic, 2003–2017



SOURCE: MARDE

The total area under organic production dropped as well, from 61 644 ha in 2012 to 19 600 ha in 2016.

Figure 7. The land area under organic agriculture, both certified and in conversion, 2003–2017, ha



SOURCE: MARDE

In 2017, Submeasure 2.5 “Supporting the promotion and development of organic farming” was included in the regulations on the use of the state subsidies for agricultural producers. According to the submeasure, the amount of support granted is calculated in the form of an amount expressed as a fixed amount per surface unit and consists of:

1. For the conversion period to organic farming methods, amounts vary depending on the types of crops and on the year in which they went under conversion or were certified as organic – from MDL 800 per hectare (for field crops in the first year of conversion) to MDL 2 500 per hectare (for

orchards and vineyards in the third year of conversion) – but can be no more than MDL 200 000 in total.

2. To maintain organic farming practices, 20 percent of the value of organic products sold (determined according to the invoices presented, for certified products, and by a copy of the customs declaration, complemented with the invoice attachment, for exports).

The period for conversion to organic farming methods is two years for annual crops and three years for perennial crops.

The maximum amount of support granted to maintain organic farming practices for a beneficiary will not exceed MDL 200 000.

Government support has resulted in an increase in the number of organic producers, from 40 in 2015 to 112 in 2017. The area of land under organic agriculture increased as well, from 19 600 ha in 2016 to 30 072 ha in 2017, according to data provided by the Ministry of Agriculture, Regional Development and Environment.

FRUITS AND VEGETABLES

Republic of Moldova contains all of the necessary natural conditions for intensive development of horticulture. Because it is a source of wealth, horticulture has long been – and is likely to remain – one of the main pillars of the national agriculture, leading to the efficiency of the entire agricultural sector of the country.

Consequently, Republic of Moldova is one of the biggest producers of fresh fruits and vegetables in the region, with almost 1 million tons of annual production and the potential to eventually double that.

ORCHARDS

According to the National Bureau of Statistics, the total area of orchards in 2017 was 134 400 ha, up from 115 200 ha in 2010. The total includes 67 500 ha of apples and pears, 36 900 ha of stone fruit, 4 000 ha of nuts, and 900 ha of berries. Agricultural enterprises manage a total area of 50 100 ha of orchards (37.28 percent of the total), while small-scale producers manage the rest. The largest area of orchards is covered with apples, which is considered the most popular fruit in Republic of Moldova. Apple orchards have never dropped below 60 000 ha, except in 2014, when they covered 55 000 hectares.

After 1950, more than 93.5 percent of the total area of orchards were considered plantations of advanced age. Today, the total area of orchard plantations is slightly decreasing because of the massive uprooting of aging plantations – more than 60 percent of the country’s “fruity heritage” – that happened in 2016. According to Vasile Sarban, chief of the Department of Production, Processing and Regulating Policies in the Area of Plant Production Quality at MARDE, the deforestation of orchards is a positive thing because it leads to the renewal of old orchards. These old orchards would be replaced by new varieties with increased productivity.

Although Republic of Moldova has a long history of fruit and vegetable production, many producers have been engaged in agricultural production only for the past 15 years or so. The land reform at

the end of the 1990s produced more than 1 million new landowners. The management and strategic decision-making structures that existed during Soviet times, when fruit production and marketing were managed in an integrated manner, had to be replaced by landowners who needed to learn how to produce and sell on their own in a free-market economy. There was a gap in management skills and technical knowledge that the existing systems of agricultural research, education, and extension services have not been able to completely fill. Many producers lack a strategy for planning production and fitting it to market requirements, thus reducing the value they can achieve from their crops. Although domestic research, education, and extension networks exist, they largely fail to adequately serve the private sector of farmers and agribusinesses. Good farm management also requires appropriate production techniques to increase competitiveness and yields. Many farmers in Republic of Moldova grow old varieties that are planted too far apart, without irrigation or protection from hail or frost. Although technologies for high-class production are available and in use by some of the most advanced producers, small-scale farmers, for the most part, have not adopted them. The most competitive producers, those that are able to export directly, are large agricultural enterprises that are fully integrated – from producing to storing and packaging – with technical and managerial capacity.

Most of the people interviewed for this report noted that production, especially of high-value crops such as fruits and vegetables, offers the best potential for increased income. The main vegetables produced by smallholders include tomatoes, onions, cabbage, cucumbers, pumpkins, peppers, carrots, red beets, garlic, courgettes, eggplants, and green peas. The main varieties of fruits include apples, plums, cherries and sour cherries, pears, peaches and nectarines, quinces, apricots, berries, nuts, table grapes, and technical grapes. Poor and underdeveloped agricultural inputs and outputs keep producer prices low, while prices for agricultural inputs are growing faster. On the supply side, low quality and heterogeneity of agricultural products are the cause of the limited marketing opportunities currently available to Moldovan producers.

Small farmers in Republic of Moldova do not have institutional arrangements in the form of voluntary associative organizations to facilitate the marketing and other services that would allow for better integration into vertically coordinated supply chains.

Box 2. Illustration of Land Plot Size for Grape Cultivation

The vast majority (95 percent) of commercial growers of grapes are small growers, either peasant farms or rural households. These small growers hold 47 percent of the total area under production. When the land reform was carried out, very small plots emerged, as the number of parcels depended on the number of families in the village. So, for example, a 300-ha vineyard could have been split into 300 separate parcels. Due to this, the average parcel size for small growers of table grapes is tiny: about 2 ha per grower. The rest of commercial growers (5 percent) are producers that hold 53 percent of the fresh grape production area.

Source: ACED Table Grape Value Chain Study

WALNUTS

Walnuts, which are in high demand in European Union countries, are one of the most profitable domestic products. In recent years, a significant increase in the area of nut plantations has been registered in the Republic of Moldova. According to the latest statistical data, in 2015 the overall area of nut plantations was 25 000 ha, up from 4 000 ha in 2004–2005. The area occupied by walnut trees has begun to expand since 2012, surpassing the area covered by peaches and cherries. Thus, if cherry orchards ranged from 3 000 ha to 4 000 hectares ha in 2011–2015, and peaches were between 7 000 ha and 8 000 ha, nuts were planted on 12 000 ha and to 25 000 hectares ha in the same period.

According to Constantine Gazhima, the director of the Union of Nuts Producers Associations of Moldova, the production of walnuts can become a major sector of agriculture in Republic of Moldova and a major supplier of finances to the state budget. This would be possible due to the high export potential of walnuts and their demand on the international market. Only 7 percent of land worldwide is suitable for the cultivation of walnuts, and the entirety of Republic of Moldova is within that 7 percent. Walnuts are widespread throughout the country, as well as almonds in the south and hazelnuts in the more humid and irrigated areas.

According to Gazhima, the country produced more than 14 000 tonnes of walnuts in 2016. Of those, 70 percent were grown on private plots and 30 percent in industrial orchards.⁹

The walnut segments of the agriculture sector have been able to attract good management. In the walnut value chain, there are a number of efficient and well-managed exporters who compete to buy nuts from farmers, mostly smallholders and family farms.

In 2016, the state offered subsidies of MDL 20 000 per hectare for planting walnut trees. In 2017, that amount decreased to MDL 18 000 per hectare of walnut, hazelnut and almond orchards.

BERRIES

Berries constitute an increasingly important driving force for agricultural economic growth in Republic of Moldova because of their high added value. From a growth perspective, the berry sector is considered one of the most important agricultural sectors. Traditional berries in particular, such strawberries, raspberries and black currants, are a source of income for growers and for the processing industry. In the past three years, blackberries, blueberries, chokeberries and wolfberries have started to be tested and cultivated as new berries with big growth potential.

The berry sector is facing several constraints: lack of professional knowledge in growing technology, lack of transportable varieties, lack of post-harvest processing, and lack of market information. These constraints are also associated with the risks of natural conditions and the vulnerability of the ecosystems, both of which affect the sustainability of supply.

Although berries are not one of Republic of Moldova's main export products, this sector of agriculture has growth potential for both the local and export markets. Demand for berries is increasing year by year in Republic of Moldova and, increasingly, also as exports to markets in the Russian Federation

⁹ <https://madein.md/en/news/economy/walnuts-production-can-become-a-major-sector-of-agriculture-in-moldova>

and Europe. One advantage of Moldovan berries is that the harvest of raspberries and currants takes places two to three weeks before harvests in big berry-producing countries like Poland and Serbia. Fresh raspberries and currants from Moldovan berry producers also can compete thanks to special taste and flavour qualities and a higher sugar concentration (7 to 8 percent) than Polish raspberries (5 to 6 percent).

Slightly more than 100 000 farmers country-wide grow berries in field, household or garden plots. More than half of them are involved in strawberry production. Most farms practice small-scale berry production on household plots and gardens that averaging 0.02 ha per farm. Just 0.5 percent of farms cultivate berries on larger field plots, with an average of 1.17 ha per farm. Most fruit shrubs and strawberries are cultivated on household plots and gardens, accounting for 80 percent of the total harvested area.

The producers can be described as follows:

- a. Small berry producers are those who grow up to 1 ha of berries. They are divided into two categories:
 - Small berry producers having property between 0.02 ha and 0.3 ha in size. Berry growing is not their main source of income and occupation; they use it for personal consumption and maybe sell it on the local village market; and
 - Small berry producers that are business-oriented and have 0.4 ha to 1 ha of property. Berry growing is one of their sources of income and occupation. They are willing to be trained and to develop it further.
- b. Medium berry producers are those with 1 ha to 4 ha of property. Berry growing is one of their main sources of income and occupation. These are a younger generation of farmers who want to develop and expand their berry business.
- c. Big berry producers are those with more than 4 ha of property. Berry growing is their main source of income and occupation.

In 2016, Republic of Moldova produced over 9 500 tonnes of berries, compared to 2 100 tonnes in 2006. In 2016, 90.5 percent of that harvest was produced by rural households, compared to 76.2 percent back in 2006.

3.2.2 Agricultural land market and property rights

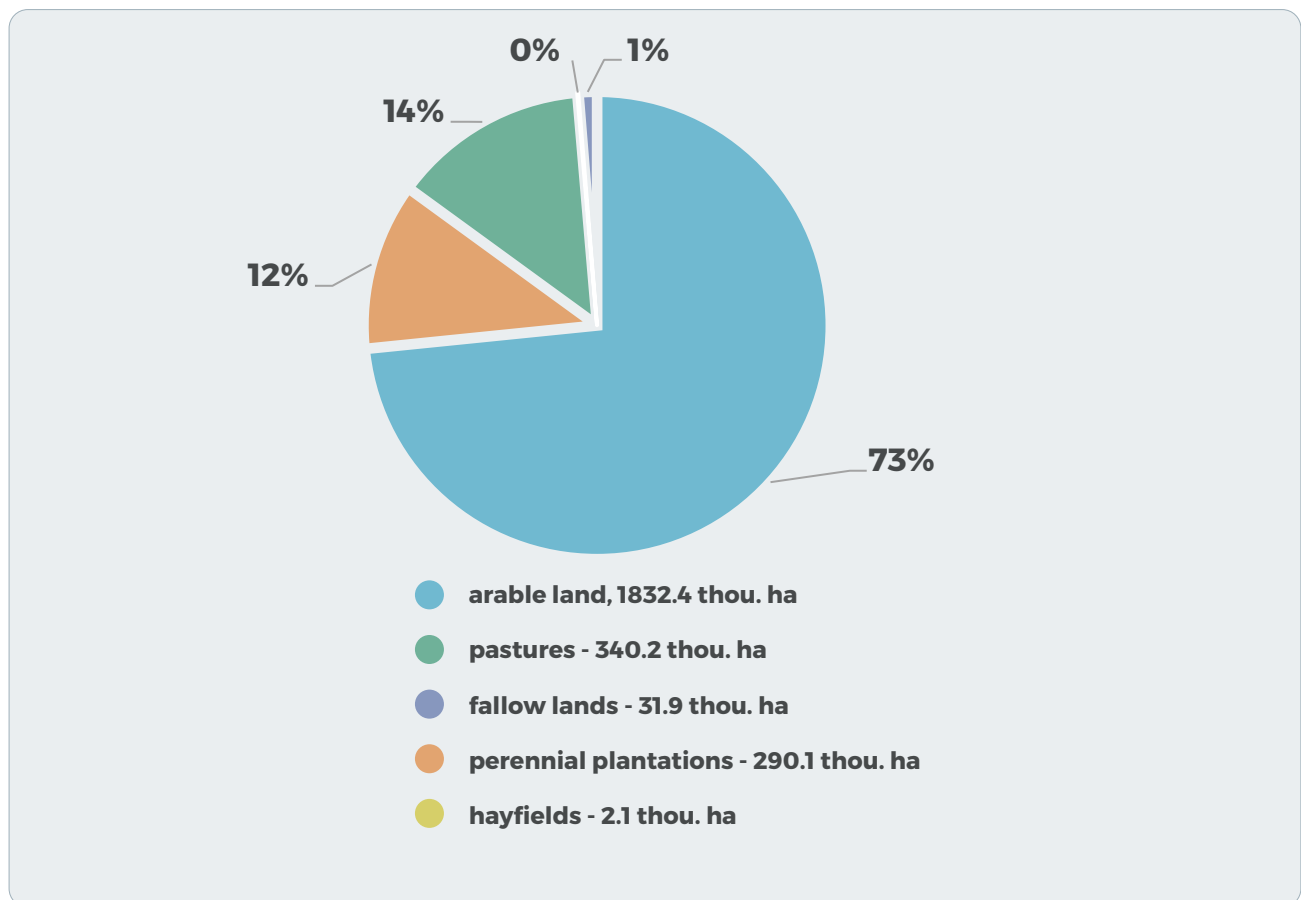
Land reform in Republic of Moldova was made feasible through the adoption of the Land Code in 1991 and was implemented in two stages. In the first stage, after the adoption of the Land Code, village Land Commissions were established to determine “equivalent” land shares for eligible recipients, such as members and workers of collective and state farms, including administrative and professional staff, teachers, social workers and pensioners.

In the second stage, the physical distribution of agricultural land parcels took place with the support of the National Land Programme, which lasted from 1997 to 2001. The implemented land reform resulted in the privatization of more than 98 percent of the agricultural land that was subject to privatization. Around 1.7 million ha was privatized to almost 1.1 million new owners, each with an average landholding of 1.56 ha. Normally, the landholding was distributed in three to four parcels (i.e. one to two parcels of arable land, one parcel of orchard and one parcel of vineyard).

The land reform and post-land reform development has resulted in a polarized agricultural structure. A duality exists, with a relatively small number of large corporate farms at one extreme and a large number of very small and fragmented family farms at the other. In many cases, it is not possible to use these small plots efficiently. Production of many traditional crops, such as grain, sunflower or sugar beet, is dependent on scale and mechanization, and can therefore be produced only on larger, field-scale operations. In addition, the farmers/peasants lack the experience, technical skills and finances to develop such production successfully.

According to Land Cadastre data as of 1 January 2018, the land fund was roughly 3.38 million ha, of which about 2.04 million ha, or 60 percent, is agricultural land.

Figure 8. Distribution of agricultural land by main categories



SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD/STATISTICS BY THEMES](http://www.statistica.md/statistics-by-themes)

At present, most agricultural land is privately owned; 74 percent of the total land is private, while the remaining 26 percent is in public ownership. However, there are big differences in ownership status depending on the type of land. For instance, only 2 percent of pastures and hayfields are private. These lands usually belong to municipalities, and management costs are covered with a modest annual tax proportional to the number of animals (cows, goats, sheep and horses) kept by the respective household in the municipality. On the other side, 94 percent of vineyards and 84 percent of arable land is owned by private individuals (National Bureau of Statistics of the Republic of Moldova, 2017).

The security of tenure rights in Republic of Moldova is ensured by the existence of a functional land

administration system. Land ownership rights and duties on private land are registered in the Real Estate Register. Use rights are generally less secure than ownership rights, as lease agreements are not always registered as required.

Disputes over land are generally solved through the court system. In 2012, the share of land-related conflicts in the official judicial system was less than 1 percent of the total cases examined. Statistical data on civil cases, including land-related ones, submitted by the Court Administration Department show that the average term for settling land-related conflicts in the court of first instance is six to ten months, while the average term for appealing court decisions on land-related conflicts is three to six months (World Bank, 2014a).

The land market in Republic of Moldova is functional and developing, with efficient and inexpensive transaction procedures in place. Land turnover as a measure of land market efficiency indicates that the land market in Republic of Moldova in 2014 experienced a turnover of around 0.8 percent (Table 11), which is somewhat comparable to other countries in the region. Armenia, for example, had 1 percent turnover in 2016, and Poland had an average annual turnover through private sales of 0.8 percent of the total agricultural land in 1994–2005.¹⁰

Table 11. Market transaction with agricultural land in the Republic of Moldova

Year	Area of bought/sold agricultural land, ha	Number of sell/buy transactions	Market price, MDL/ha	Average area of a sold/bought plot of land, ha	Share of area bought/sold in the total of agricultural land, %
2000	7338	9753	3 687	0.75	0.35
2005	21 825	47 382	4 778	0.46	1.05
2006	28 096	51 484	6 965	0.55	1.42
2007	34 101	62 487	9 539	0.55	1.73
2008	35 949	73 193	8 511	0.49	1.82
2009	25 214	67 109	8 911	0.38	1.28
2010	19 021	69 072	16 502	0.28	0.96
2011	19 930	71 035	13 444	0.28	1.01
2012	10 159	52 138	13 719	0.20	0.52
2013	12 906	37 710	16 785	0.34	0.65
2014	15 653	23 282	19 851	0.67	0.79

SOURCE: BAJURA, 2015.

Several studies show that land sales represent only one-third of land market transactions. In 2009, 42 percent of the total agricultural land was leased, of which 72 percent was leased by limited companies, 15 percent by production cooperatives, and 8 percent by joint-stock companies. Most of the leasing contracts have a duration of one to three years, limiting the possibility for the tenant to plan in the longer term (Merotto *et al.*, 2016).

¹⁰ Policy Note on land abandonment and recommendations for policy advice on introduction of a land consolidation instrument in Armenia. FAO. 2017.

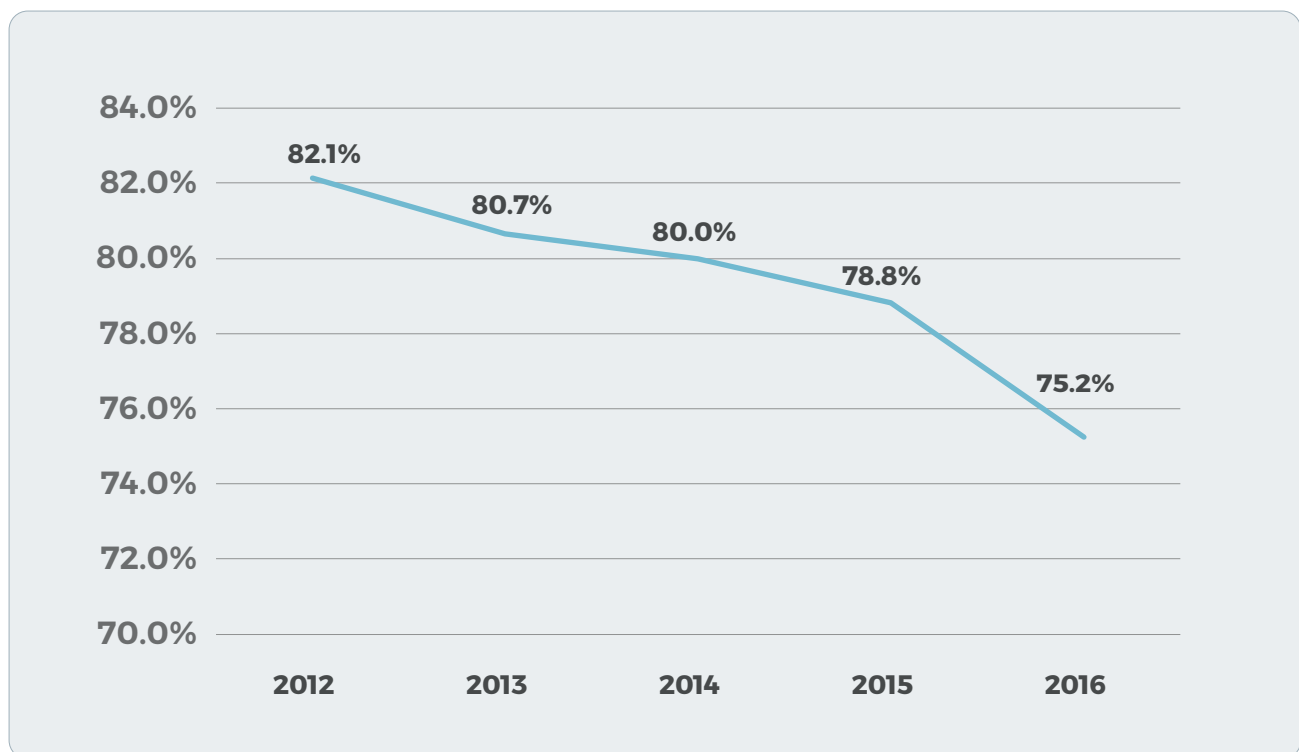
Box 3. Market price of agricultural land within the geographical areas of the Republic of Moldova, 2014

Indicator	Geographic areas			
	North	Centre	South	UTA Gagauzia
1. Surface of land sold/bought, ha	6 059.7	5 006.8	3 992.8	593.4
2. Number of sale/purchase transactions, units	8 435	7 770	6 474	603
3. Market price of agricultural land, MDL/ha	21 884.1	20 073.1	17 113.7	16 302.7

Source: Bajura, 2015.

It also should be noted that among all agricultural land cultivated by peasant farms, the share of farms smaller than 10 hectares dropped about 7 percentage points in 2016 from the level in 2012 (Figure 9).

Figure 9. Share of land cultivated by peasant farms smaller than 10 ha in the total agricultural area of peasant farms



SOURCE: NATIONAL BUREAU OF STATISTICS OF THE REPUBLIC OF MOLDOVA, 2017

Given the structural problems of high fragmentation of parcels and small farm sizes – especially relevant in case of smallholders – land consolidation is an urgent need. In the first decade of the 2000s, considerable progress had been made towards addressing the problems experienced by small and fragmented farms. One important intervention was the implementation of land consolidation schemes in six pilot villages, later scaled up to an additional 40 villages. The project was supported

by the World Bank and the Swedish International Development Cooperation Agency. The project was implemented without special land consolidation legislation, and hence followed the normal land transaction procedures.

The Ministry of Agriculture and Food Industry, together with the Agency for Land Relations and Cadastre and its subordinated institutions, by end of 2010 implemented nine land consolidation projects without international technical assistance, following the Regulation on Consolidation of Agricultural Land that was adopted by Decree of the Government No. 1075 dated 1 October 2007. The projects were implemented mostly in the southern regions of the country and applied different approaches to land consolidation, including long-term lease agreements. One of the conclusions of those projects was that agricultural enterprises and peasant farms are usually willing to increase their land size, but individual landowners prefer to lease their land rather than sell or exchange it.

In 2010, the Government requested that FAO support the preparation of a National Land Consolidation Strategy. The field experiences from the six pilot villages, as well as those of the 40 additional villages, were used in the strategy development process. The strategy aimed at integrating land consolidation as a new land management instrument in the overall land policy (Hartvigsen, Gorgan and Palmer, 2013). The draft strategy was presented to the Ministry of Agriculture and Food Industry and approved by the Ministerial Council in January 2012. However, the strategy has not been adopted by the Government, the main reason being to avoid having a large number of sectoral strategies. Instead, the general “Strategy for Agriculture and Rural Development” for 2014–2020 was adopted in March 2014 with a short section on land consolidation.

