



Erasmus+



Национална Агенција
за европски образовни програми и мобилност



"Boosting Adult System Education In Agriculture"

AGRI BASE

Erasmus+ KA2 Strategic Partnerships

Baseline report

**SYSTEM OF ADULT
EDUCATION AND TRAINING**
in the Field of Agriculture

2016

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Summary



This baseline report presents the current conditions and trends in adult education in agriculture in ten countries (Republic of Macedonia, Bosnia and Herzegovina, Italy, Spain, Serbia, Kosovo, Romania, Estonia, Bulgaria and Turkey) all of which comprises the consortium of the Erasmus+ project “Boosting Adult System Education in Agriculture” AgriBase. The focus on the baseline report is on the adult education system in the field of agriculture. It is designed to contribute to a better understanding of the needs and potential direction for further development of adults education system in the field of agriculture at all countries from the Agri Base consortium.

The baseline report moves from some general facts about each of the above mentioned country, to the particular aspect on the sector of agriculture with a detailed agricultural profile referring to the issues in this field, typical agricultural products and data about their production and export. The analyses is made on the current condition of LLL and AE in agriculture in terms of: institutional frame, legal frame, the role and place of the university in that process, possible previous researches in this field, financing the system of adult education, possible existing data of the effectiveness of the system; additionally, identification, i.e. suggested needs /fields/ theme for education for each institution. When creating the baseline report the emphasis was on summarizing the laws and policies relating to the system of adult education at the partner countries of the consortium. The government institutions whose jurisdiction is on the adult education system in general, were identified, but also the specific institutions which are responsible for the system of adult education in agriculture.

The document presents the providers which are in charge of formal, non-formal and informal education and training of adults in agriculture. Additionally, public and private institutions, secondary schools, universities, specialized institutions for adult education, counseling services in the field of agriculture are encompassed. Examples of good practice relating to the role of universities in the system of adult education in the field of

agriculture are shown. Despite the differences between certain partner countries of the consortium, through the defined policies, there is an obvious convergence of principles of the system of adult education in the field of agriculture. Non EU member states of the consortium are implementing the field of lifelong learning and adult education (in agriculture) within their strategic documents of European priorities.

There is a remarkable heterogeneity of forms of adult education and training in the field of agriculture, not only between different countries, but also within one country. The e-learning is not yet sufficiently developed to be used for the purpose of adult education and training in the field of agriculture. This is particularly remarkable at the countries in transition in the consortium, but this problem is not an exception for the developed countries as well. It is realistic to expect that, following the example of other areas of education, e-learning is increasingly used in the system of AE and training in the field of agriculture.

The expected outcome of the baseline report is in terms of strengthened professional competences of min. 3000 agricultural adult educators in the field of English language, transversal skills and agri-business skills; innovated, modernized and upgraded agriculture adult education programs which are offered in the Agri Base consortium countries to fit the needs of contemporary agri-business; and initiated networking of and best practice sharing among agricultural adult educators through webinars and creation of e-platform. The issue on validation of non-formal and informal learning is still valid for all countries and is something that will be worked upon in the future.



Оваа студија дава преглед на актуелните состојби и трендови во образованието на возрасните во земјоделството во десет земји (Република Македонија, Босна и Херцеговина, Италија, Шпанија, Србија, Косово, Романија, Естонија, Бугарија и Турција), од кои сите се дел од конзорциумот на Еразмус + проектот "Зајакнување на системот за образование на возрасни во земјоделството" AgriBase. Во фокусот на извештајот е системот на образование на возрасни во областа на земјоделството. Тој е дизајниран да придонесе за подобро разбирање на потребите

и потенцијалните насоки за понатамошен развој на образованието на возрасни во областа на земјоделството во сите земји од конзорциумот. Во основа извештајот се движи од некои општи факти за секоја од горенаведените земјата, одреден аспект на секторот за земјоделство со детален земјоделски профил, типични земјоделски производи и податоци за нивното производство и извоз. Анализите се направени за моменталната состојба на доживотното учење и образованието на возрасни во земјоделството во однос на: институционалната рамка, законската рамка, улогата и местото на универзитетот во тој процес, можно претходни истражувања во оваа област, финансирање на системот на образование на возрасни, можни постоечките податоци за ефикасноста на системот; дополнително, идентификација, односно предложени потреби / полиња / тема за образование за секоја институција. При создавањето на основната линија на извештајот акцентот беше ставен на сумирање на закони и политики кои се однесуваат на системот на образование на возрасни во земјите партнери на конзорциумот. Владините институции чија надлежност е системот за образование на возрасни, во принцип, се идентификувани, но исто така и одредени институции кои се одговорни за системот на образование на возрасни во земјоделството. Документот ги претставува и актерите кои се задолжени за формалното, неформалното и информалното образование и обука на возрасни во земјоделството. Покрај тоа опфатени се и јавни и приватни институции, средните училишта, универзитети, специјализирани институции за образование на возрасни, советодавни услуги во областа на земјоделството. Приказани се примери на добра практика во врска со улогата на универзитетите во системот на образование за возрасни лица во областа на земјоделството. И покрај разликите меѓу одредени земји-партнери на конзорциумот, преку дефинирани политики, постои очигледна конвергенција на принципите на системот на образование за возрасни лица во областа на земјоделството. Државите од конзорциумот кои не се членки на ЕУ го спроведуваат доживотното учење и образованието за возрасни (во земјоделството) во рамките на своите стратешки документи на европските приоритети. Постои извонредна хетерогеност на форми на едукација и обука на возрасни лица во областа на земјоделството, не само меѓу различни земји, но, исто така, и во рамките на една земја. Е-учењето се уште не е доволно развиено за