Weak or absent regulation and a lack of market information represent a specific gap in the land market. This undermines agricultural capacity and distorts one of the main functions of a land market – distribution and redistribution of agricultural land plots among farmers.

The agricultural land market in Republic of Moldova is generally free from any restrictions – except for the restriction against foreigners buying land, which is simultaneously an advantage and disadvantage. For example, a lack of “ceiling” on the size of ownership has allowed some entities and individuals to acquire large tracts of land as private property for speculation purposes.

The lack of free and timely access to updated information on market prices causes uncertainty and doubts among both sellers and potential buyers. Land market information needs to be improved in order to facilitate rural land market transparency and tenure security. Also, both land use and landownership markets need better guidance and stimulation.

At present, Republic of Moldova does not have a land consolidation programme, despite the considerable progress made during 2007–2011. A recent assessment has concluded that the problem with land fragmentation cannot be solved within a reasonable time through market mechanisms alone (Hartvigsen, 2015). While there is an interest in MARDE for land consolidation, no funds are currently available, and the likelihood of a national land consolidation programme is unclear. Additionally, political support for it is uncertain.

However, there is a support measure managed by the National Agency for Interventions and Payments in Agriculture (AIPA) through which buyers of agricultural land are reimbursed 50 percent of transaction costs when purchasing at least two adjacent land parcels.

According to the AIPA's report on the use of the agricultural subsidy funds, in 2017 two beneficiaries received subsidies for land consolidation for a total amount of MDL 34 430 (EUR 1 680).¹¹ In 2016, two applications for a total of MDL 17 868 were submitted and disbursed. Such insignificant numbers of applications and amounts disbursed indicate that transaction costs are not the main obstacle in the process of land consolidation.

Box 4. Support measure to encourage land consolidation

Submeasure 2.1: Stimulate investment to consolidate agricultural land

Field of action: Support is given to agricultural producers to partially offset costs related to notarial authentication of land sale contracts (sale, purchase, exchange, donation) and to state fees for authentication of the respective contracts and for the registration of the contracts in territorial cadastral offices (including cadastral works when land is merged to form one piece of real estate).

Support will be provided under this submeasure to farmers who have consolidated, from 1 November of the second year preceding the grant, at least three plots of agricultural land adjacent to each other to form a single piece of real estate.

The subsidy amount for this submeasure shall represent 50 percent from:

1. state tax and payment for notary services at the notarial authentication of purchase contracts, exchange, donation of agricultural land, as well as the expenses for registration of the contracts mentioned at the territorial cadastral offices;
2. the cost of the cadastral works, in case of merging to form one piece of real estate, but not more than MDL 500 per parcel.

The total amount of the subsidy a farmer may apply for under this submeasure amounts to MDL 100 000.

Source: Regulation on conditions, order and procedure for allocation of funds of the National Fund for Agriculture and Rural Development, approved through the Government Decision no. 455 of 21 June 2017

¹¹ http://www.aipa.gov.md/sites/default/files/Rezultatele%20subventionarii%20pentru%20anul%202017_0.pdf

The additional documents required to obtain support for the consolidation of agricultural land are:

1. a copy of the contract for the alienation of the land with the initial registration of the land at the territorial cadastral office;
2. a copy of the payment order of the state tax;
3. an invoice, order, or payment order for the services provided by the cadastral offices (State Enterprise "Cadastru"), as well as licensed enterprises in this field;
4. a copy of the merger project (decision to build the immovable property and the cadastral plan or geometrical form of the immovable property formed), with its registration letter at the territorial cadastral office.

Source: Regulation on conditions, order and procedure for allocation of funds of the National Fund for Agriculture and Rural Development, approved through the Government Decision no. 455 of 21 June 2017

3.2.3 Value chain organization, standards and access to markets

STRUCTURE OF THE VALUE CHAIN, VERTICAL COORDINATION AND CONTRACT FARMING

In Republic of Moldova, the vertical coordination among primary agricultural production, food processing, and trade underwent dramatic changes in the 1990s. The rapid liberalization of prices and external trade, coupled with the privatization of farms and enterprises without relevant institutional frameworks, caused the collapse of vertical coordination within the existing food value chains. In a short time, a new system of vertical integration had started to develop in the agrifood sector. For the most part, food business operators and traders led the process. In the first stage, the pace of the new structure's development was very slow. In order to enhance the drivers of value chain creation, the *Law on organization and functioning of agricultural and agri-food markets* was elaborated and approved by the Parliament on 27 July 2006. This law establishes the legal framework for the organization of agricultural and agrifood markets by individuals and legal entities that produce, store, process and/or sell these products at the national or international level.

The regulation of agricultural markets and agrifood ensured, primarily, the following objectives:

1. the organization and functioning of agricultural and agrifood markets on competitive effective and stable principles;
2. covering of the domestic consumption and reduction of the trade deficit;
3. ensuring the quality and safety of food products;
4. increasing income from farming and agrifood activities;
5. ensuring the sustainable growth of economic performance and competitiveness of the agriculture and food industry; and
6. increasing exports of agricultural products.

The impact of the law on the promotion of vertical integration was insignificant. Further intervention from the Government was needed to improve efficiency in the value chains. The following challenges and constraints currently affect the development of value chains in the agrifood sector in Republic of Moldova:

- Cultivation methods among peasant farms and households remain traditional, with low levels of mechanization and low productivity. The agriculture sector is heavily dependent on rain-fed farming. Inefficient agricultural systems, weak market structure, and small land holding sizes have resulted in insufficient potential for sustainable delivery of primary agricultural commodities within the value chain.
- The absence of more productive agricultural technologies has resulted in land degradation due to continuous cultivation, soil erosion, deforestation and limited technology adaptation to the changing climate.
- At present, several hundred companies and specialized units are active in the food processing and beverage industry. Most of them are concentrated in urban areas. Small-scale food processing has emerged in rural localities, but it remains rather limited. Many large factories have been built using industrial designs from the 1940s and 1950s and consequently have outdated processing and packaging lines. The equipment is not energy efficient, and packaging does not meet modern standards. Many enterprises lack modern management practices, investment capital, and the financial resources to adequately compensate skilled labour.
- The provision of appropriate education and training opportunities is vital to ensure a strong foundation for the sector. Ensuring knowledge transfer and dissemination of research from organizations to sector is an area for development, as is ensuring that the needs of the food processing industry in Republic of Moldova are addressed in research programs going forward.

VERTICAL COORDINATION AND CONTRACT FARMING

The agrifood sector as a whole is facing problems with creating market institutions; establishing marketing and distribution channels; meeting European Union quality, veterinary and phytosanitary standards; and building the administrative capacity to support these processes. The agrifood value chain is expected to change substantially in the coming years as the share of supermarket sales in the retail sector is expected to increase significantly, similar to other transition and developing countries. Supermarket chains are typically very demanding towards suppliers in terms of volume, consistency, quality, costs, and commercial practices, emphasizing long-term relations and contracts with suppliers. Export markets, particularly lucrative European Union markets, are highly demanding in terms of standards. Export markets can be better targeted, through improved vertical and horizontal coordination, to achieve quality and safety standards (including tracability) and to improve efficiency.

HORIZONTAL COOPERATION

Cooperation may contribute to achieving economies of scale that make it more attractive for buyers to deal with smallholder farmers, thanks to the possibility of:

- consolidating larger volumes and thus reducing transaction costs;
- better managing post-harvest handling and thus reducing post-harvest losses; and
- facilitating the diffusion of good practices and innovations and thus increasing productivity.

In turn, the bargaining power of organized farmers in the contracting process can be strengthened. This is particularly the case for smallholders in Republic of Moldova; considering the small size and high fragmentation, cooperation also could contribute towards addressing the limitation arising from fragmentation.

Regarding horizontal cooperation, the critical determinants of cooperation among farmers in Republic of Moldova include:

- The main problems faced by farmers, such as input provision, joint sale, agricultural machinery, and advice;
- benefits from cooperation;
- farmers' perception on the availability of leadership;
- farmers' participation in former collective action activities (social capital);
- whether other farmers reciprocate; and
- age.

A case study is presented here of a cooperative of milk producers who managed to get access to the equipment that they needed to ensure a better quality of produce. As a result, they gained market access created a stable income. That would not have been possible without cooperation.

Box 5. Case Study: Creation and operation of a dairy cooperative in northern Republic of Moldova

Large milk production farms were closed after the 1990s in Republic of Moldova, and milk collection infrastructure for several remaining big dairy factories was lost. On one hand, demand for dairy products was high, while on the other hand, the supply of milk was very limited. Later on, with support from several international donors, individual households started to create so-called milk collection points, administered as cooperatives. These were basic facilities for the collection, cooling and primary storage of milk so that dairy factories could collect larger quantities of milk on a regular basis, avoiding the need to collect smaller quantities at bigger logistical costs.

The initiative to create a milk cooperative came from a small group of milk producers in household conditions from a village in northern Republic of Moldova. The milk producers had designed a business plan, with basic indicators for their business, and sought financial startup assistance. They managed to attract a grant from an international agency and bought the basic equipment needed to operate the cooperative – a cooling tank for 1 070 liters and devices for the concentration and measurement of fat and microorganisms.

The cooperative started in 2009, with a group of 15 households as members and a woman as the leader; they were collecting some 300 liters of milk per day. Currently, the cooperative collects milk from four nearby villages, has an additional 154 member households and collects 1 800 liters of milk per day.

The cooperative helped forge a union among once-rival households. The small farmers started to cooperate, bring in their share of contributions and, more importantly, trust each other.

At the moment, the cooperative is only collecting, cooling and storing milk for short stays until the dairy factory tank picks it up. The cooperative plans to extend its business in the near future by taking credit and procuring additional equipment for the processing and packaging of dairy products. The cooperative plans to start with pasteurized milk and, if that's successful, extend to the production of other products such as sour cream and cottage cheese. The cooperative also intends to sell its produce primarily at schools in nearby villages and later, when the business grows, take the produce to markets in bigger cities, including Chisinau.

Source: AUTHORS' ELABORATION

One factor that may impede cooperative initiatives is a lack of understanding among farmers about the establishment and functioning of agriculture cooperatives.

Farmers perceive clear benefits from collective action, particularly in terms of price. According to the research paper “Cooperation of agricultural producers in the Republic of Moldova,” conducted by AGROinform in 2013, 55 percent of farmers interviewed either agreed or strongly agreed that group input provision would reduce input price. The same proportion perceived benefits in terms of cost reductions for agricultural machinery, and an even higher proportion of farmers either agreed or strongly agreed that group sales would result in higher product price.

Based on the results of consultations with major actors involved in the support of the development of cooperatives, the most significant impact of cooperatives was felt by producers of table grapes. The association among small-scale producers offers larger possibilities for the development of post-harvest infrastructure – cold storage, in particular – and the setup of packing lines. Cooperation has had a greater effect than price negotiations among individual small-scale suppliers of table grapes.

Another specific case is the cooperative of growers of table grapes from Costesti. This cooperative was able to attract the necessary investments for building and equipping a refrigerator and a packing line.

The leading idea for the association of individual small-scale growers of table grapes is represented by their particular interest in establishing cool storage facilities that create the possibility of extending the selling period over the season and, therefore, obtaining higher revenues in the offseason. Based on the assistance provided – including business trips to main markets and other technical support – associations of table grapes growers provide the possibility for aggregating the necessary volumes of table grapes, as requested by importers, and maintaining the diversification of the markets.

Box 6. Illustration of the value chain of grapes produced by smallholders

The domestic market of table grapes is mostly represented by small growers and, to a lesser extent, by medium-sized growers with earlier varieties of predominantly light-coloured grapes and smaller amounts of dark-coloured grapes. These growers usually sell their products by themselves at the wholesale market or to traders who operate in local wholesale and retail markets. As export traders will not accept grapes of poor quality, they are, by default, sold in the local market. Early grape varieties generally go to local markets for lower prices because traders do not buy many grapes for export during the high season.

Source: ACED Table Grape Value Chain Study

3.2.4 Access to finance

Access to finance for agricultural producers, including smallholders and family farms, has improved modestly over in recent years. This is due to several interventions from the side of Government and with support from international organizations and donors.

The first savings and credit associations (SCAs) were created in 1997 in the framework of the Rural Investment and Services Project (RISP), financed by the World Bank. An SCA is, by definition, a not-for-profit, non-commercial, independent, specialized institution that provides financial services exclusively to its members. The main principle of SCAs is “one member, one vote” – each member gets an equal vote irrespective of the member’s contribution to the SCA’s equity. The range of financial services provided by SCAs is strictly limited to savings mobilizations from members and lending exclusively to members, as well consulting services related to the provision of financial services (Chiriac, 2003).

Box 7. Case Study: Savings and credit associations

Emergence

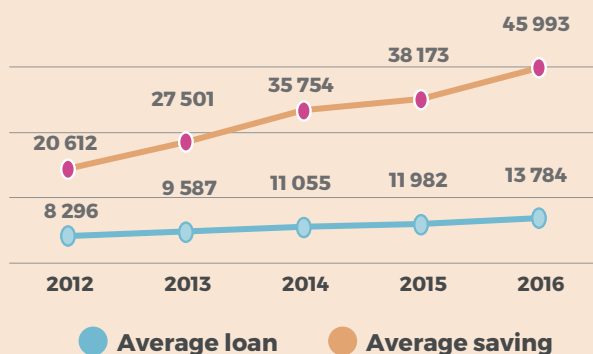
The privatization of agricultural land in Republic of Moldova, which was completed in 2000, resulted in approximately 800 000 private farmers becoming landowners. Most of the new private farms and the newly emerging rural enterprises needed additional financial sources to start farming. By 2002, 91 percent of the land was owned by small, private farmers, with land plots of 1.65 ha, on average. In general, these new landowners were not attractive clients for commercial banks, as their credit requests were very small (between USD 100 and USD 300). Plus, interest rates often were too high for small farmers, and banks did not accept small land plots as collateral. Also, the newly emerged private farmers had in fact been the employees of the former collective and state farms; thus, they lacked knowledge about the market economy, marketing of their products, business administration, and financing.

As a rule, relatively small loans are required to enable farmers to buy the seeds, fertilizers and machinery services needed in farming activities. To close the gap on micro-financing services for small farmers, the Moldovan Government, with support from several donors – including the World Bank, the United States Agency for International Development, and the Department for International Development of the United Kingdom) – had adopted the legal framework for savings and credit associations (SCAs) by 1996, and SCAs started their activities. The donors provided support in legal drafting; training for newly created SCAs in administration, financial management, accounting, auditing, and more; provision of seed funding and match funding; creation of SCA networks; capacity development for state regulators; and other areas.

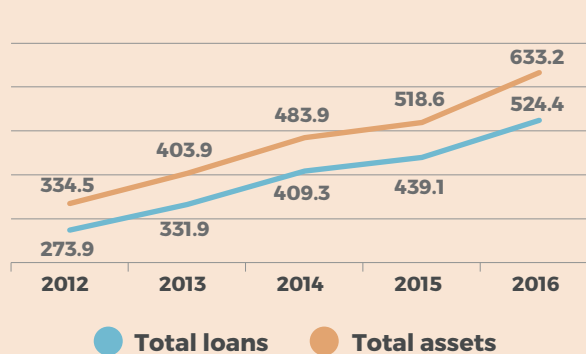
Evolution

Although they have a relatively small share of the country's crediting sector, the activities and services of SCAs – including membership, value of assets and loans – have expanded at a constant rate. Most of the loans are used in agriculture.¹²

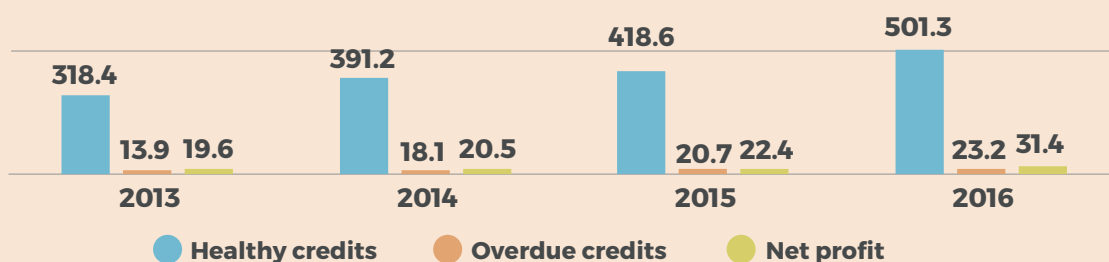
Average loans and savings, MDL



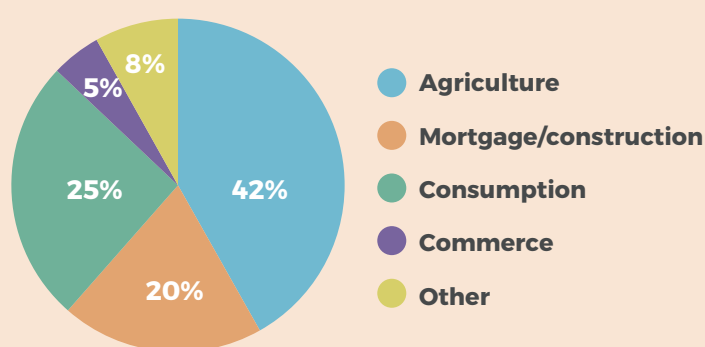
Assets and Loans, million MDL



Credit health and profits, millions MDL



Use of loans per sector, 2016



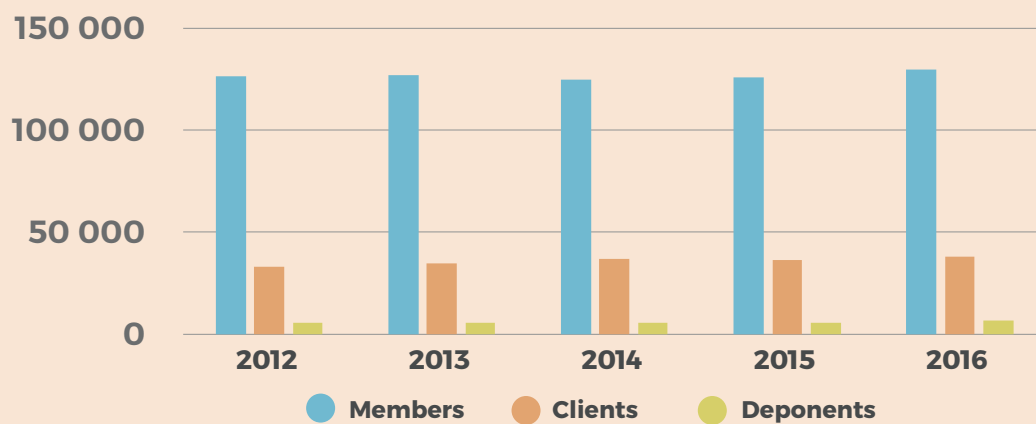
As of 31 December 2016, the SCAs in Republic of Moldova have a sound financial and crediting situation. About 96 percent of the credits are healthy, and only 4 percent are overdue and/or compromised. The SCAs register a steady profit growth year-on-year.

¹² Data from annual reports of the National Commission for Financial Markets: <http://cnpf.gov.md/md/rapa/>.

Regulation

According to the Law on SCAs, the activity of these institutions shall be supervised by a specialized state agency, the State Supervisory Body of SCAs activity (SSB). The SSB was founded in September 1998, with the main objective to supervise whether the SCAs observe the law and the financial prudential rules and to collect financial statements from SCAs. The SSB performs control over the associations' activity and, in cases of violations, it has the right to request additional auditing of the associations and apply administrative sanctions that range from suspending the license on financial activity for a certain period of time up to cancellation of the association's license and liquidation of the SCA.

Number of members, clients and deponents of SCAs



Drawbacks and challenges

The SCA sector has had a general positive development trend, and most of the associations have good results. But despite the overall progress, SCAs still encounter difficulties and barriers that impede an even more accelerated expansion. Most of constraints relate to limited knowledge among SCAs on innovative financial management and accounting, the lack of external audits for SCAs, insufficient internal control in some SCAs, low financial sustainability of small SCAs, excessive reliance of SCAs on external funds, and other factors.

Benefits

Most SCA members and main clients are small and medium farmers. The SCA "Hrushova," in the central part of the country, is a success for the locals, according to Mr. Ciorba,¹³ the SCA's executive director. Its assets increased from MDL 2 000 at its founding in 2002 to MDL 32 million in 2017, with a crediting portfolio of MDL 36 million. Its services are in good demand among farmers, and it has started to serve several nearby villages. The SCA was created in 2002 by 16 villagers and has expanded since then to entail more than 3 700 members in 2017.

Source: Chiriac, V. 2005. *Moldova Savings and Credit Associations' Experience*

¹³ Est-Curier newspaper, issue from 13 January 2017: <http://estcurier.md>.

As of 1 January 2017, Republic of Moldova had 288 SCAs and two central associations of SCAs with valid licenses issued by the National Commission for the Financial Market/CNPF (CNPF, 2017).

Despite a modest increase in agricultural lending in recent years, most farms remain poorly financed. The Agro census 2011 also noted some gender disparities (around 2 percent) in favor of male-headed agricultural holdings.¹⁴

The major deficiencies can be summarized as follows: (1) insufficient collateral options overall; (2) almost no supply of long-term loans; (3) hardly any support instruments to facilitate access to credit, such as loan-guarantee funds; (4) high interest rates, amounting to 15–20 percent annually, with annual inflation below 5 percent during recent years. While large farmers can negotiate a bank loan with a 16-percent interest rate, small farmers – if loans are even available at all – pay more than 20 percent for bank loans and up to 30 percent if, due to a lack of collateral, they have to take credit from a local savings and credit association in the village. Hence, the majority of farmers rely on their own financial sources or do not invest at all (Merotto *et al.*, 2016).

According to the General Agricultural Census data (2011) and the NBS Survey “Women and Men in Agriculture in the Republic of Moldova” (2013), generally, male holders manage larger land than female holders - both when the holding is with or without a juridical status. On average, male holders in the Republic of Moldova manage 1.21 hectares compared to the 0.86 hectares managed by female holders. In other words, despite the fact that women make up 36 percent of the total agricultural holders in the country, they manage only 19 percent of the land covered by agricultural holdings (425 324 ha in total, compared to 1 818 216 ha managed by men).

3.2.5 Access to services and inputs

TECHNOLOGY AND MECHANIZATION

Moldovan smallholders and family farms cultivate land manually or with obsolete machinery obtained from former cooperatives or at auction. There are very rare cases in which small farms have succeeded in buying new machinery. To minimize costs, farmers frequently limit cultivation and apply low doses of fertilizer. The most important crops are winter wheat, sunflower, oilseed rape, fodder crops and a smaller proportion of spring barley and alfalfa. Corn, sugar beets and pumpkins are grown on the better soils. However, the area of high-value crops is not great. Livestock production in stables often complements crop production, and crops are partly used as feed. Smaller diversified farms rely heavily on income from livestock.

Farmers often lack the appropriate knowledge about production technology and the use of inputs and equipment. Farmers also often lack basic equipment, such as pesticide spray pumps that ensure the proper spray of pesticides. Mechanization services are used only if necessary (such as for ploughing), while most smallholders harvest and weed manually.

¹⁴ National Bureau of Statistics of the Republic of Moldova. 2013. Women and Men in Agriculture in the Republic of Moldova. http://www.statistica.md/public/files/Recensamint/Recensamint_agricol/Femei_barbati_agr/Femei_barbati_agric_eng.pdf

To enhance the existing situation, the cooperation in cooperatives or producers' groups could be considered to jointly acquire various agricultural inputs, including machinery.

The gender gap in ownership of agricultural machinery and equipment in Republic of Moldova is notable. With the exception of mini-tractors (17 percent), female-headed holdings own less than 12 percent of all types of agricultural machinery. This is quite low, considering that more than one-third of the holdings are female-headed.¹⁵

ACCESS TO EXTENSION SERVICES

Agricultural extension services play an important role in the agriculture and rural development sector through the provision of consultancies, training and information on good agricultural practices. The most important feature of extension services in Republic of Moldova is that they go directly to regions, districts and rural areas through networks and other communication facilities.

Agricultural extension and advisory services are provided by four major service providers targeting different target groups: the National Agency for Rural Development (ACSA), the National Union of Associations of Agricultural Producers UniAgroProtect, the National Farmers Federation, and the National Federation of Agricultural Producers from Moldova AGROinform.

Agricultural extension services are currently mainly oriented to provide support to small producers and are well-developed through a network of non-state institutions, private companies, technical assistance projects, and farmer organizations. The foundations for the extension system were established in 2001 with technical assistance from the World Bank Rural Investment and Services Project (supported by the European Commission Technical Assistance to the Commonwealth of Independent States and Georgia programme) by setting up the National Agency for Rural Development, which employs 425 consultants across the country. Benefiting for a long time from the financial support of international donors, the extension network services are free of charge. Services are provided to all types of farms, including large-scale corporate farms, medium-sized commercial farms, and small subsistence farms, which form the largest client group. Indeed, the 2011 Agricultural Census revealed that 25 313 family farms (2.8 percent) had benefited from consulting services in the previous three years, while this figure was 87 (2.5 percent) among corporate farms. Since international donors had gradually ceased their payments in 2013, as part of an exit strategy, the network is now exclusively dependent on state funding.

¹⁵ National Bureau of Statistics of the Republic of Moldova. 2013. Women and Men in Agriculture in the Republic of Moldova. http://www.statistica.md/public/files/Recensamint/Recensamint_agricol/Femei_barbati_agr/Femei_barbati_agric_eng.pdf

Box 8. Case Study: Rural advisory and extension services

1. Background/Problem statement

Farmers' incomes remain the lowest in the national economy of Republic of Moldova, contrary to efforts to modernize and streamline the agrifood sector undertaken in recent years by the private sector, the Government, donors, and civil society. This phenomenon is caused by a permanent price increase of the means of production, backed up by a reduced capacity among farmers to ensure high yields from farming and/or livestock, by the speed of adjustment to the demands of agricultural enterprises, and by increasingly globalized changes in the modern market of food and agriculture. Most smallholders and family farms lack the necessary skills, knowledge and knowhow needed to practice farming in a more efficient, competitive and profitable way and to ensure a gradual transition from a subsistence agriculture to one with commercial elements aiming to a fully commercial and sustainable farming that generates high value; assures sufficient food security; ensures healthy, non-offensive production; and maintains environmentally friendly operations.

2. Objectives and key elements of rural advisory and extension services

Rural advisory and extension services aim at providing long-term complex support to accelerate agricultural regeneration and agricultural growth, so that Republic of Moldova's agricultural and rural sectors can reach their full potential, supporting future revenue growth and poverty reduction. As a part of the rural advisory and extension services project financed by a pool of donors, the National Network of Rural Advisory Services (NNRAS) provided information, advice and training services in agriculture in such areas as best practices, growing technologies for a wide variety of crops, fruits and vegetables, post-harvest technology, agricultural marketing, and management. To do this, NNRAS used its network of 35 local service providers, with a total of 425 consultants. These NNRAS consultants provided over 1 341 600 advisory services to over 2 540 000 farmers and rural entrepreneurs, including repeated customers (roughly 15 percent). This figure includes both male and female farmers and rural entrepreneurs. Approximately 62 percent of clients received consulting services offered "in group" through round tables, workshops, meetings, discussions, and field visits, and 38 percent of beneficiaries benefited from individual consultations. In the provided advisory services structure, technological services were most common (53.3 percent), followed by those related to agricultural marketing (17.7 percent), economics (15.9 percent), and business advisory (13.1 percent). NNRAS network created and promoted extension activities on 356 demonstration plots and published 38 booklets and manuals, covering 386 communities of the Republic of Moldova, which constitutes over 26 percent of all villages in the country. Donors for the project include the World Bank, the Department for International Development of the United Kingdom, and the Swedish International Development Cooperation Agency.

3. Results and impacts

Rural advisory and extension services have produced positive changes among beneficiaries. Specifically, those changes include:

- an increase of 15.6 percent of the number of beneficiaries applying semi-intensive cultivation technologies;
- a 3.7-percent increase of farmers applying intensive technologies;
- a 19.4-percent reduction of those who use ordinary technology;
- increased family revenues among 72.8 percent of beneficiaries;
- increases in crop yields/animals reported by 68.2 percent; and
- significant increases in the volume of agricultural output among 55.5 percent of beneficiaries.

Rural advisory and extension services also had other positive effects for beneficiaries, such as product diversification, improved product quality, and efficiency, which is particularly important in a market economy.

Furthermore, rural advisory and extension services produced an economic impact among the beneficiaries; 32.5 percent of beneficiaries have invested in and improved crop cultivation technologies and livestock. Due to rural advisory and extension services, 23.2 percent of beneficiaries have increased the size of their farms and intensified production through buying or leasing land, and 20.2 percent of them have invested in and acquired new agricultural machinery and equipment. Out of the total surveyed beneficiaries, 39 percent mentioned their availability to pay for consulting services in cash at the time of their receipt.

Lessons learned, conclusions and recommendations

The poorest populations in Republic of Moldova still live in rural areas, and there is high demand for agricultural support services. The Moldovan Government should continue to support the provision of rural advisory and extension services under public co-financing to help ensure a minimum of subsistence among the poor populations and to help them move gradually from subsistence activities toward more commercial operations – and, ultimately, to obtain a stable income. Many beneficiaries have developed their businesses thanks to the provided advice: Subsistence farmers were able to accumulate necessary food reserves needed to provide for their families, and their food consumption has diversified and significantly increased. Additionally, 15.8 percent of beneficiaries have begun to practice high-value agriculture and have become more commercially oriented.

Source: WB library <http://documents.worldbank.org/curated/en/600341468274229437/Moldova-Rural-Investment-and-Services-Project>

The National Farmers Federation and the National Federation of Agricultural Producers from Moldova AGROinform also provide advisory services to farmers through ad-hoc consultations, seminars, and training on a wide range of topics that promote good agricultural practices. These organizations are driven by agendas predominantly set by donor and support organizations, using the networks for implementation of activities in the region.

The National Union of Associations of Agricultural Producers UniAgroProtect comprises 17 agricultural associations, bringing together 2 238 medium-sized enterprises and 24 307 small farmers, which together work 800 903 ha (50 percent of the agricultural land in Republic of Moldova). The objectives of UniAgroProtect are to provide information and advice to its members, to attract investment and implement new technology, to promote the image of members in relation to potential investors, to develop marketing, and to increase bargaining skills. Their lobby and support activities are oriented mainly to large farms.

The first General Agricultural Census (2011) data indicate that no significant gender gap exists in the Republic of Moldova regarding subsidies received by agricultural holders. It can also be noted that a very low number of holders have bank credits. In 2010, 8 percent of male-headed holdings received financial support, compared to 6 percent of female-headed holdings.

CHALLENGES AND PROBLEMS

Initially, the extension service providers listed above were set up and supported by international donors. In the future, their sustainability requires greater involvement of the private sector, supplemented with state support.

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

Agricultural education in Republic of Moldova is offered by the State Agricultural University of Moldova, in addition to eight agricultural colleges (five of them situated in the north, where agriculture is more intensive and export-oriented, and one each in Chisinau, Ungheni, and Gagauzia), and about 20 vocational schools. The European Union-funded EUniAM project, which aims at consolidating Republic of Moldova's higher educational system, recently recommended that the Agricultural University be closed and its branches included in other higher education institutions. Indeed, public funding seems not enough for the development and consolidation of educational infrastructure, repair of buildings, modernization of equipment, and professional training. In addition, there is a lack of young, internationally trained teachers. The resulting negative image of the agricultural education system is reflected in the declining number of students. Similarly, the agricultural research and innovation system operates in isolation and has not successfully managed the transition. Due to insufficient funds, outdated methods, and low-performing personnel, research institutes have failed to offer viable solutions for the development of the agricultural sector (World Bank, 2016).

The successful development of both the farm and the non-farm sectors requires a well-educated labour force. Republic of Moldova lacks good agronomist practitioners willing to work in the regions and villages. They are, essentially, missing. According to the latest data from the National Bureau of Statistics, only 1.6 percent of all students in Republic of Moldova in 2016 were enrolled in agricultural studies. That figure was just 2 percent in the 2011–2012 school year, and it has been constantly dropping since then.

3.3 Environmental and nature development/climate change

The impact of climate change on agriculture is already being felt through extreme weather events and effects such as hailstorms, droughts, floods, soil erosion, declining crop yields, and the increased presence of pests and diseases. Family farmers, fishermen and pastoralists are on the frontlines of climate change.

Nonetheless, it is difficult to separate climate change from the numerous other threats faced by smallholders and family farms. To be a peasant farmer or small farmer today – dealing with multiple and simultaneous threats, including climate change – often means having few, and mostly undesirable, options. In some cases, it means adopting short-term survival strategies that undermine long-term resilience.

Smallholders and family farmers, although vulnerable, are also better at adapting to climate change than large agricultural enterprises. The biodiversity, native seed varieties, sustainable practices and local and traditional knowledge that peasant farmers maintain – even under difficult conditions – are key to rebuilding ecological resilience. Various studies have shown that diversified, sustainable small farms can withstand the variability of climate change far better than industrial monocultures.

Farmers have already been taking adaptive measures in response to climate change and severe climate events, such as:

- expanding water supply for irrigation by building small-scale storage reservoirs, harvesting rainwater, and making greater use of local water sources for irrigation, such as creeks;
- applying protective measures such as moving vegetable production to greenhouses, using mulch or other plant protection on soil, installing plant protection belts, or using hail nets; and
- changing agronomic practices, such as planting patterns, crop rotation, inter-cropping, chemical soil augmentation, and use of drought-resistant varieties.

Farmers also have identified a number of impediments to adaptation, including a lack of timely meteorological information that would allow them to respond effectively; limited access to alternative crop varieties, particularly seeds, and limited access to know-how (through extensions and other services) that would help them make the best use of these varieties; and poor or limited access to irrigation water and to technologies that make the most efficient use of irrigation infrastructure. The adaptive capacity of farmers in Republic of Moldova is clearly stressed by changes in the overall climate. The combination of heat waves, droughts, and intense storms is especially disruptive. On-farm adaptation responses have been numerous and partially successful, but farmers believe that larger investments in collective infrastructure are needed. This includes improved water storage and better drainage and irrigation systems, which likely would need to be effectively coupled with farmer training to make the best use of enhanced infrastructure.

Many farms are small and have limited resources for adaptation investments. Production on most small farms cannot be mechanized due to financial constraints, which in turn limits their adaptive capacity. Furthermore, agricultural policies find it difficult to incorporate environmental concerns in a coherent manner.

In 1992, just after independence, the area equipped for irrigation covered 312 000 ha. The three largest irrigation schemes in 1992 were the Ribnita scheme in the Nistru valley, with a total area of 24 000 ha, and the Sukleia and Etulia schemes, with an area of 10 000 ha each.

Since then, the irrigation sector has declined for several reasons. The primary reasons for the decline have been economic factors and the fact that the old irrigation systems were unfit for the newly emerging pattern of private farming. In 2014, the total area under irrigation was estimated at 228 300 ha (NBS, 2014), of which 30 percent was surface irrigation, 63 percent sprinkler irrigation and 7 percent localized irrigation. In 2007, the area that was actually irrigated accounted for only 32 000 ha.

Central irrigation systems are mainly concentrated in the central and southern parts of the country, in the Nistru and Prut valleys. The Prut and Nistru rivers are the main sources of irrigation water, with the tributaries of these rivers also being important sources. No groundwater is used for irrigation. As private agribusiness started to grow, the water supply from inland lakes and ponds became very popular and more convenient to access (World Bank, 2008).

Of the actually irrigated area of 32 000 ha in 2007, 7 000 ha, or 22 percent, was used to grow cereals. Vegetables were grown on 3 500 ha, or 11 percent, and potatoes took up roughly the same space. Sugar beets were grown on 2 200 ha, or 7 percent, fruit trees were grown on 4 800 ha, or 15 percent, and 11 000 ha, or 34 percent, were used for permanent meadows and pastures (FAO, 2015).

Box 9. Case Study: Water users associations in Republic of Moldova increase productivity in agriculture

The United States Government-funded Millennium Challenge Corporation programme in the Republic of Moldova has supported the development, legal registration, and capacity building of 11 irrigation water users associations (WUAs). Ten of the corresponding central irrigation systems were re-designed and rehabilitated under the Transition to High-Value Agriculture project, and the management of all ten has been transferred to the respective water users associations. Here, a water users association is defined exclusively as one that manages an agricultural irrigation system, and not any other form of water use. Thus, the principal activity of a WUA is the irrigation of agricultural crops, and in a few cases, this can include land drainage services and facilities.

Through a specialized support project, the newly created WUAs have received intensive, continuous support and capacity building through training and other activities. Currently, the WUAs can cover more than 150 000 ha of agricultural land with irrigation services, encompassing a total of 13 587 land users – with about 92 percent of the members being smallholders and family farms, including 7 306 members of WUAs.

Although at the incipient stage, the newly created WUAs, if properly developed and supported further, will be able to significantly increase the productivity and yields of small and medium holders of land and farmers due to quality irrigation services. Each of the WUAs is still a very young organization, but nonetheless, investment in WUA support is relatively risk-free

compared to most development projects. This is because of the strong basis for WUAs in Republic of Moldova and because of the robust start that most of these young organizations have had. Another positive aspect of the creation of WUAs is that they contribute towards land consolidation in the country. Through WUAs, the newly rehabilitated irrigation systems will be used properly, and the transition to high-value agriculture and irrigated agriculture will continue in the coming years in Republic of Moldova. Even if some of the WUAs have had a shaky start due to decades without any irrigation and delays in rehabilitation under the Transition to High-Value Agriculture project, with assistance they can thrive and be successful in the long run.

Source: Interview with stakeholder

3.4 Rural areas: Population and rural economy

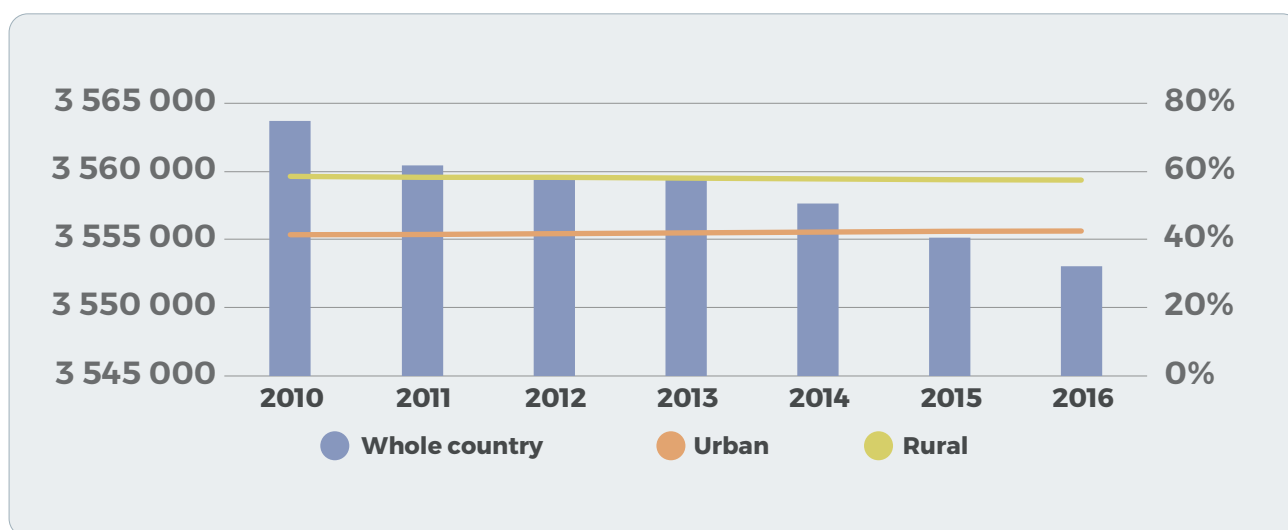
3.4.1 Population

The Republic of Moldova is a rural country, with 57 percent of the population living in rural areas. According to national statistics, out of the 3.55 million people living in Republic of Moldova, more than 2 million were living in rural areas in 2016 (Figure 10).

Nearly 52 percent of the population are women. Males are better represented in the age group 0–15 years and in the working-age population (52 percent of which are men, while 48 percent are women). In the groups above working age, there are twice as many women (69.0 percent) as there are men. Similar trends are observable in rural areas, where the proportions of women and men are 68.6 percent and 31.4 percent, respectively. Women in Republic of Moldova live 7.9 years longer than men, and the average life expectancy at birth is 75.4 years for women and 67.5 for men. This gap can be explained by the high level of premature mortality among men, especially of working-age men. The mortality rate depends on place of residence, and this underpins some of the differences found in the average life expectancies of the rural and urban populations. On average, the urban population lives longer than the rural population; for women, the gap is 3.5 years, and for men it is 4.5 years.

The average birth rate in Republic of Moldova is 10.9, and the mortality rate is 11.1; however, these figures differ significantly depending on location: In urban areas, these rates are 9.3 and 8.7, while in rural areas, they are 12.0 and 12.9. Another aspect of this negative demographic trend in rural areas is population ageing: In the early 1990s, the ageing index reached the critical 13.0 percent, and since then it has grown to 16.2 percent (2014). In rural areas, the ageing index is 16.4 percent, and among women it is 19.4 percent (FAO, 2016).

Figure 10. Population of the Republic of Moldova in total and urban/rural distribution, 2010–2016 (millions of people and percent)



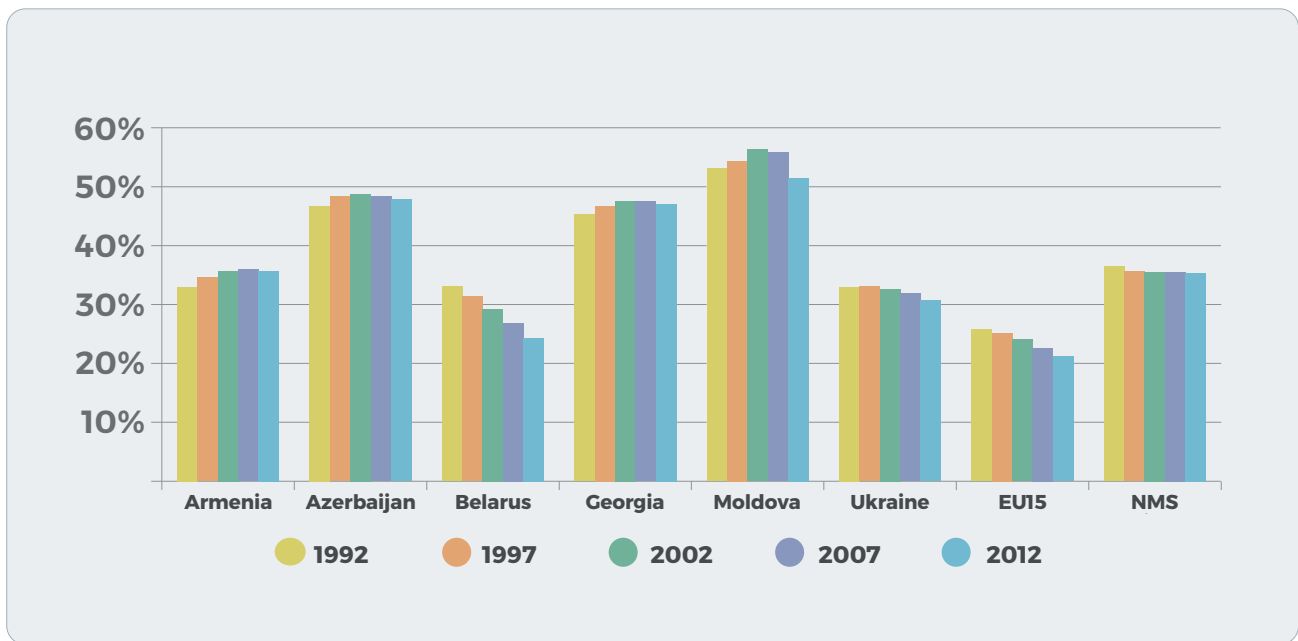
SOURCE: NATIONAL BUREAU OF STATISTICS OF THE REPUBLIC OF MOLDOVA.

Republic of Moldova has the highest share of rural population in Eastern Europe (Figure 11). By comparing rural population's share among regional countries, it becomes apparent that Republic of Moldova has the highest share of rural population of the total population, while Belarus has the lowest. The average percentage of people living in rural areas in the new member states in 2012 was 35 percent, while the average in the EU-15 was 21 percent. The share of rural population has hardly changed in the region in the period analyzed.

Migration from rural to urban areas and to outside the country is high in the Republic of Moldova. While the total population size has been declining, the urban population has been steadily growing, especially in the capital. The population in Chisinau represents approximately one-fifth of the total population of the country and 45 percent of the whole urban population. According to the Labour Force Survey 2017, conducted by the NBS, in 2016 approximately 319 000 people worked abroad; of these, 67 percent were men and 33 percent were women. Rural migrants represent 71 percent of the total number of migrants. Migrant workers are often young; 56.1 percent are younger than 34, and in villages this percentage is even higher, at 58.1 percent. Migration is also shaped by level of education; 13.3 percent of migrants have higher education, and among women, this percentage is higher (16.03 percent) (FAO, 2016).

After graduating from tertiary education institutions, young people tend to stay in urban areas. In the past five years, there has been a higher concentration of young people in cities, especially in the age group 25–29 years. More than 90 percent of internal migrants are persons of working age (20–49 years), of whom 58 percent are women and 42 percent are men (FAO, 2016).