да се користи за целите на воспитанието и образованието на возрасните во областа на земјоделството. Ова е особено значајно во земјите во транзиција во конзорциумот, но овој проблем не е исклучок и за развиените земји. Реално е да се очекува дека, по примерот на другите области на образование, е-учењето се повеќе се користи во системот на образованието на возрасни и обука во областа на земјоделството. Очекуваниот исход од студијата е извештај е во однос на зајакнување на професионалните компетенции на мин. 3000 земјоделски возрасни едукатори во областа на англиски јазик, трансверзални вештини и агро-бизнис вештини; реновиран, модернизирани и надградени програми за образование на возрасни во земјоделството кои се нудат во земјите од конзорциумот, агро база која одговара на потребите на современиот агро-бизнис; и иницирано вмрежување и споделување на најдобрите практики меѓу земјоделските возрасни едукатори преку вебинари и создавање на е-платформа. Прашањето за потврдување на неформалното и информалното учење се уште важи за сите земји и е нешто на што ќе се работи и во иднина.



Questa relazione di riferimento presenta le condizioni attuali e le tendenze in materia di istruzione degli adulti in agricoltura in dieci paesi (Repubblica di Macedonia, Bosnia-Erzegovina, Italia, Spagna, Serbia, Kosovo, Romania, Estonia, Bulgaria e Turchia) tutti dei quali comprende il consorzio del Erasmus + "Incrementare adulti sistema Istruzione in Agricoltura" AgriBase. L'attenzione alla relazione di riferimento è il sistema di educazione degli adulti nel campo dell'agricoltura. È stato progettato per contribuire ad una migliore comprensione delle esigenze e la direzione potenziale per un ulteriore sviluppo del sistema di istruzione adulti nel settore dell'agricoltura a tutti i paesi del consorzio Agri Base. La relazione di riferimento si muove da alcuni fatti generali su ciascuno dei paesi di cui sopra, l'aspetto particolare sul settore dell'agricoltura, con un profilo agricolo dettagliata con riferimento alle questioni in questo campo, i prodotti tipici agricoli e dati sulla loro produzione e l'esportazione. L'analisi viene effettuata sulla condizione attuale di LLL e AE in agricoltura in termini di: quadro istituzionale, quadro giuridico, il ruolo e il posto delle università in questo processo, eventuali

precedenti ricerche in questo campo, finanziamento del sistema di educazione degli adulti, possibile dati dell'efficacia del sistema esistente; Inoltre, l'identificazione, cioè suggerito bisogni / campi / tema di formazione per ciascuna istituzione. Quando si crea la relazione di riferimento l'enfasi era sulla riassume le leggi e le politiche relative al sistema di educazione degli adulti ai paesi partner del consorzio. Le istituzioni governative la cui giurisdizione ricade sul sistema di educazione degli adulti in generale, sono stati identificati, ma anche le istituzioni specifiche che sono responsabili per il sistema di educazione degli adulti in agricoltura. Il documento presenta i fornitori che si occupano di istruzione e formazione degli adulti in agricoltura formale, non formale e informale. Inoltre, le istituzioni pubbliche e private, scuole secondarie, università, istituti specializzati per l'educazione degli adulti, servizi di consulenza nel campo dell'agricoltura sono racchiusi. Sono mostrati esempi di buone pratiche relative al ruolo delle università nel sistema di educazione degli adulti nel campo dell'agricoltura. Nonostante le differenze tra alcuni paesi partner del consorzio, attraverso le politiche definite, vi è un'evidente convergenza di principi del sistema di educazione degli adulti nel campo dell'agricoltura. Stati non UE del consorzio stanno attuando nel campo dell'apprendimento permanente e l'educazione degli adulti (in agricoltura) nei loro documenti strategici delle priorità europee. Vi è una notevole eterogeneità delle forme di istruzione e formazione degli adulti nel settore dell'agricoltura, non solo tra i diversi paesi, ma anche all'interno di un paese. L'e-learning non è ancora sufficientemente sviluppato per essere utilizzato a fini di istruzione e formazione degli adulti nel settore dell'agricoltura. Questo è particolarmente notevole ai paesi in transizione nel consorzio, ma questo problema non è un'eccezione per i paesi sviluppati pure. È realistico prevedere che, seguendo l'esempio di altri settori dell'istruzione, l'e-learning è sempre più utilizzato nel sistema di AE e formazione nel campo dell'agricoltura. Il risultato atteso della relazione di riferimento è in termini di competenze professionali rafforzati di min. 3000 educatori per adulti agricoli nel campo della lingua inglese, competenze trasversali e competenze agro-business; innovati, modernizzati e migliorati programmi di educazione adulto agricoltura che sono offerti nei paesi del consorzio Agri di base per soddisfare le esigenze di agro-business contemporaneo; e messa in rete di e la condivisione delle migliori pratiche tra gli educatori degli adulti agricoli attraverso webinar e la creazione di e-piattaforma di

iniziati. La questione sulla convalida dell'apprendimento non formale e informale è ancora valido per tutti i paesi ed è qualcosa che sarà lavorata in futuro.