Figure 11. Percentage of population in Republic of Moldova living in rural areas, compared to other countries in Eastern Europe, 1992–2012



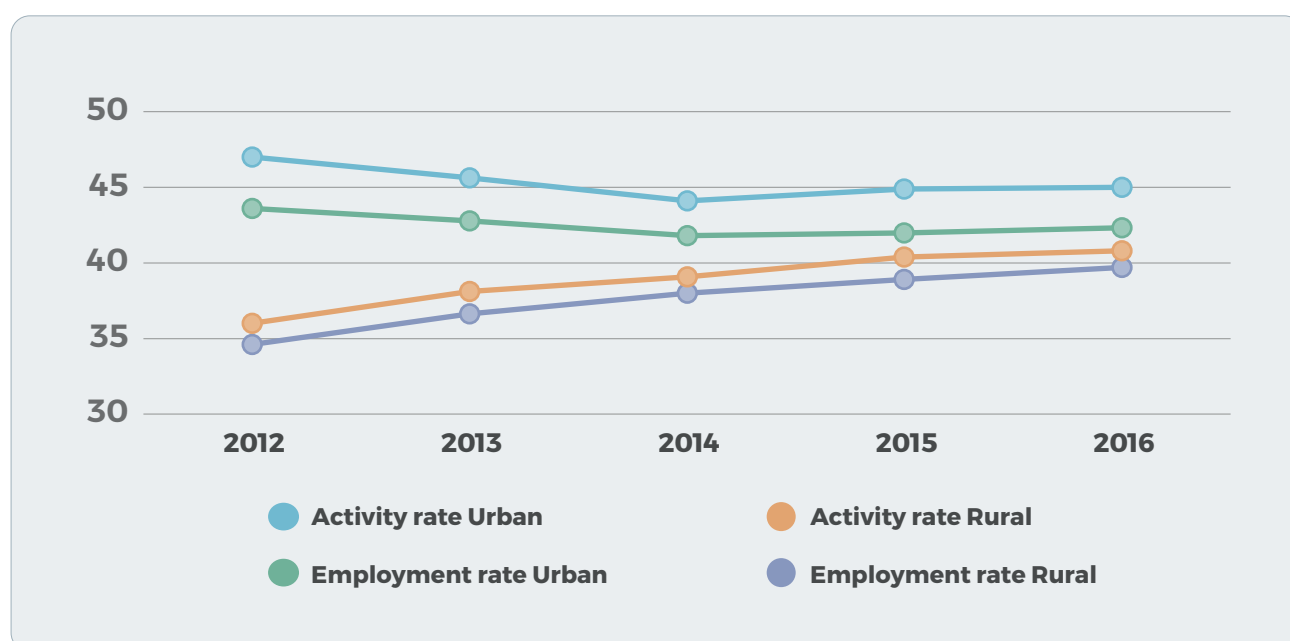
SOURCE: FAO (2013).

3.4.2 Employment and education

The unemployment rate at the country level was 4.2 percent, with no significant changes compared to 2015 (4.9 percent). The unemployment rate for men was 5.5 percent and for women 2.9 percent. Significant disparities were recorded between the unemployment rate by areas: 6.0 percent in urban areas and 2.6 percent in rural areas, according to data from the National Bureau of Statistics.

Despite that half of the Moldovan population lives in rural areas, the rural employment rate is only 39 percent. In 2012, the rural employment rate was 34 percent, while in 2016, it increased only slightly to 39 percent. While this is an increase, it is still insignificant, showing the stagnation of labour opportunities in rural areas, probably due to self-employment and decreasing employment opportunities in agriculture. The employment rate of men was slightly higher in rural areas in all years analyzed, and no significant changes have occurred during the previous decade in this regard. However, the urban employment rate fell from 49 percent in 2000 to 44 percent in 2011. In the period of 2012–2016, urban employment decreased until 2014 to 42 percent and maintained that level through 2016, whereas rural employment slowly but constantly increased from less than 35 percent in 2012 to about 40 percent in 2016.

Figure 12. Activity and employment rates in Republic of Moldova by area, 2012–2016 (percent)



SOURCE: NATIONAL STATISTICAL SERVICE OF THE REPUBLIC OF MOLDOVA.

The percentage of the population who are economically active is lower in Republic of Moldova than in other Eastern European countries due to the massive out-of-country migration of the active labour force. Just 38 percent of the total population were economically active in Republic of Moldova in 2012, while almost all other countries in the region had economically active populations of 50 percent. In 2016, the active population's share increased to 42.6 percent of the total population in Republic of Moldova. However, the share of active agricultural population was the highest in Republic of Moldova in 1992 (14 percent) among Eastern European countries, while it became one of the lowest (5 percent) in 2016.

People living in rural areas account for 57.2 percent of the population, while 42.9 percent live in urban areas. Young people (between 15 and 29 years old) represent 22 percent of the population of Republic of Moldova, with 62 percent of them living in rural areas. Young people represent 23 percent of the total rural population. One of the most pressing issues was and remains the placement of young people in the labour market.

The employment rate of young people is lower compared to the total economically active population. According to National Bureau of Statistics data, based on the Labour Force Survey (2016), the employment rate of young people has lately fluctuated between 28.4 percent and about 31 to 33.3 percent. The value of the indicator is dependent on whether the calculation includes the number of young people missing from the country for more than 12 months due to migration. The unemployment rate among youth is about twice as high as in the total economically active population.

The youth employment rate increases with age: For young people aged 25 to 29, the rate is 42.4 percent, while for young people aged 15 to 19 and 20 to 24 it is 8 percent and 24.4 percent, respectively.

The chances of employment are quite problematic. The situation in which young people in Republic of Moldova are now, where youth unemployment is still high compared with other age groups, is troublesome.

The highest concentration of young people on the labour market is observed in urban areas, with the employment rate reaching about 34 percent. In rural areas, the employment rate is roughly 23 percent. This is due to limited employment opportunities in rural areas, as well as to the massive migration of young people from the countryside to the cities or to other countries in search of jobs that will provide decent livings. The empirical data point to the inequality of employment opportunities and incomes for rural youth. Only 54 percent of young people from rural areas find a significant job after leaving the education system, while in the urban area the proportion is 75 percent. About 83 percent of young people are employed, and 12.1 percent are self-employed. In rural areas, one-fifth of workers are self-employed in agriculture, according to the School-to-Work Transition Survey (NBS, 2015).

Young people with limited education have the lowest employment rate in rural Republic of Moldova. Employment rates in rural areas declined from 24 percent in 2000 to 2 percent in 2016 (Table 12). Moreover, for those who have not advanced beyond primary education, it was hardest to find job opportunities in rural areas: For these people, the rural employment rate fell from 30 percent in 2000 to 7 percent in 2016. Overall, rural employment rates have fallen since 2000 for people at all levels of education.

The reasons for the lack of youth employment in rural areas are low wages, unattractive jobs, lack of professional experience, limited supply of jobs, lack of training to the demands of the labour market, and reductions in the interest and motivation of young people to work in the agricultural sector. These also are the factors that have intensified the youth labour migration to other countries. The loss of professionally trained human potential has caused serious consequences for the country’s economy and human capital.

Table 12. Employment rates in Republic of Moldova by age group and level of education, 2000–2016 (percent)

		2000		2016	
		Urban	Rural	Urban	Rural
Higher	Employment rate	68.1	79.6	59.6	50.5
	Unemployment rate	8.7	–	4.9	3.1
Secondary specialized	Employment rate	59.6	72.9	42.7	46.9
	Unemployment rate	13.4	3.3	4.3	2.6
Secondary professional	Employment rate	58.1	74	46.6	47.3
	Unemployment rate	17.6	3.9	5.3	3.2
Secondary school	Employment rate	41.1	66.5	33.7	41.7
	Unemployment rate	21.1	3.7	7.9	1.5
Gymnasium	Employment rate	21.5	54.6	22.4	34.6
	Unemployment rate	24.3	3.6	11.9	2.7
Primary or no education	Employment rate	14.8	29.5	1	7.1
	Unemployment rate	–	–	–	4.7

SOURCE: NATIONAL STATISTICAL SERVICE OF THE REPUBLIC OF MOLDOVA.

Migration has reshaped Republic of Moldova’s workforce and the economy as a whole. Most of the working-age population live in rural areas, and the majority of emigrants are from rural areas. This means that a widening share of the remaining Moldovan workforce is urban. Though causality cannot be determined, this raises a question: Which came first, the drop in agricultural employment or the rise

in emigration from rural areas? From 2000 to 2005, the number of emigrants nearly quadrupled. By 2008, an estimated 40 percent of Moldovans of working age were living and working abroad. Although the global financial crisis had a dampening effect on emigration, the number of emigrants remained at around three times the number in 2000 and was creeping higher. Since 2010, Moldovans have continued to migrate abroad in search of more and better jobs – especially people in the 25-to-34 age group, who are typically considered the engines of growth in a country.

According to the International Labour Organization's publication "Migrant workers: The Case of Moldova" (2017), the Russian Federation is the most popular destination for labour migration from Republic of Moldova, hosting 69 percent of all migrant workers. The Russian Federation is followed by Italy, which hosts 14.3 percent, Israel (2.5 percent), France (2.3 percent), Turkey (2 percent) and other countries, including Spain, the United States of America, Canada, Portugal, Germany and Greece.

A large percentage of emigrants abroad are from rural areas. Rural residents make up slightly more than half of the active population in Republic of Moldova, while they accounted for 70.9 percent of persons who were working abroad or looking for work abroad in 2010. Likewise, differences regarding migration are noticeable when looking at regions of origin. It is the population from the south of the country who mostly emigrate from the country to work or to look for work abroad (about 39.5 percent of the active population in the region). Roughly 8 percent of the active population in the capital are emigrants going abroad (Vladicescu and Vremis, 2012).

3.4.3 Income, consumption and poverty

In the Republic of Moldova, the poverty indicators are calculated by the National Bureau of Statistics based on the Household Budget Survey data. The methodology used to calculate the poverty indicators was developed in 2006, with the technical assistance of international experts and in compliance with the best international practices. It hasn't been adjusted since then.

Poverty rates are determined by comparing household consumption with a certain poverty line. The absolute poverty line represents the amount of the monthly expenditures for food products and non-food goods and services. The extreme poverty line represents the monetary value of food items only, defined in terms of the minimum recommended daily calorie intake. People are considered to be poor if their monthly expenditures are below the poverty line.

The absolute national poverty rate in Republic of Moldova fell from its peak of 73 percent in 1999 to 9.6 percent in 2015, and the extreme poverty rate declined from 59.7 percent to 0.2 percent in the same period. While the country's recent economic performance has helped reduce poverty and promote shared prosperity, poverty nevertheless remains an issue, with 45 percent of the population surviving on EUR 5 per day or less. The majority (75 percent) of the poorest 40 percent of the population live in rural areas. In 2014, the poverty level in rural areas was 7.5 times higher than in urban areas; the poverty rate was 16.4 percent, compared to 2.2 percent in cities and 8.4 percent in towns, according to the National Human Development Report (2015/2016). Despite that the poverty rate was decreasing, the number of persons below the poverty threshold in rural areas was over 335 000, or about 80 percent of total poor in the Republic of Moldova. Largely, poverty in rural areas was determined by the lack of employment opportunities, as well as the high employment in agriculture (over 53.3 percent of active rural population). As the worst remunerated sector, agriculture cannot ensure sufficient income for a decent standard of living.

Based on the National Human Development Report (2015/2016), about 80 percent of households' consumption expenditures is spent on food, house maintenance, clothing, transport and communications, whereas the expense share for education and leisure time is quite modest: 0.7 percent and 2 percent in urban areas and 0.5 percent and 0.7 percent in rural areas, respectively. There also are significant disparities by gender, age, disability, and education. Particularly exposed to poverty are elderly people, especially women living in rural households, and families with disabled adult members.

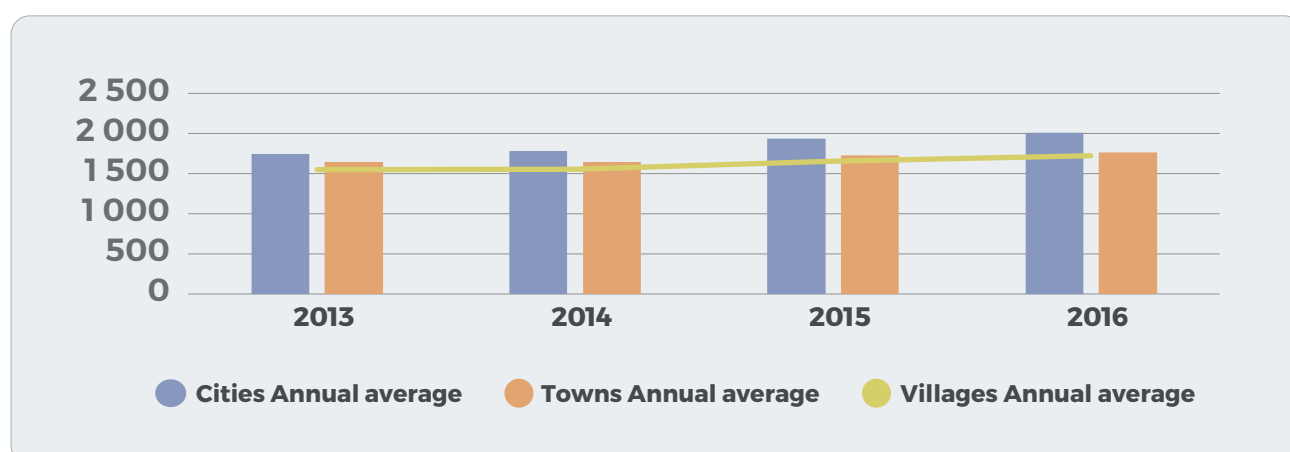
Although the Republic of Moldova has registered certain progress lately in income increases, leading to a reduction of poverty, the situation is still uncertain. The income of the population remains among the lowest in the region. From 2010 to 2015, the average disposable income of the population grew by 53.5 percent, from MDL 1 273.7 to MDL 1 956.6. At the same time, the discrepancy between the incomes of urban and rural populations increased – from 23.6 percent in 2010 to 41.8 percent in 2015 – proving that social inequalities between urban and rural populations have deepened.

The Republic of Moldova has made many attempts to reduce gender-based inequalities, including through government policies and legal instruments; however, the registered progress in gender equality is still slow. According to the NBS, in 2015 women were earning, on average, 12 percent less than men, or 87.6 percent of the average salary of men, which is MDL 543 (EUR 25). The average salary of women was MDL 3 831.7 (EUR 174), while the average salary for men was MDL 4 374.9 (EUR 200). Gender salary disparities to the detriment of women were registered in 2015 in such sectors as information and communications (23 percent), industry (18.3 percent), arts, recreation and leisure activities (15.1 percent), and others. Also, there was a critical situation in 2014, when gender salary disparities existed in such sectors as financial and insurance activities (27.6 percent) and administrative services (20.8 percent).¹⁶

Low employment rates in rural areas are highly determined by low wages in agriculture compared to other sectors of the economy. Agricultural wages were around 60 percent of the national average in 2014–2015. Low wages and the limited number of jobs have created stable patterns of poverty in rural areas. The subsistence level was lower in rural areas compared to urban ones in 2013–2016 (Figure 13), though an increase in nominal terms has occurred. However, urban households experienced a two-fold increase in their real subsistence level between 2013 and 2016, while the subsistence level of rural households was actually constant in the previous decade.

¹⁶ National Human Development Report (2015/2016), National Bureau of Statistics

Figure 13. Subsistence level by area in 2013–2016 (MDL nominal values)

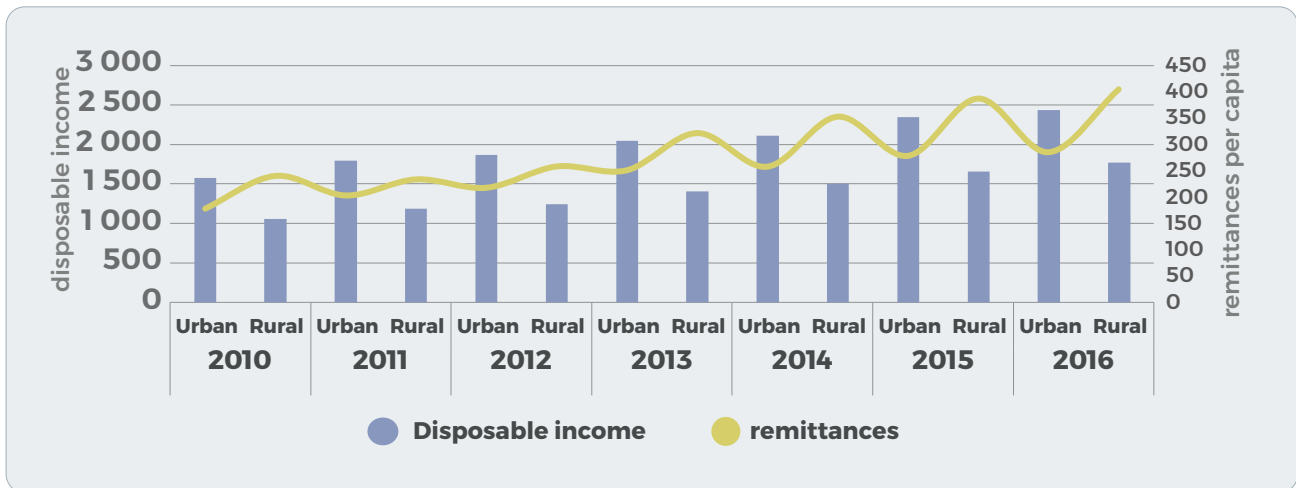


SOURCE: NATIONAL STATISTICAL SERVICE OF THE REPUBLIC OF MOLDOVA.

The minimal salary is calculated in Republic of Moldova in the budgetary sector and in the real economy, which lies at the core of salary policy promoted in the Republic of Moldova. The minimum guaranteed salary in the real sector of the economy is MDL 2 610, as of 1 May 2018, as established in accordance with Government Decision No. 165 of 09 March 2010 “regarding the minimal guaranteed quantum in the real sector based on three-dimensional negotiations among trade unions, employers and the State.” The minimum salary in the public sector is MDL 1 000, established in accordance with Law No. 1432 of 28 December 2000 on the method of setting and re-examination of the minimal salary. In 2014, the minimal salary per economy was lower than the poverty threshold (MDL 1 000 compared to MDL 1 257).

Over the years, low salaries have resulted in international labor migration. Every fifth Moldovan is working abroad, and every fourth out-migrant is from rural areas. According to national statistics, some 320 000 people (around 10 percent of the total and 20 percent of the active population) are currently working abroad. Among them are young agricultural entrepreneurs who could be generating innovation and implementing modern technologies in agriculture and rural businesses within Republic of Moldova. These official migration figures are believed to be highly under-reported, while real migration numbers are much higher. In line with the out-migration process, remittances play an increasingly important role in the income of rural Moldovan households. The share of remittances in the total disposable income of urban households was 12 percent, while it was 21 percent for rural households in 2010–2016 (Figure 14). This share showed a quite stable trend for urban but an increasing trend for rural households, indicating that rural people became increasingly dependent on the money sent home by family members migrated abroad.

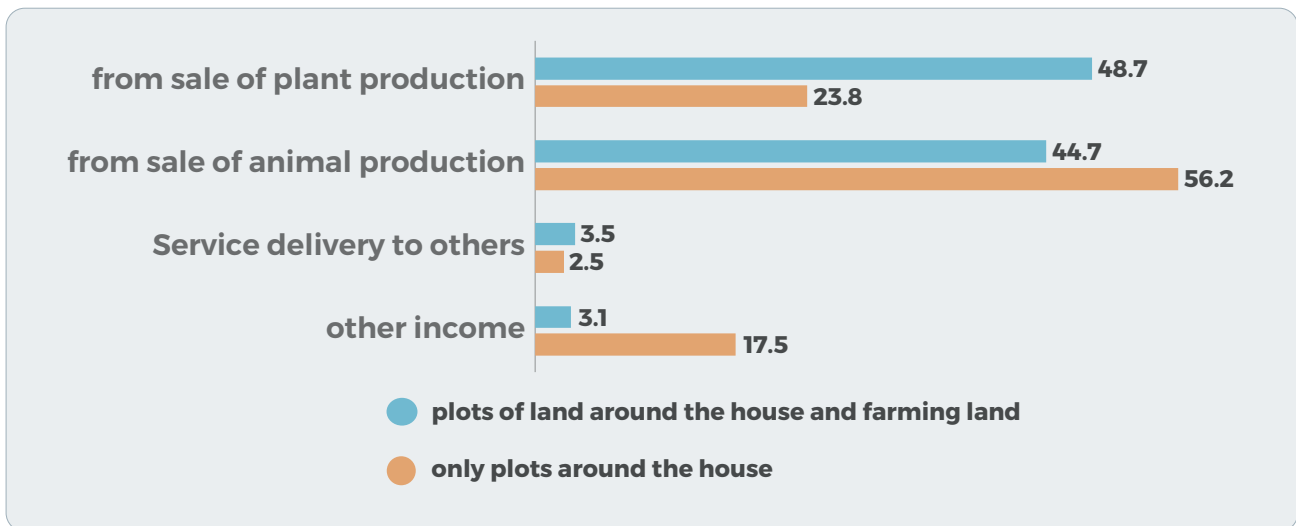
Figure 14. Monthly average total disposable income and remittances per capita in 2010–2016 (MDL)



SOURCE: NATIONAL STATISTICAL SERVICE OF THE REPUBLIC OF MOLDOVA.

Besides remittances, the income of those working in rural areas is highly dependent on self-employment in agriculture, as well as on pensions. Money sent from abroad (remittances) accounted for 21 percent of the income in rural areas of Republic of Moldova in 2016, while 20 percent came from agricultural self-employment, 17 percent from pensions and the rest (43 percent) from formal employment and other income. Adding these up, the source of most rural income was not formal employment, while urban residents earned 55 percent to 63 percent of their income at their workplace.

Figure 15. Structure of income in percentage obtained from agricultural activities in farms, 2016

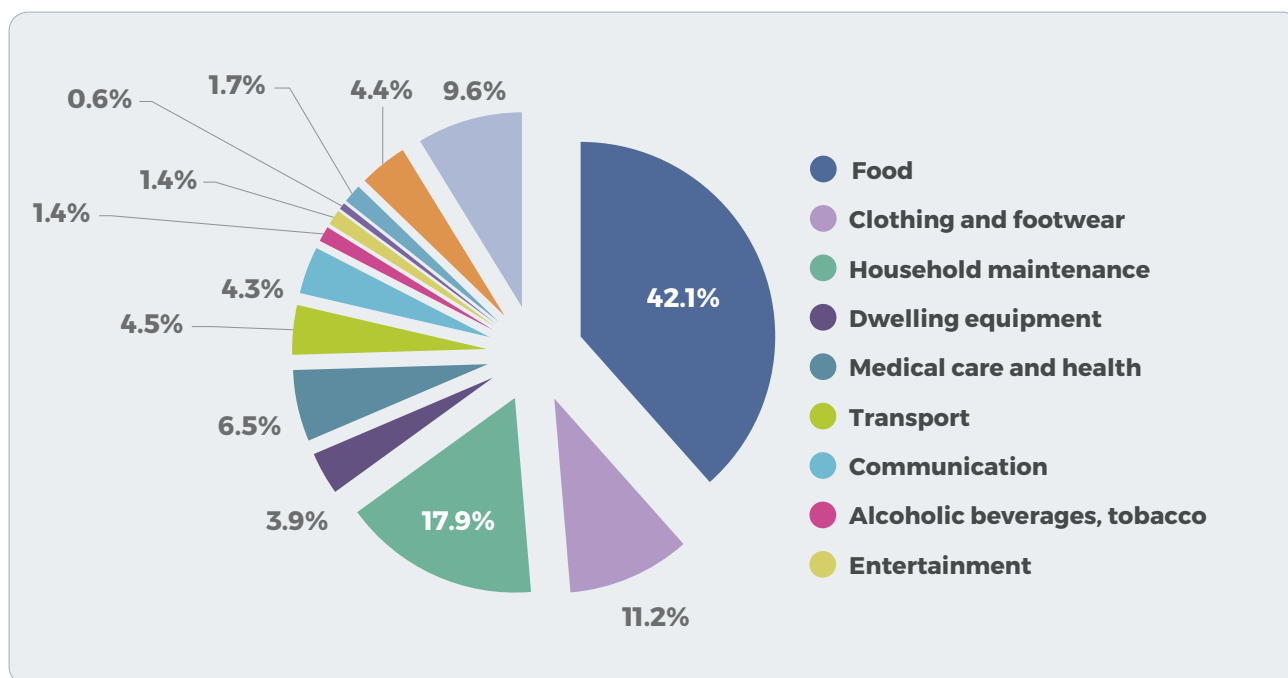


SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD](http://www.statistica.md)

Household consumption expenditures are mainly influenced by the level of disposable incomes. Average monthly consumption expenditures account for MDL 2 048.5 per person. The urban area registers a higher value for consumption expenditures – MDL 2 475.4 – while the rural area registers an amount of MDL 1 724.1 per month. The majority of expenditures are meant to cover needs, with most spent on food products (42.1 percent), followed by expenditures for dwelling maintenance (17.9 percent) and clothes and shoes (11.2 percent). Other expenditures were meant for medical care and health assistance

(6.5 percent), transportation (4.5 percent), communication (4.3 percent), dwelling equipping (3.9 percent), etc.

Figure 16. Structure of consumption expenditures, 2016



SOURCE: NATIONAL BUREAU OF STATISTICS, [HTTP://WWW.STATISTICA.MD](http://www.statistica.md)

The structure of consumption expenditures is also determined by area of residence. Thus, while rural households directed most of their expenses towards food products (44.8 percent), urban households spent only 39.6 percent on food products, leaving open the possibility of spending additional income on non-food goods and services.

3.4.4 Food security

The food requirements of Republic of Moldova's population are largely met, but the proportion of people consuming insufficient quantities of food remains a concern. The average level of per-capita daily food energy consumption in Republic of Moldova has consistently been above the recommended values from the World Health Organization (WHO), and this trend continues: The average daily consumption in 2013, around 2 400 Kcal, compared favorably with the WHO recommended benchmark of 2 050 Kcal (Schuman *et al.*, 2015).

The availability of food in Republic of Moldova is overall not a major challenge, but production volatility suggests caution. The population's needs largely are being met by domestic production, with imports filling the gap. There are several factors that impede the stability of food supply – such as severe droughts that affected the country in 2003, 2007 and 2012, not only devastating the crop sector, but also negatively affecting the livestock sector – in addition to (i) limited access to irrigation, (ii) slow uptake of modern agronomic practices and technologies, (iii) lack of income stabilization tools, and (iv) loose food safety standards.

Access to food in urban and rural areas is determined by numerous factors, because urban and rural households source their food differently. While urban households must primarily purchase their food, rural households largely rely on self-produced foods. As a result, the access to food of urban households is almost entirely dependent on their purchasing power and on food price patterns, while for rural households, their agricultural activities represent not only a source of income, but also a safety net in terms of actual food. Of course, the opposite is also true: Rural households face an additional direct threat in the form of any adverse events that affect their harvest. The implications of such distinct methods of food sourcing are in practice manifested by the fact that poor urban households more often suffer from deficiencies related to food quantity (higher food energy deficiency rates, for example), while poor rural households suffer more often from deficiencies related to food quality, such as higher staple intake rates.

Access to food also does not represent a major impediment for achieving greater food security. However, rural households remain more vulnerable due to volatile incomes. Food prices in Republic of Moldova have grown steadily over the last decade, but at a slower pace and with less volatility than world food prices. At the same time, nominal incomes of Moldovan households – urban and rural – have recently grown faster than food prices. Most importantly, the incomes of the poorest 20 percent of the population have doubled between 2006 and 2012, driven strongly by the increase in rural areas due to growing agricultural prices and the strengthening of remittance flows. However, despite headline improvements, rural households that depend on agriculture-related jobs remain more vulnerable, mainly due to four factors: (i) the volatility of seasonal food prices; (ii) greater income volatility; (iii) greater dependency on self-production of food; and (iv) greater dependency on remittances, which represent between 20 percent and 25 percent of the total income of rural households, as opposed to 5 percent to 10 percent among urban households.

According to the 2015 Republic of Moldova Food Security Assessment (Schuman *et al.*, 2015), the most critical issues to address with regards to food security outcomes and dimensions in Republic of Moldova are: (i) smoothing food availability, especially by addressing the volatility of domestic supply and increasing trade integration, and (ii) improving economic access to food to the most vulnerable population groups.

3.4.5 Social Protection

The goal of social protection is to reduce the risks of poverty and exclusion of all people through a set of public policy measures and policies. The possibility of social protection providing adequate and relevant support depends on the volume of funds allocated. In 2017, the social protection expenditure amounted to roughly MDL 19.35 million, which represents about 13.6 percent of the country's gross domestic product (GDP). Social protection has the largest share in National Public Budget (NPB) spending – about 33.9 percent. In 2018, the same amount of social protection expenditures is expected – MDL 20.9 million, which represents 13.1 percent of the GDP and 33.9 percent of the expenditures of the NPB.

The formal social protection system in Republic of Moldova has two major components: state social insurance and social assistance.

The social insurance system covers all residents of the Republic of Moldova. Social security contributions are compulsory and are differentiated by the category of the payers: employers, employees and self-employed. In 2015, pensioners formed 19.4 percent of the total population, with 29.5 percent of them being men and 70.5 percent women.

Pensioners in the agricultural sector account for approximately 40 percent of the total number of old-age pensioners. The share of women among the total number of pensioners in the agricultural sector is nearly 68 percent, while the share of men is 32 percent. In accordance with the law on pensions, the categories of agricultural workers include: (i) owners and/or tenants of agricultural land; (ii) members of agricultural or other forms of association in agriculture; and (iii) persons carrying out agricultural activity within a household or within an agricultural association. The amount of the allocated pension is based on duration of employment, the size of insured income (wage), the size of contributions to state social insurance, and other factors that are established in the legislation. The legal framework includes provisions to protect low-income pensioners, mostly farmers and the self-employed. In accordance with the law “On State Social Insurance Pensions,” if the retirement pension is less than the minimum old-age pension, the social pension is provided (FAO, 2016).

Since 2009, individual landowners and tenants who work on an individual basis are not included in the list of the mandatory insured. They have the option to make voluntary insurance payments by signing an individual state contract with the National Social Insurance Office and by paying a fixed annual contribution, which is four times lower than the amount paid by other sectors. Another legal provision aimed at owners or tenants of agricultural lands is the opportunity for retrospective social insurance. This involves annual social insurance contribution payments of 1 584 MDL, which provide the person with the right to a certain amount of social security (a minimum retirement pension and a burial allowance) (FAO, 2016).

Despite policy measures to secure access to pensions for the population engaged in agriculture, farmers – and especially women working in farms – receive lower pensions than other groups. The wage replacement rate in agriculture in 2014 amounted to 34 percent, compared with an average wage replacement rate of 27 percent for the whole economy. The average old-age pension for women in the agricultural sector is approximately 94 percent of the average pension for men in the same sector, and it is 83 percent of the average pension for women who worked in a non-agricultural sector (FAO, 2016).

Social assistance is provided through cash transfers and social services. Most of the social protection expenditure (65 percent) is allotted for social insurance, with 35 percent for social assistance. These shares have remained constant in recent years. The funds for social assistance are largely spent on social security payments (94 percent), with only 6 percent of funds are spent on social services.¹⁷

In 2008/09, the Government initiated a reform of the social protection system, introducing the *Ajutor Social* programme, which focused on cash transfers to the poorest segments of society. This programme marked a radical change in the social protection system in the country by moving away from small benefits based on a categorical approach to targeted ones that aimed at reaching the poor. For this purpose, the programme introduced a methodology that combined incomes and proxy means testing to determine eligibility and ensure that benefits are channeled to the poor. Introduced in 2008 on a pilot basis, the programme was scaled up in 2009. In parallel, the categorical programmes preceding it – such as nominative compensations, family and child benefits, social pensions and material aid – have slowly been downsized; in April 2012, the programme of nominative compensations was abolished. The monthly number of *Ajutor Social* beneficiary households increased from 30 000 in 2010 to 55 500 in 2014. At the same time, the share of transfers going to the poorest 20 percent of the population has exceeded 70 percent since 2010. The coverage of the cash transfers programme in the poorest quintile

¹⁷ Expert-Group article on Social Protection in Moldova, <https://monitorul.fisc.md/mic/expert-grup-despre-protectia-sociala-in-moldova.html>

was 23.8 percent in rural areas and 15.3 percent in urban (2013),¹⁸ which can be a sign of higher poverty rates among rural dwellers.

Another significant social scheme aimed at supporting the poor is the Heating Allowance programme, which is implemented to top up the Ajutor. The Heating Allowance programme has also demonstrated positive results, with 133 000 people benefitting from financial aid during the cold season. In other social protection schemes, such as social pensions, the discrepancies between urban and rural areas are not so pronounced; 8.1 percent of rural social pension recipients are in the poorest quintile, vis-à-vis 9.7 percent in urban areas.

Overall, the recent reforms of the social assistance system, and especially the introduction and expansion of the targeted Ajutor Social programme, generated some promising results. However, building a stronger and targeted safety net accessible to all small-scale farmers will promote resilience of rural livelihoods by strengthening farmers' risk management and economic capacity to withstand economic, environmental and social shocks, gradually moving them from subsistence livelihoods to sustainable productivity.

3.4.6 Infrastructure

The bad condition of physical infrastructure is another factor limiting development possibilities in rural Republic of Moldova. The amount of water supplied to rural consumers was around 10 percent of the amount received in urban areas, while the length of the rural sewage system was 80 percent less than that of urban areas in 2009–2015. Rural population had a third of the gas supply of urban areas in 2016, while the number of telephone lines in rural areas was around 50 percent of urban areas.

¹⁸ ASPIRE: The Atlas of Social Protection - Indicators of Resilience and Equity, <http://datatopics.worldbank.org/aspire/country/moldova> retrieved on 04 February 2019

Table 13. Selected indicators for infrastructure by area (2009–2015)

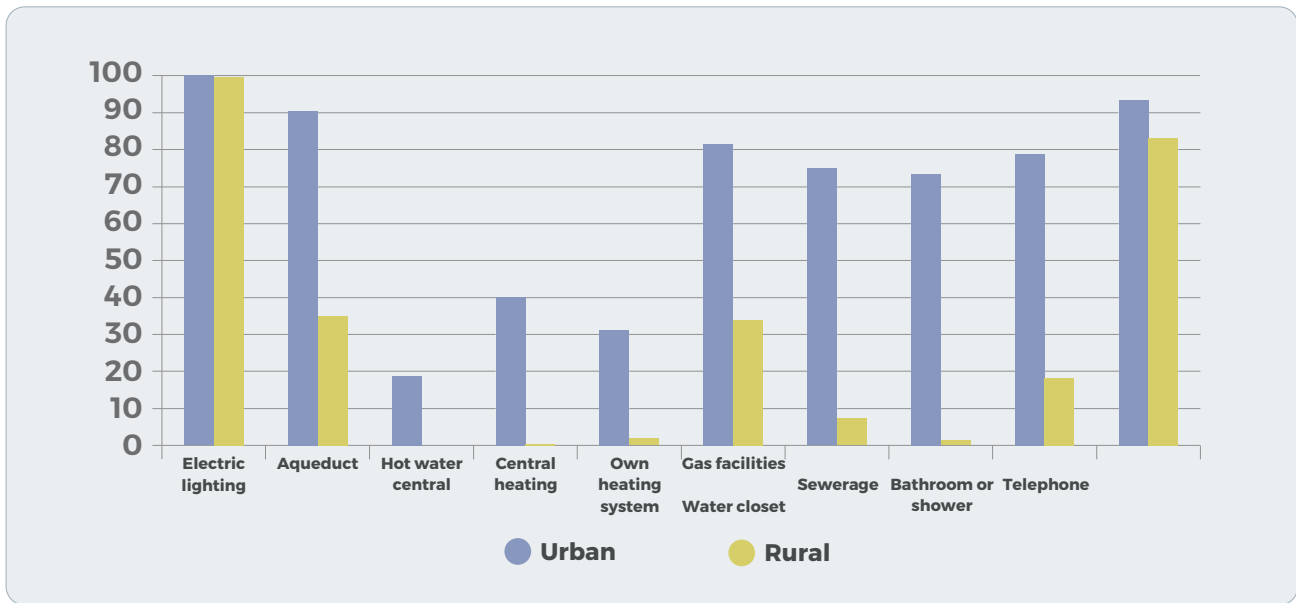
Indicator	2009	2010	2011	2012	2013	2014	2015
Length of water pipe system – total, km	8 036.2	8 509.9	8 914.7	9 324.2	9 901.1	10 483.7	12 756.5
in urban areas	4 371.8	4 462.4	4 545.9	4 585.2	4 839.8	4 457.2	4 696.0
in rural areas	3 664.4	4 047.5	4 368.8	4 739.0	5 061.3	6 026.5	8 060.5
Water supplied to all consumers – total, millions of cubic meters	78.1	75.0	73.5	74.9	74.9	74.3	79.5
in urban areas	70.9	67.9	66.1	66.6	66.8	62.8	63.4
in rural areas	7.2	7.1	7.4	8.3	8.1	11.5	16.1
Of which, water supplied to population, millions of cubic meters	53.5	51.3	51.2	52.1	52.8	53.2	57.3
in urban areas	47.5	45.5	44.8	44.8	45.7	43.0	43.1
in rural areas	6.0	5.8	6.4	7.3	7.1	10.2	14.2
Length of sewage system – total, km	2 548.5	2 586.5	2 592.1	2 602.1	2 633.4	2 690.7	2 779.1
in urban areas	2 141.9	2 182.3	2 235.9	2 241.4	2 279.3	2 187.7	2 232.6
in rural areas	406.6	404.2	356.2	360.7	354.1	503.0	546.5
Sewage waters purified at purification stations – total, millions of cubic meters	68.8	70.1	66.3	64.4	63.8	63.8	67.6
in urban areas	68.3	69.6	65.8	63.9	63.3	63.0	65.4
in rural areas	0.5	0.5	0.5	0.5	0.5	0.8	2.2
Length of gas pipes – total, km	17 408.6	19 003.4	20 203.5	21 070.3	21 537.6	21 843.4	22 129.3
of which:							
in urban areas	5 968.0	6 139.3	6 272.8	6 471.3	6 564.9	6 642.7	6 743.4
in rural areas	11 440.6	12 864.1	13 930.7	14 599.0	14 972.7	15 200.7	15 385.9

SOURCE: NATIONAL BUREAU OF STATISTICS OF THE REPUBLIC OF MOLDOVA.

The existing physical infrastructure is in high need of repair or reconstruction. The quality and reliability of Republic of Moldova's water supply and wastewater services are generally in poor condition, especially in rural areas, where the quality of water does not always meet hygienic requirements. It is reported that about 10 percent of samples from urban water supplies and 16 percent in rural areas are contaminated with coliforms.

Rural households have fewer dwelling facilities than urban households. Besides electricity, which has 100-percent coverage in Republic of Moldova, rural households often lack hot water, central heating and sewage systems. About 33 percent of rural households had a bathroom or shower in 2016, and less than 14 percent had a water closet. The same number for urban households were 83 percent and 78 percent, respectively. Tap water access and gas facilities are also limited in rural areas (45 percent) (Figure 17).

Figure 17. Household equipment by dwelling facilities and area, 2016



SOURCE: NATIONAL BUREAU OF STATISTICS OF THE REPUBLIC OF MOLDOVA.

The road network is probably in the poorest condition among all physical infrastructures. An assessment carried out by the Government in 2006 estimated that only 7 percent of the road network could be considered to be in a good or satisfactory condition, while the remaining 93 percent was in a bad or very bad technical state. The state of local roads was found even worse, with only some 2 percent of assessed roads considered in a reasonably good technical state. Although nearly every village in Republic of Moldova is accessible on asphalt roads, the bad condition of local and village roads causes injuries to people and damage to vehicles and transported products, such as fruits, vegetables and milk. This obviously increases transportation costs, but it also adversely affects production quality, quantity and sales prices throughout the supply chain.

3.4.7 Gender aspects

By global and regional standards, gender equality in Republic of Moldova is high. The World Economic Forum’s most recent Global Gender Gap Index (2015) ranks Republic of Moldova 26 of 145 countries, with only Latvia (18) and Estonia (22) rated higher amongst Eastern European and former Soviet states. Primary and secondary education completion rates are close to 100 percent and essentially equal for boys and girls; the university completion rate is also high, and 58 percent of university graduates are female.

According to the UNDP Gender Inequality Index (GII), which reflects gender-based inequalities in three dimensions – reproductive health (measured by maternal mortality and adolescent birth rates), empowerment (measured by the share of parliamentary seats held by women and attainment in secondary and higher education by each gender), and economic activity (measured by the labour market participation rate for women and men) – Republic of Moldova has a GII value of 0.226, ranking it 48 out of 160 countries in the 2017 index, with the countries with lower gender inequality at the top of the list. In Republic of Moldova, 22.8 percent of parliamentary seats are held by women, and 95.5 percent of adult women have reached at least a secondary level of education, compared to 97.4 percent of their male counterparts. Female participation in the labour market is 39.5 percent, compared to 45.8 for men.

Republic of Moldova also has progressed substantially in terms of legislation. National priorities on gender focus on equality in the labour market, increasing women's representation in politics, improving the enabling environment for women entrepreneurs, and combating gender-based violence. The country's constitution provides for gender equality, as does the Law on Equal Opportunities for Men and Women (2006) and the Law on Equality (2012, amended 2014). In line with commitments under its Association Agreement with the European Union, Republic of Moldova has also established a Gender Equality Coordination Council, which elaborated a National Gender Equality Strategy for 2016–2020.

According to the General Agricultural Census conducted in 2011, 36 percent of agricultural holdings in the country are headed by women. Of all agricultural holdings, the percentage of female-headed holdings is highest in Chisinau municipality (41 percent) and lowest in the Territorial Administrative Unit Gagauzia (33 percent). Generally, male holders manage larger areas of land than female holders. On average, male holders manage 1.21 ha, compared to 0.86 ha managed by female holders. Women lag in most aspects related to agricultural activity. Of the agricultural holdings that benefit from consulting services, just 29.8 percent are headed by women. When it comes to modernization of agricultural holdings, 32.2 percent are headed by women, and in diversification of farm activities, 34.6 are headed by women.

According to the “Profile of Women from Rural Areas” (UNDP & UN Women, 2016), rural women constitute a significant share of the population in the country, so their involvement in community development where they live – and, consequently, to the development of the country as a whole – is inevitable. The traditionalism of Moldovan society, which is particularly prevalent in rural areas, assigns differentiated social roles according to gender; women are responsible for housework, childcare, care of the elderly and housekeeping, and they participate less as members of public organizations and political parties, with such activities being attributed largely to men.

Despite existing challenges regarding the opportunities to contribute to development, women are involved in decision-making and in leading processes through community-level groups, women's organizations and other forms of collective commitments. For example, tendencies towards positive dynamics regarding the share of women elected to the position of mayor have been observed; those figures rose from 18.2 percent in 2007 to 18.5 percent in 2011 to 20.6 percent in 2015. Members of local councils were 26.5 percent women in 2007; these figures rose to 28.6 percent in 2011 and to 30.0 percent in 2015.

To encourage women to become actively involved in agricultural activities, additional support for women agricultural producers is provided by the Regulation on Distributing Financial Means of the National Fund for Agriculture and Rural Development. In 2017, when subsidies accounted for 50 percent of farmers' investments, 65 percent of subsidy beneficiaries were young farmers and women.

3.4.8 Forestry and Aquaculture

FORESTRY

Republic of Moldova's forests cover 11 percent of the land area (379 300 ha). Forests tend to grow on hilly areas, with the majority of forests located in the central part of Republic of Moldova. Slightly fewer forests are located in the north, and even fewer are in the south. The forests are mainly broadleaved,

with oak, ash, hornbeam, black locust and poplar being the most significant species. Planted non-native conifers account for just 2 percent of the forest area.

The forestry sector's direct economic contribution to the economy is difficult to estimate, as the structure of gross domestic product (GDP) by sector includes agriculture, forestry and fishing in one single category, which in 2016 represented 12.19 percent of the GDP. Nevertheless, it can be estimated that the contribution of forestry to the economy is below 0.5 percent.

Many rural households depend on Moldovan forests as an important source of fuel for heating and cooking, and they rely on non-timber forest products, such as berries, nuts, mushrooms and pastures (for grazing and fodder), for subsistence and income.

Republic of Moldova law allows for the collection of medicinal herbs, berries and wild fruits from forests. The requirements are provided in Law No. 239, dated 8 November 2007, on the vegetal regnum (specifically, article No. 27, titled "Collection and trading of vegetal regnum goods"). Both physical and legal entities may ask for the respective authorizations, following a quite uneasy procedure. First, the applicants need to get a scientific endorsement from the Botanical Garden Institute of the Academy of Sciences of Moldova. In their requests, applicants must indicate what plants they want to collect and in what quantity, along with a map of the regions in which they are going to collect. This endorsement is provided against payment. Second, based on the scientific endorsement, the solicitors must obtain an authorization from the Department of Natural Resources and Biodiversity in the Ministry of Environment. The authorization, which is provided for a period of 12 months, provides for the "collection of vegetable regnum goods (medicinal plants/berries/wild fruits)" in accordance with the annexes containing the name of the plants and the quantity allowed for harvesting. Third, the solicitors must acquire a certificate on the activities aimed at chemical control of pests in the areas of plant collection, which is issued by the Institute for Forest Research and Arrangements.

Picking up medicinal plants, berries and wild fruits from the forest by smallholders and family farms – and by the general population – is quite common. These products are available on the local markets throughout the growing season. However, there are statistical data neither on the quantities collected and sold nor on the numbers of smallholders or family farms involved in this kind of activity.

AQUACULTURE IN REPUBLIC OF MOLDOVA

There is little data on aquaculture in Republic of Moldova. The National Bureau of Statistics presents only series on fisheries combined with agriculture, and there is no separate data series on aquaculture. The Ministry of Agriculture collects some of the data related to this sector, but it neither makes data series nor displays these data publicly. Some data from this area are being produced by FAO, and the most recent report (2013) states in general terms that Republic of Moldova is rich in retained water resources. The report also compares the size of the country with the total area of artificial water reservoirs and ponds, noting that Republic of Moldova has the largest such resources among countries of Central and Eastern Europe.

The total artificial water surface in the country is relatively large; there are 41 707 ha of water reservoirs and ponds, of which 20 507 ha (49.2 percent) are used as fish farms. This is mainly due to the country's good topography and abundant water resources. Most of the water used for aquaculture is the property of local public authorities.

In 2010, the fish production facilities in the country consisted of:

- one state-owned enterprise, consisting of one scientific branch and three production branches;
- 18 joint-stock companies (former state aquaculture enterprises);
- 56 medium-sized and small fish farms, which are included in the Piscicola Association; and
- more than 100 small fish farms that use ponds, under the ownership of local public authorities.

Table 14. Fish production facilities in Republic of Moldova, 2010

Type of enterprise	number of fish farms	water area (ha)
State enterprise	1	1 745.6
Joint-stock companies	18	8 133.5
Association of fish farms	56	1 680.0
Small fish farms	100+	8 947.9
Total	175	20 507.0

SOURCE: 2013 FAO REPORT "REVIEW OF FISHERY AND AQUACULTURE DEVELOPMENT POTENTIALS IN THE REPUBLIC OF MOLDOVA."

In 2015, Moldovan fish farms of all types produced about 9 000 tons of fish and fish products that were marketed predominately in the Republic of Moldova. The fish sold in supermarkets is usually in fresh or cooled form, rarely frozen and eviscerated. In small shops, as well as in open markets, live fish are sold directly from fresh fish containers.

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



This chapter describes the current political priorities and the implemented policies affecting smallholders and family farms in Republic of Moldova. Section 4.1 focuses on policies and their relevance for smallholders, while section 4.2 looks into the preconditions needed for comprehensive policymaking targeting smallholders and family farms in Republic of Moldova.

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

In the process of the implementation of its policies, the Moldovan Government is guided by the National Development Strategy “Moldova 2020.” The main objectives are acceleration of economic growth and reduction of poverty in the Republic of Moldova.

Despite the importance of the agriculture and food processing industry as a main contributor to the gross domestic product of Republic of Moldova, the overall National Development Strategy “Moldova 2020” does not specifically mention among its seven priorities the agrifood sector. On the other hand, the Ministry of Agriculture and Food Industry (known presently as the Ministry of Agriculture, Regional Development and Environment) adopted a National Strategy for Agriculture and Rural Development 2014–2020, approved by Government Decision No. 409 from 4 June 2014.

The current National Strategy on Agriculture and Rural Development for the period 2014–2020 guides the structure of spending on agriculture. For the seven-year period, an overall budget of more than EUR 2 billion is foreseen for financing the goals of the strategy.

The strategy identifies a number of priorities and measures to develop the agricultural sector and rural areas, paying adequate attention to modernizing Moldovan agriculture and the food processing sector. Attention is paid to the fundamental link between export potential and the necessary quality standards in food safety and environment protection. A detailed action plan for the implementation of the strategy was developed. It has three general objectives: (1) to increase the competitiveness of the agrifood sector through modernization and market integration; (2) to ensure sustainable management of natural resources in agriculture; and (3) to improve standards of living in rural areas.

4.1.1 National regulations supporting and encouraging smallholders and family farms

In Republic of Moldova, there are no laws regulating the activity of smallholders and family farms specifically. This category of agricultural producers is ruled by the general laws regulating agricultural activity, food safety, cooperation regulations, and subsidy policies. So, the activity of all smallholders

and family farms that registered officially is ruled by the respective laws and also by the civil code, labour code, land code, fiscal code and others.

Aspects related to the reorganization (merging, association, separation and division) of peasant households, including the division of common goods, are regulated by the civil code. Labour relations within the peasant (family) farm are regulated by the labour code and individual labour contracts. The fiscal code regulates aspects related to the fiscal obligations of peasant (family) households.

LAW NO. 1353 OF 11 MARCH 2000 ON PEASANT FARMS

According to this law, a peasant farm has the right to participate in a commercial society and be a member of a cooperative. Also, it has the right to become a member of non-commercial societies, such as associations and unions.

Chapter IX of this law makes provisions on associations of households and unions of associations. Thus – to coordinate activities, training and improvements; to consult with and inform members; to attract investment; to represent and defend the common economic and professional interests – farms have the right to associate, based on their locations and/or production principles, and establish associations of farms. At the same time, associations have the right to form national unions of farms.

Article 28 of this law also stipulates that the assets of the association and union are formed of constitution fees, membership fees, fees for the services they provide, donations, and other revenues not prohibited by law.

Being the first law on this issue, it did not provide detailed criteria for associations. Although it describes the aims and tasks of the leading bodies of associations and contains several provisions on the reorganization or liquidation of associations, the law is lacking in specific provisions such as conditions for the establishment of associations, principles of organization, limits of the mandatory number of members, association models, income distribution models, and more.

LAW NO. 73 OF 12 APRIL 2001 ON BUSINESS COOPERATIVES

This law establishes the legislative framework and general principles for the development of business cooperatives, concerning relations of creation, activity, reorganization and liquidation of cooperatives, as well as associations and their unions.

Chapter XV of the law defines the particularities of agricultural service cooperatives. Article 87 states that agricultural service cooperatives are those cooperatives in which at least three-fourths of the members, including people with auxiliary personal households, are producers of agricultural products.

LAW NO. 1007 OF 25 APRIL 2002 ON PRODUCTION COOPERATIVES

A production cooperative, according to this law, is an enterprise founded by five or more natural persons for the purposes of jointly carrying out production activity and other economic activity, based mainly on the personal labour of its members and cooperation participation shares in its capital. The

size of payments and the net profit of cooperative members are determined proportionally, based on the participation of each member in the cooperative and the amount of agricultural land and/or property each member makes available for use by the cooperative.

Article 62 of the law sets peculiarities of agricultural production in cooperatives. According to the law, an agricultural production cooperative is cooperative in which its agricultural production accounts for at least 50 percent of the annual sales volume, including products from its primary processing. Members of the cooperative farm, in accordance with the law, voluntarily transmit to the cooperative the use rights for the agricultural land belonging to them, for a period of at least one year. Meanwhile, a cooperative farm has the right to buy agricultural land from other owners, including the members of the cooperative; this land then becomes the common property of cooperative members.

LAW NO. 312 OF 20 DECEMBER 2013 ON AGRICULTURAL PRODUCER GROUPS AND THEIR ASSOCIATIONS

As cooperation would make smallholders more competitive by allowing them to consolidate larger volumes, reduce transaction costs, better manage production and post-harvest activities, and enhance their bargaining possibilities, the laws on production cooperatives and on agricultural producer groups and their associations are relevant and very important for smallholders, although indirectly.

The law on agricultural producer groups and their associations establishes the legal framework for the organization, recognition and operation of groups of farmers. It is aimed at valorizing the production of group members, improving the efficiency of their production planning, concentrating supply, and organizing the sale of agricultural products and the terms of financial support related to organization and functioning. Producer groups are groups of legal persons, except non-profit organizations composed of farmers and recognized by the competent authority, whose primary goal is the joint sale of agricultural products of group members.

Article 3 of the law determines the objectives of the establishment and operation of producer groups. These are: strengthening cooperation/association among farmers, increasing income from agricultural activities, sustainably growing economic performance and competitiveness in agriculture, reducing production costs and stabilizing producer prices, and increasing exports of agricultural products and foodstuffs.

According to the law, two governmental bodies are identified with a direct impact on agricultural producers: the Ministry of Agriculture, Rural Development and Environment, and the Agency of Interventions and Payments for Agriculture.

Principles on which producer groups are based include:

- association and operation based on the free will of agricultural producers and of interest and action units of the group for sale of products of group members;
- the functioning of producer groups under the rules of fair competition and stability;
- the organization and functioning of each producer group around a single product or a group of homogeneous products;
- stimulation, including financial, of producer groups from the state and from other development partners; and

- prevention of double taxation on products sold through the producer group, assuming the responsibilities of producer groups as a prerequisite for obtaining financial support from the state.

Article 7 of the law stipulates the conditions for the establishment and activity of producer groups:

- A producer group may form one of the types of organizations under the laws in force. The group will consist of at least five farmers, none of whom may hold more than 20 percent of the votes at the general meeting.
- Membership of a producer group may be acquired by any farmers who declare their intentions in writing to pay the fee established according to the statute of the group and to commercialize their own product or group of homogeneous products within the group, as follows:
 - 50 percent in the first year;
 - 60 percent in the second year; and
 - 75 percent in the third and following years of activity.

Besides the existence of agricultural producers' groups, the present law emphasizes the possibility of groups creating associations with the status of non-profit organizations in order to promote common interests. In the event that the association of producers' groups decides on carrying out some business activity, the concerned association will be reorganized as a commercial society (company) that will have to obey other rules of activity.

In terms of advantages, cooperatives and associations are eligible for preferential access to some government subsidy programs that are not always available to individual farmers. At the same time, in regard to the fiscal aspect, according to the Tax Code of the Republic of Moldova, value-added tax (VAT) exemptions refer to services delivered by an agricultural service cooperative – established in accordance with Article 87 of Law No. 73-XV from 12 April 2001 on business cooperatives – to its members, provided that the goods and services delivered by the cooperative to its members and the goods delivered by its members by the cooperative make up at least 75 percent of the total value of the goods and services delivered by the cooperative.

In conclusion, although the law on agricultural producer groups and associations emerged just in 2013, the previous existing laws provided for general stipulations on collective organization. Among all the existing forms of cooperation in Republic of Moldova, production and entrepreneur cooperatives remain among the most preferable for farmers, with a series of advantages from which especially small farmers can benefit. The legislative framework, though already settled from the normative and regulative point of view, has room for improvement, mainly in terms of tax aspects (tax for income, VAT exemptions, etc.).

**LAW NO. 845 FROM 3 JANUARY 1992 ON ENTREPRENEURSHIP AND ENTERPRISES,
PUBLISHED ON 28 FEBRUARY 1994 IN THE OFFICIAL GAZETTE NO. 2, ART. NO. 33**

This law determines persons who are authorized to carry out entrepreneurial activity in Republic of Moldova on their own behalves and establishes juridical, organizational and economic bases for this activity.

The law should not be applied to physical or juridical persons who are carrying out other kinds of activity besides entrepreneurial. The law sets the economic agents who have the right to carry out an entrepreneurial activity and the organizational/legal forms for doing so. According to this law, there is one type of individual enterprise in agriculture: the peasant farm. Therefore, this law only refers to those smallholders who are legally registered as peasant farms.

4.1.2 Tax benefits and preferences for smallholders and family farms

A reduced value-added tax (VAT) rate of 8 percent is applied for agricultural products as a support for all Moldovan producers, including for smallholders and peasant (family) households. The standard VAT rate is 20 percent. The reduced VAT rate is applied to bread, bakery products, milk, dairy products, plant and horticultural primary production, livestock production (live weight), and sugar beet produced, imported and/or delivered on the territory of Republic of Moldova.

Land tax, as a general rule, should be paid by legal persons and individuals who carry out entrepreneurial activity and by peasant farms in two equal instalments, not later than 15 August and 15 October in the current fiscal year. The fiscal code provides the possibility of a discount of 15 percent off the tax amount if the tax is paid by 30 June of the current fiscal year. This provision refers to all land tax payers, including smallholders and family farms.

According to the fiscal code, the income tax rate for peasant farms is 7 percent of their taxable income (as in the case of individuals), while legal persons pay 12 percent or, in some cases, 15 percent. As a general rule, economic agents are obliged to pay the income tax in four instalments (by 25 March, 25 June, 25 September, and 25 December) of one-fourth the total income tax. The terms are preferential in case of agricultural enterprises and peasant farms, who have the right to pay the income tax in two instalments: one-fourth of the income tax by 25 September and three-fourths by 25 December of the fiscal year.

The fiscal reporting is easier for those peasant farms whose annual average number of employees does not exceed three persons and who are not registered as VAT payers. Those farms should present by 25 March of the next fiscal year a consolidated fiscal report reflecting land tax, income tax, water tax, and local taxes and ensure their payment is made within the same deadline.

In addition, individuals, holders of agricultural land, and residents of Republic of Moldova may benefit from a discount up to 50 percent and 75 percent of the total cost of mandatory health insurance each year if the contributions are made in the first three months of each year.

Also, founders of peasant farms who have reached retirement age are exempted from the tax for area development (area development levy).

Something to keep an eye on for smallholders and family farms is the introduction of a consolidated tax in agriculture that would contribute to the simplification of the tax system for farmers. The draft law on introducing a consolidated tax in agriculture is in the process of revision by the competent authorities. The consolidate tax in agriculture would merge six taxes: income tax, land tax, water tax, territory planning and others. The promoters of this initiative believe that it is in the favour of rural area development and would reduce the fiscal burden of agricultural producers.

4.1.3 State support through subsidies

In 2013, through its subsidy policy implemented by the Agency for Interventions and Payments in Agriculture, the Government established the country's first financial support measures addressed to agricultural producers.

The subsidy regulation for 2013 and 2014 provided for increased support (starting with 10 percent) for producer groups registered as business cooperatives for the plantation of vineyards, investments in production in protected land, and investments in post-harvest infrastructure.

Starting with the year 2015, the agricultural subsidy policy was revised in order to implement the provisions of Law No. 312 of 20 December 2013 on producer groups and their associations. The delay in application of the provisions of the law was determined by a late adoption of the procedures for the recognition of the producer groups, adopted by Ministry of Foreign Affairs and European Integration Order No. 76 from 28 April 2015. A separate support measure was established for stimulation of the establishment and activity of producer groups. Based on this, the producer groups registered according to Law No. 312 of 24 February 2014 could benefit from increased upper limits for investment measures (40 percent to 50 percent higher than for ordinary producers) and an increased value of financial support (10 percent higher).

In addition, the subsidy regulation for 2016, adopted by Government Decision No. 910 of 5 August 2016, established the application of the support measures reflected in Article 19 of Law No. 312 on producers' groups and their associations (Measure 1.8). Producers' groups can benefit from financial support during their first five years of activity, in the value of 5 percent from total production sold by the producer group during the first year of activity and with a gradual decrease to 4 percent, 3 percent, 2 percent and 1 percent in each subsequent year.

Historically, the largest and least efficient subsidies were for a value-added tax (VAT) paid on fertilizers and pesticides, and for a VAT charged on outputs. These subsidies benefit larger commercial farms and encourage overuse of fertilizers and pesticides. The current agricultural subsidies are inefficiently implemented. Most agricultural subsidies in Republic of Moldova are recurrent subsidies rather than investment subsidies and are provided to large farms rather than to small farms. After 2001, subsidies in Republic of Moldova increased, especially in the cereal and oil seed markets. In 2004, MDL 236 million, or 37 percent of total public expenditures, went to farm subsidies and to a growing number of subsidy schemes. Most subsidies from the Ministry of Foreign Affairs and European Integration between 2001 and 2004 were credit incentives to stimulate participation in credit programmes through grants to farmers who repaid agricultural loans. In 2006, plans included reducing inefficient subsidies, such as machinery and technology station subsidies, and directing agricultural subsidies towards producer cooperatives rather than large farms. Recently, the World Bank suggested that Republic of Moldova redirect agricultural subsidies towards more efficient investment grants, and that Republic of Moldova reduce agricultural subsidies by MDL 350 million, especially for larger farms, as part of budget consolidation and tighter fiscal policy (Neumann, Srivastava and Sutton, 2013). In its 2006 agriculture public expenses report, the World Bank also recommended that subsidies be more streamlined and optimized to support increased productivity.

The case study on access to support schemes (Box 10) reveals that although subsidy schemes are open to all agricultural producers, the additional requirements make it impossible for smallholders to access this financial support.

Box 10. Case Study: Access to support schemes

Decision on allocation of the funds of the National Fund for Agriculture and Rural Development, No. 455 of 21 June 2017.

Submeasure 1.1 Stimulation of investment for the production of vegetables and fruits on protected land (winter greenhouses, solariums and tunnels)

Section 17. The minimum eligible area under this submeasure shall be at least 0.1 ha, set up by one and the same agricultural producer.

Note: According to the SC AGROSERA-PRIM catalog, the price of a 7x51 greenhouse of 0.036 ha is about EUR 6 400, and in the case of application for subsidization of at least 0.1 ha, the investment would have to be about EUR 18 000.

Section 22. List of equipment, machinery, new construction materials for greenhouses, solariums, tunnels accepted for financial support under this submeasure is presented in Annex 2 here to Regulations.

Section 23. Additional documents necessary for obtaining financial support:

1. a copy of the design sketch, executed by the supplier or an authorized designer, with the indication of technical parameters;
2. a copy of the registration or provisional certificate of the machinery or equipment;
3. the protocol of the execution of works, with the annexation of the statement of expenditure with breakdown for materials used, installations and installation services.

Submeasure 1.2 Stimulation of investments for the establishment, modernization and uprooting of multiannual plantations, including vineyards and fruit plantations

Section 25. In addition, for the wine sector, eligible for the subsidy are the producers that are registered and / or have registered vineyard plantations in the Wine Register.

Section 26. Inseparable minimum eligible area for the establishment of multiannual plantings under this submeasure is 0.5 ha and multi-year plantations in protected area - 0.1 ha.

Note: People who have less land cannot apply for grants

Submeasure 1.3 Stimulation of investments for procurement of conventional agricultural machinery and equipment

37. Subsidies who have purchased combines / tractors since the previous year of subsidies will benefit from subsidies according to the engine capacity (horsepower) reported on the surface of the arable land held legally, according to the tractor power correlation tables and with the area of the agricultural holding, according to Annex no. 4 to this Regulation, and for various agricultural machinery the applicant must possess at least 5 ha of agricultural land and a tractor with the adequate energy capacity required to aggregate it.

Note: Persons who process an area of less than 5 ha cannot apply to subsidies for this submeasure.

Submeasure 2.3 Stimulating agricultural producers to compensate for irrigation costs

90. A grant will be awarded to applicants who will demonstrate that they have obtained an increase in yield on irrigated land, except for young multiannual plantations, at least at:

1. vegetable crops - 60 tonnes/ha;
2. fruit tree plantations, including: yellow - 15 tonnes/ha, seed - 40 tonnes/ha;
3. sugar beet - 50 tonnes/ha;
4. vineyard plantations, including: table varieties - 15 tonnes/ha, technical varieties - minimum 12 tonnes/ha;
5. sugar cane -15 tonnes/ha;
6. peas - 5 tonnes/ha;
7. vineyards and fruit trees - 50 percent yield of standard seedlings

Note: In case the farmer does not achieve these results, he or she cannot apply to submeasure 2.3.

Source: Interview with a small agricultural producer

4.1.4 Priorities related to agricultural producers, including smallholders

The main actor in the field of agricultural and rural policies is the Ministry of Agriculture, Regional Development and Environment. Subordinated organizations are responsible for such things as managing financial resources, implementing sectoral policies for the wine sector, implementing registers of producers, and overseeing food safety. Furthermore, the Ministry of Economy and Infrastructure and the Ministry of Health, Labour and Social Protection develop policies that, directly and indirectly, affect the agricultural sector and rural households.

At the same time, many policy documents have direct relevance for the development of the agricultural and rural sectors, as follows:

Strategy for the Development of Rural Extension Services for the period 2012–2022, approved through Government Decision No. 486 from 5 July 2012, foresees a rapid transition to a modern model of organization of rural extension services that generates high added value based on knowledge and innovation and oriented towards continuous improvement of the quality of life in rural areas. Its general objectives are to develop the rural economy and the growth of productivity in agriculture as well as to enhance the competitiveness of the agribusiness sector through rural extension services. Its specific objectives are threefold: (1) develop a rural extension network from 40 percent in 2011 to 65 percent in 2022; (2) increase the number of beneficiaries by 20 percent by the year 2022; and (3) increase the incomes of beneficiaries of rural extension services by about 15 percent annually. Although it is hard to predict the success of this strategy, it works with quantifiable objectives, which is definitely an advantage compared to the other two strategies mentioned above.

Small and Medium Enterprises' Sector Development Strategy for the years 2012–2020, approved through Government Decision No. 685 from 13 September 2012, sets as a priority area the development of small and medium enterprises from the regions.

The Food Safety Strategy for 2011–2015, which aimed to achieve the highest level of public health protection as well of consumer interest protections in terms of the harmlessness of food, also seemed to have little impact. The three main objectives of the Food Safety Strategy for 2011–2015 were: (1) improvement of the legal framework; (2) establishment of a National Food Safety Authority; and (3) the controlling of food safety. Even if its objectives were not measurable and operationalized, several major achievements were registered: The new National Food Safety Agency is now a single authority comprising functions that had previously been exercised by five different institutions, and veterinary and phytosanitary specialists were reintroduced at border checkpoints, among other things.

Strategy for Domestic Trade Development in the Republic of Moldova for the years 2014–2020, approved through Government Decision No. 948 from 25 November 2013, had the main goal of “providing the consumers with competitive goods and services through creation of efficient trade system throughout the country,” and one of its strategic objectives refers to “enhancing of trade infrastructure in the region, particularly in rural areas.”

Energy Strategy of the Republic of Moldova up to the year 2030, approved through Government Decision No.102 from 5 February 2013, has as a main objective ensuring the energy security of the country based on the implementation of regional programmes that refer to the development of modern platforms for the generation of power from renewable sources and improvements to energy efficiency throughout the country.

Transport and Logistics Development Strategy for the years 2013–2022, approved through Government Decision No. 827 from 28 October 2013, with specific objectives that include the provision of access to national roads from local rural roads from all localities of the country, ensures the repair and maintenance of over 6 000 km of local roads by 2022.

Information Society Development Strategy “Digital Moldova 2020” was approved through Government Decision No. 857 from 31 October 2013 with the aim to “develop the info communicational infrastructure and improve the access for all,” including the development of Internet access infrastructure in all localities of the country and the provision of services at accessible prices.

Tourism Development Strategy “Turism 2020” – still to be approved by the Government – is aimed at “boosting the tourist activity in Moldova by developing domestic and inbound tourism,”

including through the regional development of tourism and instruments for rural tourism support and development.

These strategies refer to different aspects of the agricultural and rural sectors, but nevertheless a holistic approach to solving the challenges of the sector is still missing. None of these strategies refers directly to smallholders and family farms. However, it should be mentioned that the National Strategy on Agriculture and Rural Development for the period 2014–2020, under Priority 3 “Enhancing the living standards in rural areas,” provides for measures to support the development of rural small and medium enterprises with the aim of increasing the employment of rural citizens in non-agriculture sectors as an alternative to the preponderant agricultural activity in those areas.

For example, rural tourism plays an important role in the economic, social and cultural development of rural areas. It is closely related to agricultural production (particularly of smallholders), in addition to regional development, natural environment, and promotion of the rural way of life, such as traditional lifestyles, ambience, and cultural and historical traditions. Rural tourism also would be an invaluable source of alternative sources of employment, which are much needed among smallholders living in rural areas.

4.1.5 Donor-funded policies

On 27 June 2014, the Republic of Moldova and the European Union signed the Association Agreement including a Deep and Comprehensive Free Trade Area (AA/DCFTA). Around 60 percent of EU assistance to Republic of Moldova is implemented via budget support, for which three actions were launched as part of the Annual Action Programme 2014, for a total of EUR 131 million, to implement the DCFTA (EUR 30 million), Public Financial Policy Reforms (EUR 37 million), and European Neighborhood Programme to Agriculture and Rural Development (EUR 64 million). Besides these programmes, the EU has other ongoing budget support programmes: Vocational Education Training (EUR 25 million), Visa Liberalization Action Plan (EUR 21 million), and Economic Stimulation in Rural Areas (EUR 72 million).

In the context of the Association Agreement, the Republic of Moldova has committed to approximate its legislation in the relevant sectors with that of the European Union and develop its administrative and institutional infrastructure.

4.1.6 Donor-funded programmes

A large number of donors, both multilateral and bilateral, are assisting Republic of Moldova in the field of agriculture and rural development. The most significant of these are:

- the European Union (through the Economic Stimulation of Rural Areas sectoral budget support programme, the European Investment Bank’s Wine Sector Restructuring Programme, and the Fruit Garden of Moldova project);
- the United States of America (through the United States Agency for International Development’s Moldova High Value Agriculture Activity project); and
- the World Bank (through the Rural Investment and Services Project and the Moldova Agricultural Competitiveness Project).

Most of these donor programmes and projects have strong capacity-building and institutional strengthening components that will undoubtedly contribute to sector reform.

4.1.7 FAO Country Programming Framework (CPF)

The FAO Country Programming Framework for 2016–2019 sets priorities and outputs aligned with national policies for the agriculture sector, in particular the National Strategy for Agriculture and Rural Development of the Republic of Moldova (2014–2020). Expected priority areas include a focus on increased competitiveness of the agrifood sector, sustainable agriculture and rural development, sustainable management of natural resources, and disaster risk management.

FAO's partnership with the Government of the Republic of Moldova is guided by four national priority areas:

- Alignment of agriculture and rural development policies with European Union standards, through capacity development of institutions at national and regional levels, technical assistance on international trade, sanitary and phytosanitary control systems, food safety, hygiene, food processing, and legislative harmonization;
- Conservation and management of natural resources, including animal and plant genetic resources and land tenure;
- Mitigation of the impact of exceptional climatic events on agricultural production and rural livelihoods (disaster risk management) through fodder conservation, use of appropriate seed varieties, improved agronomic techniques, pasture management, and small-scale irrigation infrastructure; and
- Sustainable agriculture, with particular attention to integrated pest management, the disposal of obsolete pesticides, and enabling conditions for food safety.

Republic of Moldova is currently a focus country for two of FAO's Regional Initiatives for Europe and Central Asia:

- empowering smallholders and family farms; and
- agrifood trade and regional integration.

Ongoing FAO projects in the country include:

- Eliminating and preventing the recurrence of obsolete pesticides. The general objective of this large, European Union-funded project is to contribute to reducing the risks to public health and the environment from pesticides. Major project activities include elimination and disposal of obsolete pesticides and contaminated materials, awareness-raising campaigns, and training on pesticide life-cycle management.
- Support to the design strategy for agricultural export promotion (2015–2016). This project is developing a medium-term programme for the promotion of agrifood exports for the Ministry of Agriculture and Food Industry. The goal is to facilitate access of Moldovan agrifood products to European Union markets. This strategy, although more relevant to large companies, also will address smallholders such as walnut producers, berry growers and beekeepers who contribute to exports, although indirectly, via local large agricultural companies and exporters.
- Strengthening the food safety system in Republic of Moldova. This project is designed to enhance

country capacities for producing safe and quality food for the domestic market and for international trade, targeting high-value markets.

- Increasing small-scale farmers' resilience to drought. The concept behind this intervention is to ensure rural livelihoods are improved to allow adaptation to climate change, including increased resilience to drought. Among the measures promoted is the adoption of best irrigation practices and modern irrigation technologies.
- Integrated pest management (IPM). The IPM project seeks to increase the adaptation of sustainable management practices for crops, land and water so that farmers can contribute to mitigating the effects of climate change. The implementation of a viable plant quarantine system is also envisaged, involving the application of innovative plant protection methods to prevent the spread of quarantine pests.
- Improved Genetic Resources in the Livestock Sector. A Programme for Development of the National Strategy and Action Plan for Animal Genetic Resources and Dairy Cattle Genetic Improvement is being implemented to improve the country's management, monitoring and characterization of its dairy cattle genetic resources.
- Phytosanitary inspection services. With the aim of strengthening the capacity of the national phytosanitary inspection services in Eastern European countries, this initiative is working to create more efficient national services in this field. As a result of this initiative, participating countries should have strengthened export potential while preventing or curbing the spread of harmful organisms in the region.
- Plant Genetic Resources. FAO is supporting the development of a National Programme for Plant Genetic Resources for Food and Agriculture in Republic of Moldova with a view to increasing the resilience of the plant production sector to climate change and contributing to improved agricultural production overall.

4.2 Preconditions for comprehensive policy-making for smallholders and family farms

The conventional production factors such as land, labour and capital are able to provide smallholders and family farms with subsistence, especially if the population is not dense. However, if an increase in productivity is desired, the production factors are not sufficient. Further factors are necessary, and farmers cannot provide these by themselves. Rather, they must be produced by society, in processes involving a division of labour. Agricultural development is not only dependent upon land, labour, and capital, but it is an interplay between these traditional factors of production and the new factors produced in other sectors of the economy. If agricultural production is to develop beyond the stage of self-sufficiency, external demand is necessary – as are new technologies and inputs made available outside the agricultural sector.

A strong effective demand for agricultural products gives farmers incentive to increase their production beyond the level of subsistence. The achievable prices must be high enough to cover the costs of production and be a satisfactory reward for the involved efforts. The latter in particular is dependent upon, among other things, the existence of functioning markets.

Before demand can be stepped up, the non-agricultural sectors must be developed for the necessary purchasing power to be there. This development in industry, trade and crafts is, on the other hand, the precondition for an increase in agricultural production, because inputs that are produced outside the agricultural sector, such as commercial fertilizer, agricultural inputs and services, are necessary.

To a large extent, the modernization of agriculture is concerned with supplying energy. Fossil fuels still play a particularly important role in production increases.

Modernizing agriculture always means an increased interlacing of agriculture with the other sectors of the economy. To achieve sustainability, smallholders and family farms would need to leave the level of an economy based on self-sufficiency and enter a stage of agricultural production interlaced with the market. In this process, the market prices are the incentive and orientation for the farmers. However, they simultaneously raise the involved risk. Although farmers always have had to face production risks, the modern producer of agricultural products faces additional marketing and technical risks owing to the new, poorly adjusted procedures. The risk is also much larger, since the externally purchased inputs must be paid for. Functioning markets are a precondition to make the risk bearable. The agricultural commodities markets will have to be expanded and made more dynamic in order to fulfill the conditions of a demand backed by strong purchasing power that is needed to develop modern agricultural production.

A higher level of agricultural production, stimulated by the increasing demand, is the result of new technologies in agriculture – in other words, new methods of “how to do it.” Techniques, methods, and varieties must change continually in modern agriculture if stagnation is to be avoided. Such innovations can be copied from other farms and other regions. First and foremost, they are the result of research and experiments. The development of fertilizers and pesticides, new high yielding varieties, techniques, implementations, and irrigation methods are examples of new technologies in agriculture.

Modern agriculture is no longer simply the result of farmers’ struggles with their land; rather, it also is influenced by the activities of factory workers, scientists, and merchants who make their contribution to agricultural production indirectly through the division of labour. Modern agricultural production is part of a closely knit, all-inclusive economic system.

The creation of an institutional framework that facilitates the interlacement of the agricultural sector with the rest of the economy is an important aspect that is currently underdeveloped.

In Republic of Moldova, there are no policies aimed specifically at the development of smallholders and family farms. With regards to legal framework, the law on peasant farms attempts to formalize the activity of small-scale producers (including families); otherwise their activity is ruled by the general laws regulating agricultural activity, food safety, cooperation regulations and subsidy policies.

5. Conclusions and recommendations



5.1 Conclusions

The two main groups of farms face different issues, which are summarized below:

- Large-scale farmers have the scale to compete on international markets and are able to grow a range of crops that allow them to spread market risks and risks of crop failures. However, they may still face deficiencies in some on-farm infrastructure to further diversify risks, and they may lack technical expertise. Larger farms that are profitable, sustainable, and able to respond to challenges have a capacity to innovate and improve technologies that is lacking in small-scale farms. Larger operations can bring in the management, technology and know-how needed for developing higher-quality and more competitive agricultural operations in Republic of Moldova.
- Small-scale farmers have trouble accessing high-value markets and have little capacity to cope with market and weather risks. Small-scale farmers cannot achieve the volumes or consistent quality of supply that major buyers and distributors of produce require. However, there is an opportunity for smaller farmers to improve their growing and harvesting practices and to learn from larger-scale operations to find and take advantage of niche opportunities.

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

As of 2016, the share of smallholders and family farms in the total number of agricultural holdings is 98.8 percent or 260 620 family farms. The remaining 1.2 percent (3 125 farms) are agricultural enterprises (or commercial farms) bigger than 10 ha. Family farms utilize 36.4 percent of the total agricultural land in the country, while agricultural enterprises utilize 63.6 percent of the land.

In terms of production volume, households and small farms (less than 10 ha) produce 63 percent of the total agricultural production and 80 percent of all horticultural products, defined as high-value agricultural products, classified into three main groups: (i) vegetables, including fresh/chilled, frozen and dried vegetables; (ii) fruits and nuts, including fresh/chilled, frozen and dried fruits; and (iii) processed fruit and vegetable products, including juices and canned fruits and vegetables.

Being smaller and less specialized, smallholders and family farms ensure greater biodiversity than large farms and represent a higher labour input; they are greater contributors to rural employment and ecological resilience. Smallholders and family farms generate over 62 percent of the total volume of agricultural produce of the country, thus contributing fundamentally to overall food production and food security in Republic of Moldova.

Rural development depends on unlocking the full power of the rural economy. Agriculture certainly continues to have an important role in the rural economy. However, rural areas are also characterized by great diversity and should not be considered as being exclusively agricultural. There is a mixture of on- and off-farm activities, ranging from smallholder agriculture or pastoralism to highly sophisticated commercial agribusiness, that supply markets through local and regional linkages with industrial and services sectors. Therefore, rural development requires a concerted effort that goes beyond agricultural policies. Rural development policy is *per se* inter-sectoral.

5.1.2 Needs, challenges and constraints for smallholders and family farms in Republic of Moldova

Despite that smallholders and family farms hold a predominant share in the agricultural sector and are important for rural employment and food security, their sustainability is threatened by numerous challenges. They need to cope with these challenges, which can be internal to the farm (such as the issue of family transfer) and external (such as land and market prices, access to credit, knowledge and machinery and the availability of off-farm employment).

Here, some of the challenges faced by smallholders and family farms are briefly summarized:

Economic viability is vital to smallholders and family farms: The family farm must be economically viable to remain sustainable in the long run. A number of factors affect the economic viability of the family farm, including output and input prices, efficiency and productivity levels, availability of off-farm employment, and access to resources.

Demographic challenge and out-migration of younger household members: The average household size is fewer than three members, and it declined from 2.76 in 2007 to 2.46 in 2013. Young household members leave rural areas in search of employment. Indeed, the Republic of Moldova Food Security Assessment reports a drop in agricultural employment due to massive outmigration, from 51 percent of the active population in 2000 to 26 percent in 2012 (World Bank & World Food Programme, 2015). The elder generation, however, stayed back. This is in line with the gradual increase in the age of heads of household, from 55 in 2007 to 57 in 2013. The share of households headed by females increased gradually in the period 2007–2015, from 37 percent to 39 percent. For life expectancy reasons, women tend to head old-aged households. As the average age of farmers increases, this group is getting more and more important. In small and old-aged households, labour-intensive farm activities may be expected to go down.

Access to finance: Access to finance is an important issue in the agriculture sector, particularly for smallholders and family farms. Banks typically do not accept land and plantations as collateral, and they perceive high risks when lending to the sector. Besides, the financial management competences of smallholders and family farms are very limited. To address the issue of access to finance, the Government of Republic of Moldova provides investment subsidies to farmers for production and post-production needs, and it has secured lines of credit from donors. However, the incentives are not accessible to smallholders and family farms, who usually do not meet the eligibility criteria set by the financial institutions.

Access to land: In order to exploit economies of scale and develop an economically viable production, farmers must invest and modernize and, in many cases, expand their operations. Access to affordable land and credit is critical to this process. An unregulated land market and lack of reliable and timely market information are significant barriers both to entry and expansion for farmers wishing to develop and scale up their farm operations. Excessive land fragmentation represents yet another constraint that needs to be systematically addressed towards improved farm structures.

Access to other natural resources: Irrigation is rarely possible, since most irrigation facilities deteriorated after the collapse of the Soviet Union. Only 213 000 ha of arable land (11.7 percent) and 13 000 ha of permanent crops (4.6 percent) were irrigated in 2015. These figures have not changed since 2011 (National Bureau of Statistics of the Republic of Moldova, 2015). The United States of America's Millennium Challenge Corporation has rehabilitated ten central irrigation systems designed and constructed during Soviet period, which provided up to 15 000 ha of irrigated land in the valleys of the Nistru and Prut rivers. The rehabilitated irrigation systems have been transferred to the management of the water users associations, with about 92 percent of the members being smallholders and family farms. Along with improvements in the availability of irrigation, it would be necessary to improve the managerial capacity and ability of farmers to produce profitably given the cost of water and irrigation management.

Access to inputs: Issues in the markets for input factors also affect the sector's competitiveness, although the impact of these issues seems to be secondary to the issues listed above. The preponderance of farmers with small land plots has negative impacts on the productivity, quality and financial viability of agricultural production in Republic of Moldova. The time-consuming and complex procedures for importing new plant varieties also negatively impact producers' ability to import more disease- and pest-resistant varieties, which would in turn improve yields and quality.

Access to knowledge and information: Farmers must adapt to the changing competitive environment and innovate in order to remain economically viable. Access to information about new technologies is important in this regard. Agricultural extension programmes are targeted to improve productivity through the provision of training and the promotion of new technologies. Making available information about policy and support schemes and services in a manner that is accessible to all farmers in Republic of Moldova is an ongoing challenge.

Availability of off-farm employment: Many small and economically non-viable farms can only survive in farming by supplementing their farm incomes with incomes earned from outside the sector, either through paid employment or by using their farm resources for non-agricultural activities.

Access to markets: Most small-scale farmers have trouble accessing high-value markets and have little capacity to cope with markets' demands. Small-scale farmers cannot achieve the volumes or consistent quality of supply required by major buyers and distributors of produce. However, there is an opportunity for smaller farmers to improve their growing and harvesting practices and to learn from larger-scale operations to find and take advantage of niche opportunities.

5.1.3 Smallholder and family farm policies in Republic of Moldova

Agricultural policies especially target large farms and, to a lesser degree, small-scale farmers aiming at commercialization. Yet the majority of subsistence farms would benefit most from general economic and social policies. Social policies need to be developed in order to reach the most vulnerable groups. About one-fourth of the socially vulnerable population of working age has, for instance, no adequate access to healthcare services. The poverty-targeted program *Ajutor Social* (Social Aid), which specifically addresses those most in need, is one recent, positively evaluated program. In the course of economic development, agricultural activities will increasingly lose their importance as subsistence farmers diversify into non-farm sectors or exit production due to age and health reasons. Thus, the development of the non-farm rural economy needs to be in the focus of policymakers addressing rural areas as well.

Most smallholders in Republic of Moldova are either reluctant to or have no capacity to commercialize; for them, enhancing their livelihoods calls for policies beyond the agricultural sector. The agricultural workforce is getting older and less educated than in other sectors, which indicates the decreasing importance of agriculture as a source of employment in the future. Rural development, therefore, depends on unlocking the full potential of the rural economy through strategies that go beyond the agricultural sector.

5.2 Recommendations

The following recommendations focus on the reduction of rural poverty and development of the agricultural sector, with a particular view on smallholder farming.

POLICY INITIATIVES

- Develop a concept for the business-oriented smallholder and family farming sector and identify a number of fields in which policies should be developed to empower and unlock the potential of this sector. If the role of smallholders and family farms is not acknowledged, and if the need for smallholder farming is not clearly understood politically, no efficient and effectual strategies for the development of smallholder farming can be developed. Large-scale farms form an influential interest group in Republic of Moldova. The current legal and policy framework favors them; however, it is recommended to focus more policy attention to the development of small and middle-sized business-oriented family farms.
- Restructure the following institutions and programs, adjusting their objectives to the actual trends in the development of the small farms sector: (a) research institutes; (b) management of irrigation systems (a new model for the functioning of water agencies and water users associations); and (c) support for the development of the food safety system.

- Consider funding for: (a) modern risk management programmes, after improving the current programmes; (b) extension services, with tailored support measures dedicated to smallholders and family farms and generating positive results and impacts; (c) subsidy schemes, again dedicated to smallholders and family farms and tailored to their specific needs.
- While the young generation is in need of paid employment, the elderly are faced with poverty and a high dependence on subsistence production from their land. The challenges of an aging population and the persistence of subsistence-based livelihoods and poverty cannot be solved by agricultural and rural policies alone. Better policy targeting is required, along with better coordination and exploitation of synergies with, for example, social policies. Thus, the policy agenda should focus on: (i) promoting a business environment conducive to higher job creation in both urban and rural areas; and (ii) provision of social protection for elderly farmers who are poor and dependent on subsistence farming with limited alternatives for income.
- One way of reducing food insecurity would be the attraction of investment in agriculture-led, inclusive growth through a combination of agricultural research and the adoption of improved technologies, knowledge, and extension and information services for small producers.
- Promote and develop integrated social protection programmes with explicit food security and nutrition objectives.
- Develop integrated national food security and nutrition plans.
- The rule of law, good governance, and functioning institutions are indispensable for sound rural development. In that sense, the capacity of civil society must be built so it is able to closely monitor how any intervention is implemented.
- To motivate smallholders to adopt sustainable agricultural intensification measures, the Government, through policies, needs to ensure that commercial small-scale farming is profitable by providing them with opportunities to sell their produce. At the same time, incentives should be set in a way that makes wise use of natural resources, considering that smallholders might be affected negatively by power imbalances when dealing with traders or large corporate farm competitors.
- Policies and action plans aimed at intensification should contribute to set incentives to introduce sustainable agricultural practices based on high-yield, locally adapted varieties, integrated pest management, efficient soil and water management, and the integration of crops, pastures and livestock.

EMPLOYMENT

- Local employment alternatives are crucial to avoiding rapid rural depopulation and mass migration, which are certainly not desirable for Republic of Moldova. To make the rural space economically viable and attractive, rural-urban linkages need to be part of the rural development agenda, along with education as the main door opener for skilled non-farm employment. One well-known factor to push rural development is investment into adequate infrastructure (transportation, communication, sewage, water and electricity, as well as the infrastructure needed to develop a business, such as a good Internet connection, banking, and more), which would establish better links to urban areas and other sectors, attract investment in rural areas, and connect farmers to markets.
- To enhance youth employment in rural areas, correlations between supply and demand on the labour market and the trends of specialization required in this market should be attained. The vocational education and training curricula should be updated based on the current needs of the various sectors to help ensure that youth acquire the skills demanded by employers.

EDUCATION, KNOWLEDGE TRANSFER AND BUSINESS ADVISORY

- Develop and adopt a new strategy for agricultural education, focusing on the education of a new generation of business-oriented family farmers, who would form the backbone of a strong rural middle class.
- Improve the education curricula by strengthening the relationships between business and vocational education.
- Increase perceptions on the advantages of vocational education in the agricultural sector for employment by promoting vocational education in the national media.
- Strengthen agricultural business advisory services. Improve the distribution of knowledge regarding market preferences and requirements, such as packaging, labeling and food safety standards, by fostering the sharing of knowledge among traders, producers – including those exporting to higher-value markets – and others.
- Diversify rural extension services and build the capacity of rural extension service providers in providing both agricultural and non-agricultural extension services. Because agriculture is the basis of a rural economy, agricultural extension is the most common type of extension to be found in rural areas. But the areas of knowledge and new ideas required by farmers and their families are not restricted to agriculture; they can include, for example, home economics, family health and nutrition, population education, and community development.
- Engage successful, highly productive producers in the sharing of knowledge with less-productive farmers to facilitate the effects of demonstration. Involve extension and advisory services in facilitating such activities.

ACCESS TO MARKETS

- Encourage market integration for those smallholders that have the potential and willingness to develop and to ensure that any surplus resulting from the intensification of production can be profitably sold on the market (through, for example, opening local agricultural produce collection points). This can be a mechanism with social impact that leads to better inclusion of agricultural producers.
- Improve the quality and safety of food and products; this is important to improve access to local and European Union markets. The activities to be carried out to improve quality along the value chains should include: advising farmers on plant varieties and production technologies in order to obtain a high-quality product; and training on using appropriate and sustainable harvesting and post-harvesting practices.
- Promote, provide training on and support the adoption of good agricultural and collection practices (GACP), hazard analysis and critical control points (HACCP), International Organization for Standardization (ISO) standards, organic production certification, and traceability systems.

COOPERATION/ASSOCIATION

- Farmers might be encouraged to cooperate and associate and to set up their own processing and marketing channels in order to strengthen their bargaining positions and get better access to input and output markets. These also might help them gain access to financing and storage facilities, which farmers have identified as important to successful marketing. Thus, this is also a field in which cooperation could be beneficial for smallholders.

ACCESS TO FINANCE

- Enhance the access of smallholders to viable financial services. Both limited access to credit and the cost of credits pose significant constraints to the agricultural sector, and in particular to small-scale farmers, who are currently almost completely ignored by the financial sector. At the same time, high interest rates lead to a low demand for bank loans. The provision of subsidies to cover interest rates could be an efficient measure to overcome smallholders' lack of access to finance; those subsidies are already in place but are not accessible to smallholders.
- Political framework and support should be provided in setting up self-sustainable initiatives for saving and credit associations as well as for reinsurance of microcredits for small farms. It should be explored how far third parties could be supported in investing and providing services to peasant farms.

ACCESS TO LAND

- For addressing problems in the land market, the following could be implemented: (1) Strengthen the regulation of land use and land ownership markets, focusing on smallholders and family farms; (2) Improve land market information to facilitate rural land market transparency and tenure security; (3) Consider introduction of a land consolidation instrument and stimulation of the land markets of both use and ownership rights as instruments to improve farm structures; (4) Review land policy by aligning with other policies that support smallholders and family farms.
- While land consolidation aims to reduce land fragmentation mainly at the level of ownership, land lease mediation seeks to reduce land use fragmentation through the facilitation of the transfer of use rights between farmers. Facilitating the development of the leasing market can improve farm structures, spur increases in efficiency and farm size, and contribute to the prevention of land abandonment.
- Given the considerable area of land that is currently left unused by smallholders, bringing suitable abandoned farmland back into use is another important option for increasing production. Land abandonment is mainly the result of the low attractiveness of agricultural production for respective landowners, low rental fees and lack of alternatives on the land use market, an ageing rural population, and out-migration of youth.

NICHE AGRICULTURAL SCHEMES

- Organic farming can also be promoted as a way of differentiating production and competing in higher-value market segments. This would require that farmers acquire the relevant knowledge, adopt appropriate production methods, and obtain necessary certifications.
- This type of farming is not only seen as particularly suitable for smallholders, but markets are expected to further grow. That could be a niche with some potential for Republic of Moldova if smallholders receive the necessary support for certification and marketing. Participatory or group certification schemes could be one important door opener for smallholders.
- European Union voluntary food quality schemes that provide protection to products with geographical indications and traditional specialties (often referred to as PGI, PDO and TSG) might be promoted amongst the smallholders in Republic of Moldova, but that implies an increased visibility of Moldovan agricultural products, both within the country and abroad. This could be reached if the national authorities, in collaboration with international organizations, promoted a

branding strategy for Moldovan products – in particular, those that are produced in a traditional way and/or along organic production standards.

STATISTICS AND DATA

- Enhance statistical data collection by improving the capacities of the National Bureau of Statistics to collect and process data on smallholders and family farms. In this context, specific indicators and statistics relevant to smallholders must be identified and implemented. Without such data, collected and made available in timelines, no efficient policies can be developed.

OTHER RECOMMENDATIONS

- Expand public support, including the mobilization of donor resources, to alleviate investment problems along the value chains of competitive sectors: i) Promote the planting of modern, high-productivity plant varieties to support the competitiveness of the sector; ii) Improve the irrigation infrastructure, as appropriate for each crop/geographic area; iii) Build sector resilience to adverse weather events by stimulating investments in anti-hail nets, anti-frost systems, drought-resistant plant varieties, and more; and iv) Continue building support for a robust, reliable and effective domestic food safety system that serves the dual aim of ensuring the safety of food for the country's population and helping improve Moldovan agrifood products' access to international/European Union markets.
- To make sure various groups of farmers benefit from the public support, different support schemes for different producers should be designed, as a support scheme suitable for large producers might be absolutely unsuitable for smallholders.
- In the case of cattle breeders and milk producers, support the aggregation of small herds into larger ones and ensure (including through adequate enforcement of environmental and hygienic legislation) their movement outside the villages, in well-designed facilities that would provide for adequate cattle raising conditions all year long, for quality feed, and for minimization of the environmental impact of cattle raising. Individual farmers also should be encouraged to cooperate, especially when it comes to the provision of fodder and to product marketing. They also should be encouraged to think of alternative species (such as goats and sheep) and to set up dairies controlled by small farmers.

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6. Annex



6.1 Annex 1

COUNTRY PROFILE: REPUBLIC OF MOLDOVA

	1990	2000	2010	2016
Population				
Population, total (millions)	3.7	3.64	3.56	3.55
Population growth (annual %)	0.4	-0.2	-0.1	-0.1
Surface area (sq. km) (thousands)	33.8	33.8	33.9	33.9
Population density (people per sq. km of land area)	128.7	126.7	124.2	123.6
Poverty headcount ratio at national poverty lines (% of population)	..	29	21.9	9.6
Income share held by lowest 20 percent	..	6.9	8.1	9.7
Life expectancy at birth, total (years)	67	67	70	71
Net migration (thousands)	-132	-12	-10	..
Environment				
Forest area (sq. km) (thousands)	3.2	3.2	3.9	4.1
Terrestrial and marine protected areas (% of total territorial area)	1	1.8	..	3.8
Annual freshwater withdrawals, total (% of internal resources)	121.2	..	65.7	65.7
Improved water source (% of population with access)	84	85	87	88
Improved sanitation facilities (% of population with access)	72	73	75	76
Urban population growth (annual %)	0.2	-0.4	-0.2	0.1
Economy				
GDP (current USD) (billions)	..	1.29	5.81	6.75
GDP growth (annual %)	..	2.1	7.1	4.1
Inflation, GDP deflator (annual %)	..	27.3	11.1	5.4
Agriculture, value added (% of GDP)	..	29	14	13
Industry, value added (% of GDP)	..	22	16	14
Services, etc., value added (% of GDP)	..	49	70	71
Exports of goods and services (% of GDP)	..	50	39	44
Imports of goods and services (% of GDP)	..	75	79	72
Gross capital formation (% of GDP)	..	24	24	22
Tax revenue (% of GDP)	..	14.7	18.2	19.4
Military expenditure (% of GDP)	..	0.4	0.3	0.4
Mobile cellular subscriptions (per 100 people)	0	3.4	71.4	111
Individuals using the Internet (% of population)	0	1.3	32.3	71
High-technology exports (% of manufactured exports)	..	3	8	3
Personal remittances received (current USD) (millions)	..	178	1,753	1,464
Foreign direct investment, net inflows (balance of payments, current USD) (millions)	17	128	286	91
Net official development assistance received (current USD) (millions)	..	122.7	473	312.6

SOURCE: WB - WORLD DEVELOPMENT INDICATORS DATABASE

6.2 Annex 2. Case studies

6.2.1 Case study: Introduction of savings and credit associations in Republic of Moldova

1. PROBLEM DESCRIPTION

The privatization of agricultural land in Republic of Moldova, which was completed in 2000, resulted in approximately 800 000 private farmers becoming landowners. Most of the new private farms and the newly emerging rural enterprises needed additional financial sources to start farming. By 2002, 91 percent of the land was owned by small, private farmers, with land plots of 1.65 ha, on average. In general, these new landowners were not attractive clients for commercial banks, as their credit requests were very small (between USD 100 and USD 300). Plus, interest rates often were too high for small farmers, and banks did not accept small land plots as collateral. Also, the newly emerged private farmers had in fact been the employees of the former collective and state farms; thus, they lacked knowledge about the market economy, marketing of their products, business administration, and financing.

2. OBJECTIVES AND ACTIONS

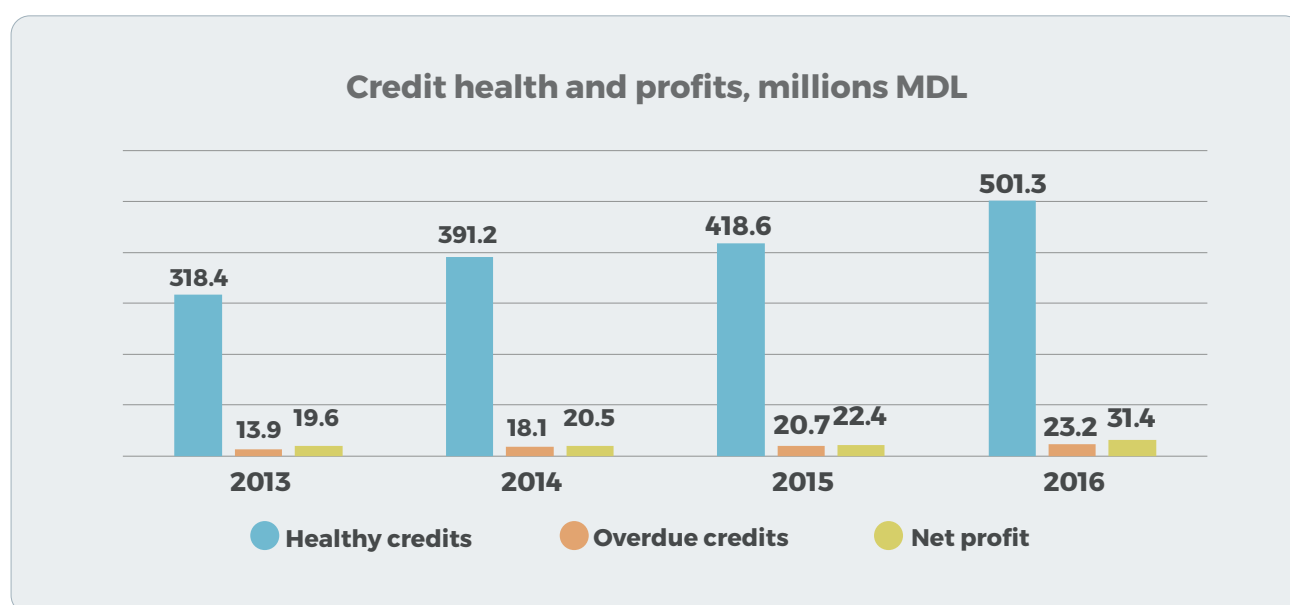
The objective of this initiative was to introduce the basic tools for micro-crediting in Republic of Moldova for enabling farmers and, later, those in other sectors, to conduct their businesses.

As a rule, relatively small loans are required to enable farmers to buy the seeds, fertilizers and machinery services needed in farming activities. To close the gap on micro-financing services for small farmers, the Moldovan Government, with support from several donors – including the World Bank, the United States Agency for International Development, and the Department for International Development of the United Kingdom) – had adopted the legal framework for savings and credit associations (SCAs) by 1996, and SCAs started their activities. The donors provided support in legal drafting; training for newly created SCAs in administration, financial management, accounting, auditing, and more; provision of seed funding and match funding; creation of SCA networks; capacity development for state regulators; and other areas.

3. RESULTS AND IMPACTS

Although they have a relatively small share of the crediting sector in the country, the activities and services of SCAs – including membership, value of assets and loans – have expanded at a constant rate. Most of the loans are used in agriculture. As of 31 December 2016, SCAs in Republic of Moldova have a sound financial and crediting situation. About 96 percent of the credits are healthy, and only 4 percent are overdue and/or compromised.

Figure 18. Data from 2017 Annual Report of the National Commission for Financial Markets

SOURCE: [HTTP://CNPF.GOV.MD/MD/RAPA/](http://CNPF.GOV.MD/MD/RAPA/)

The SCAs are registering steady profit growth year on year. According to the Law on SCAs, the activity of these institutions shall be supervised by a specialized state agency, the State Supervisory Body (SSB) of SCAs. The SSB was founded in September 1998 with the main objective of collecting financial statements from SCAs and supervising whether SCAs are observing the law and financial prudential rules. The SSB performs control over the associations' activities and, in the event of violations, has the right to request additional auditing of the associations and apply administrative sanctions, ranging from suspending the license on financial activity for a certain period of time to cancellation of the association's license and liquidation of the SCA.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

The SCA sector has had a general positive development trend, and most of the associations have good results. But despite the overall progress, SCAs still encounter difficulties and barriers that impede an even more accelerated expansion. Most of constraints relate to limited knowledge among SCAs on innovative financial management and accounting, the lack of external audits for SCAs, insufficient internal control in some SCAs, low financial sustainability of small SCAs, excessive reliance of SCAs on external funds, and other factors.

5. CONTACTS/REFERENCES

Central Association of SCAs <http://aei.md/en/>

6.2.2 Case study: Rural advisory and extension services

1. PROBLEM DESCRIPTION

Contrary to efforts to modernize and streamline the agrifood sector that have been undertaken in recent years by the private sector, the Government of the Republic of Moldova, donors, and civil society, farmers' incomes remain the lowest in the national economy. This phenomenon is caused by a permanent price increase of the means of production, backed up by a reduced capacity among farmers to ensure high yields from farming and/or livestock and by the speed of adjustment to the demands of agricultural enterprises – and, increasingly, the speed of globalized changes in the modern food and agriculture market. Most smallholders and family farms lack the necessary skills, knowledge and knowhow needed to practice farming in a more efficient, competitive and profitable way and to ensure a gradual transition from a subsistence agriculture to one with commercial elements aiming to a fully commercial and sustainable farming that generates high value; assures sufficient food security; ensures healthy, non-offensive production; and maintains environmentally friendly operations.

2. OBJECTIVES AND ACTIONS

Rural advisory and extension services aim at providing long-term complex support to accelerate agricultural regeneration and agricultural growth, so that Republic of Moldova's agricultural and rural sectors can reach their full potential, supporting future revenue growth and poverty reduction. As a part of the rural advisory and extension services project financed by a pool of donors, the National Network of Rural Advisory Services (NNRAS) provided information, advice and training services in agriculture in such areas as best practices, growing technologies for a wide variety of crops, fruits and vegetables, post-harvest technology, agricultural marketing, and management. To do this, NNRAS used its network of 35 local service providers, with a total of 425 consultants. These NNRAS consultants provided over 1 341 600 advisory services to over 2 540 000 farmers and rural entrepreneurs, including repeated customers (roughly 15 percent). Approximately 62 percent of clients received consulting services offered “in group” through round tables, workshops, meetings, discussions, and field visits, and 38 percent of beneficiaries benefited from individual consultations. In the provided advisory services structure, technological services were most common (53.3 percent), followed by those related to agricultural marketing (17.7 percent), economics (15.9 percent), and business advisory (13.1 percent). NNRAS network created and promoted extension activities on 356 demonstration plots and published 38 booklets and manuals, covering 386 communities of the Republic of Moldova, which constitutes over 26 percent of all villages in the country. Donors for the project include the World Bank, the Department for International Development of the United Kingdom, and the Swedish International Development Cooperation Agency.

3. RESULTS AND IMPACTS

Rural advisory and extension services have produced positive changes among beneficiaries. Specifically, those changes include:

- an increase of 15.6 percent of the number of beneficiaries applying semi-intensive cultivation technologies;

- a 3.7-percent increase of farmers applying intensive technologies;
- a 19.4-percent reduction of those who use ordinary technology;
- increased family revenues among 72.8 percent of beneficiaries;
- increases in crop yields/animals reported by 68.2 percent; and
- significant increases in the volume of agricultural output among 55.5 percent of beneficiaries.

Rural advisory and extension services also had other positive effects for beneficiaries, such as product diversification, improved product quality, and efficiency, which is particularly important in a market economy.

Furthermore, rural advisory and extension services produced an economic impact among the beneficiaries; 32.5 percent of beneficiaries have invested in and improved crop cultivation technologies and livestock. Due to rural advisory and extension services, 23.2 percent of beneficiaries have increased the size of their farms and intensified production through buying or leasing land, and 20.2 percent of them have invested in and acquired new agricultural machinery and equipment. Out of the total surveyed beneficiaries, 39 percent mentioned their availability to pay for consulting services in cash at the time of their receipt.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

The poorest populations in Republic of Moldova still live in rural areas, and there is high demand for agricultural support services. The Moldovan Government should continue to support the provision of rural advisory and extension services under public co-financing to help ensure a minimum of subsistence among the poor populations and to help them move gradually from subsistence activities toward more commercial operations – and, ultimately, to obtain a stable income. Many beneficiaries have developed their businesses thanks to the provided advice: Subsistence farmers were able to accumulate necessary food reserves needed to provide for their families, and their food consumption has diversified and significantly increased. Additionally, 15.8 percent of beneficiaries have begun to practice high-value agriculture and have become more commercially oriented.

5. CONTACTS/REFERENCES

WB library <http://documents.worldbank.org/curated/en/600341468274229437/Moldova-Rural-Investment-and-Services-Project>

6.2.3 Case study: Water users associations in Moldova increase productivity in agriculture

1. PROBLEM DESCRIPTION

The physical condition of the water irrigation infrastructure in Republic of Moldova after the collapse of the Soviet Union only allowed for water delivery to a small portion of the potential irrigation command areas. Very few farmers had water application equipment such as sprinklers and/or drip irrigation equipment. This is especially true when considering that most farmers had not irrigated crops at all for over two decades or had never irrigated at all. In fact, many of the current landowners are not farmers by profession but were awarded small land plots when Republic of Moldova became independent in the early 1990s. Irrigation is relatively expensive in Republic of Moldova due to the need for pumping the water from the rivers; many irrigation systems elsewhere around the world have gravity-fed water delivery and relatively lower energy costs.

2. OBJECTIVES AND ACTIONS

The United States Government-funded Millennium Challenge Corporation programme in the Republic of Moldova has supported the development, legal registration, and capacity building of 11 irrigation water users associations (WUAs). Ten of the corresponding central irrigation systems were re-designed and rehabilitated under the Transition to High-Value Agriculture project, and the management of all ten has been transferred to the respective water users associations. Here, a water users association is defined exclusively as one that manages an agricultural irrigation system, and not any other form of water use. Thus, the principal activity of a WUA is the irrigation of agricultural crops, and in a few cases, this can include land drainage services and facilities.

3. RESULTS AND IMPACTS

Through a specialized support project, the newly created WUAs have received intensive, continuous support and capacity building through training and other activities. Currently, the WUAs can cover more than 150 000 ha of agricultural land with irrigation services, encompassing a total of 13 587 land users – with about 92 percent of the members being smallholders and family farms, including 7 306 members of WUAs.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

Although at the incipient stage, the newly created WUAs, if properly developed and supported further, will be able to significantly increase the productivity and yields of small and medium holders of land and farmers due to quality irrigation services. Each of the WUAs is still a very young organization, but nonetheless, investment in WUA support is relatively risk-free compared to most development projects. This is because of the strong basis for WUAs in Republic of Moldova and because of the robust start that most of these young organizations have had. Another positive aspect of the creation

of WUAs is that they contribute towards land consolidation in the country. Through WUAs, the newly rehabilitated irrigation systems will be used properly, and the transition to high-value agriculture and irrigated agriculture will continue in the coming years in Republic of Moldova. Even if some of the WUAs have had a shaky start due to decades without any irrigation and delays in rehabilitation under the Transition to High-Value Agriculture project, with assistance they can thrive and be successful in the long run.

5. CONTACTS/REFERENCES

Millennium Challenge Corporation Moldova:

http://www.mca.gov.md/en/aim_and_objectives_Tr.html

6.2.4 Case study: Creation and operation of a dairy cooperative in Northern Moldova

1. PROBLEM DESCRIPTION

Large milk production farms were closed after the 1990s in Republic of Moldova, and milk collection infrastructure for several remaining big dairy factories was lost. On one hand, demand for dairy products was high, while on the other hand, the supply of milk was very limited. Later on, with support from several international donors, individual households started to create so-called milk collection points, administered as cooperatives. These were basic facilities for the collection, cooling and primary storage of milk so that dairy factories could collect larger quantities of milk on a regular basis, avoiding the need to collect smaller quantities at bigger logistical costs.

2. OBJECTIVES AND ACTIONS

The initiative to create a milk cooperative came from a small group of milk producers in household conditions from a village in northern Republic of Moldova. The milk producers had designed a business plan, with basic indicators for their business, and sought financial startup assistance. They managed to attract a grant from an international agency and bought the basic equipment needed to operate the cooperative – a cooling tank for 1 070 liters and devices for the concentration and measurement of fat and microorganisms.

3. RESULTS AND IMPACTS

The cooperative started in 2009, with a group of 15 households as members; they were collecting some 300 liters of milk per day. Currently, the cooperative collects milk from four nearby villages, has an additional 154 member households and collects 1 800 liters of milk per day.

The cooperative helped forge a union among once-rival households. The small farmers started to cooperate, bring in their share of contributions and, more importantly, trust each other.

4. LESSONS LEARNED, CONCLUSIONS AND RECOMMENDATIONS

At the moment, the cooperative is only collecting, cooling and storing milk for short stays until the dairy factory tank picks it up. The cooperative plans to extend its business in the near future by taking credit and procuring additional equipment for the processing and packaging of dairy products. The cooperative plans to start with pasteurized milk and, if that's successful, extend to the production of other products such as sour cream and cottage cheese. The cooperative also intends to sell its produce primarily at schools in nearby villages and later, when the business grows, take the produce to markets in bigger cities, including Chisinau.

5. CONTACTS/REFERENCES

AGROinform national network for support in agriculture:

<http://www.agroinform.md/en/about/istorii-de-succes/76-doprимlact.html>

6.3 Annex 3

6.3.1 Interviewee registration

Name of interviewee:
 Organization/institution:
 Contact coordinates:
 Date of interview:
 Interviewer:

6.3.2 Interview matrix

<p>Definition of smallholders and family farms <i>Which criteria are used and what are the indicators and their threshold levels?</i> Land size (hectares, numbers) Number of livestock (numbers) Labour input (full-time equivalent of family labour and hired labour) Family farming (family member as manager) Market orientation (percent of production to own consumption) Economic size (value of output)</p>	<p>Insert used definition, criteria and indicators: (Only relevant for few respondents, for example in the Ministry of Agriculture and representatives of the National Statistic Services) (In most cases, only the number of hectares is used as criteria and indicator. If no definition is applied in the country, suggest a definition based on available statistics and discuss it with the Ministry of Agriculture)</p>			
<p>What is the role and weight of smallholders and family farms, 2005–2015 Provide data Provide data sources and references Identify data gaps Make-up of households, age/sex including evolution over time/projections</p>	<p>Insert answers related to data, data sources and data gaps: (Only relevant for a few respondents, for example in the Ministry of Agriculture and representatives of the National Statistic Services) (In most cases, data are collected prior to the interview, and the interview can contribute to filling in data gaps or provide references to additional information.)</p>			
<p>PESTLE factors and QUESTIONS: Insert additional questions, if needed and relevant (1)</p>	<p>NEEDS (2)</p>	<p>CONSTRAINTS (3)</p>	<p>CHALLENGES (4)</p>	<p>POLICY PROPOSALS (5)</p>
<p>Political factors <i>Which political factors are affecting smallholders (SH) and family farms (FF)?</i> Public institutions To what extent are the responsibilities of national, regional and local institutional clear and supportive of SH and FF? To what extent are institutional capacities appropriate? To what extent are institutions effective at national, regional and local levels in fulfilling their targets? To what extent are institutions efficient at national, regional and local levels in providing value for SH and FF? Strategic and programming documents To what extent are strategic and programming documents adopted, outdated, harmonized or missing? c) Private sector institutions/organizations To what extent are farmers' associations and similar business organizations supportive for SH and FF development?</p>	<p>Answers may indicate that political factors prevent meeting the needs.</p>	<p>Answers may indicate that political factors are putting constraints on SH and FF.</p>	<p>Answers may indicate that political factors are failing to meet the challenges for SH and FF.</p>	<p>Answers may indicate policy proposals addressing the problems described.</p>

Economic factors

Which economic factors affect smallholders (SH) and family farms (FF)?

To what extent does the income level restrict SH and FF development?
 To what extent does access to markets (goods, inputs, financial market, knowledge) restrict SH and FF development?
 To what extent do market value chains and their organization restrict SH and FF development?
 To what extent do taxation, inflation, and interest rates restrict SH and FF development?
 To what extent are financial support measures available and appropriate for SH and FF development?
 To what extent are Ministry of Agriculture budgets, funding, and financial institutions available and appropriate/supportive for SH and FF development?
 To what extent is access to financial services supportive for SH and FF?

Answers may indicate that economic factors prevent meeting the needs.

Answers may indicate that economic factors are putting constraints on SH and FF.

Answers may indicate that economic factors are failing to meet the challenges for SH and FF.

Answers may indicate policy proposals addressing the problems described.

Sociological/social factors

Which social and cultural factors affect smallholders (SH) and family farms (FF)?

To what extent do the following topics restrict SH and FF development?

Demography
 Education
 Social networks
 Communication
 Cooperation
 Gender regarding access to resources and division of labour
 Youth
 Intergenerational transfer of resources
 Migration
 Feminization
 Social inclusion
 Poverty
 Social policy

Answers may indicate that social factors prevent meeting the needs.

Answers may indicate that social factors are putting constraints on SH and FF.

Answers may indicate that social factors are failing to meet the challenges for SH and FF.

Answers may indicate policy proposals addressing the problems described.

Technological factors

Which technological factors affect smallholders (SH) and family farms (FF)?

To what extent do the following topics restrict SH and FF development?
 Lack of access to new technologies
 Low mechanization
 Mature and outdated technology
 Level and quality of research and development
 Access to innovations
 Knowledge on application of appropriate practices
 Quality and quantity of technology transfer system
 Quality and quantity of rural advisory and extension services

Answers may indicate that technological factors prevent meeting the needs.

Answers may indicate that technological factors are putting constraints on SH and FF.

Answers may indicate that technological factors are failing to meet the challenges for SH and FF.

Answers may indicate policy proposals addressing the problems described.

Legal factors

Which current and impending legislation affects smallholders (SH) and family farms (FF)?

To what extent do the following topics restrict SH and FF development?
 Access to resources and land
 Current legislation and expected future legislation (compliance with international standards)
 Implementation and enforcement
 Regulatory bodies and processes

Answers may indicate that legal factors prevent meeting the needs.

Answers may indicate that legal factors are putting constraints on SH and FF.

Answers may indicate that legal factors are failing to meet the challenges for SH and FF.

Answers may indicate policy proposals addressing the problems described.

<p>Environmental factors and climate change <i>Which environmental factors affect smallholders (SH) and family farms (FF)?</i> To what extent do the following topics restrict SH and FF development? Sustainability of natural resources Impact of climate change and adverse weather conditions Climate change mitigation and adaption</p>	<p>Answers may indicate that environmental factors prevent meeting the needs.</p>	<p>Answers may indicate that environmental factors are putting constraints on SH and FF.</p>	<p>Answers may indicate that environmental factors are failing to meet the challenges for SH and FF.</p>	<p>Answers may indicate policy proposals addressing the problems described.</p>
<p>Case study proposals</p>	<p>Insert the proposal related to needs.</p>	<p>Insert the proposal related to constraints.</p>	<p>Insert the proposal related to challenges.</p>	<p>Insert the proposal for existing policy intervention and/or administrative and institutional setting.</p>

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