Este informe de referencia se presentan las condiciones actuales y tendencias en la educación de adultos en la agricultura en diez países (República de Macedonia, Bosnia y Herzegovina, Italia, España, Serbia, Kosovo, Rumania, Estonia, Bulgaria y Turquía) todos los cuales comprenden el consorcio de la proyecto Erasmus + "Impulsar la Educación Sistema para Adultos en la agricultura" AgriBase. El enfoque en el informe de referencia se encuentra en el sistema de educación de adultos en el campo de la agricultura. Está diseñado para contribuir a una mejor comprensión de las necesidades y dirección potencial para un mayor desarrollo del sistema de educación de personas adultas en el campo de la agricultura en todos los países del consorcio Agri Base. El informe de referencia se mueve de algunos datos generales sobre cada uno de los países mencionados anteriormente, para el aspecto particular en el sector de la agricultura con un perfil agrícola detallada en referencia a los problemas en este campo, los productos y los datos sobre su producción y exportaciones agrícolas típicos. El análisis se realiza sobre la condición actual de LLL y AE en la agricultura en términos de: marco institucional, marco legal, el papel y el lugar de la universidad en ese proceso, posibles investigaciones anteriores en este campo, la financiación del sistema de educación de adultos, es posible los datos de la eficacia del sistema existente; Además, la identificación, es decir, sugirió necesidades / campos / tema de la educación para cada institución. Al crear el informe de referencia se hizo hincapié en que resume las leyes y políticas relacionadas con el sistema de educación de adultos en los países socios del consorcio. Las instituciones gubernamentales con jurisdicción en el sistema de educación de adultos en general, fueron identificados, sino también las instituciones específicas que son responsables para el sistema de educación de adultos en la agricultura. El documento presenta los proveedores que son responsables de la educación y la formación de adultos en la agricultura formal, no formal e informal. Además, las instituciones públicas y privadas, escuelas secundarias, universidades, instituciones especializadas para la educación de adultos, servicios de asesoramiento en

el campo de la agricultura están abarcadas. Se muestran ejemplos de buenas prácticas en relación con el papel de las universidades en el sistema de educación de adultos en el campo de la agricultura. A pesar de las diferencias entre algunos países socios del consorcio, a través de las políticas definidas, hay una clara convergencia de los principios del sistema de educación de adultos en el campo de la agricultura. Estados no miembros de la UE del consorcio están implementando el ámbito del aprendizaje permanente y la educación de adultos (en la agricultura) dentro de sus documentos estratégicos de las prioridades europeas. Hay una notable heterogeneidad de las formas de educación y formación de adultos en el campo de la agricultura, no sólo entre diferentes países, sino también dentro de un mismo país. El e-learning no está lo suficientemente desarrollado para ser utilizado para el propósito de la educación y formación de adultos en el campo de la agricultura. Esto es particularmente notable en los países en transición en el consorcio, pero este problema no es una excepción para los países desarrollados. Es realista esperar que, siguiendo el ejemplo de otras áreas de la educación, el aprendizaje electrónico se utiliza cada vez más en el sistema de AE y la formación en el campo de la agricultura. El resultado que se espera del informe de línea de base es en términos de competencias profesionales fortalecidas min. 3000 educadores de adultos agrícolas en el campo del lenguaje Inglés, competencias transversales y las habilidades de agronegocios; innovado, modernizado y mejorado los programas de educación de adultos la agricultura que se ofrecen en los países del consorcio Agri Base para adaptarse a las necesidades de las empresas agrícolas contemporánea; e inició la creación de redes de intercambio de mejores prácticas y de los educadores de adultos agrícolas a través de seminarios y la creación de la plataforma electrónica. La cuestión sobre la validación del aprendizaje no formal e informal sigue siendo válida para todos los países y es algo que va a ser trabajada en el futuro.



Në këtë raport janë paraqitur kushtet aktuale dhe trendet e arsimit për të rritur në fushën e bujqësisë për dhjetë shtete (Republika e Maqedonisë, Bosnjë dhe Hercegovinë, Itali, Spanjë, Serbi, Kosovë, Rumani, Estoni, Bullgari dhe Turqi), të cilat janë pjesë përbërëse e konsorciumit në kudër të projektit "Zhvillimi i Sistemit Arsimor për të Rritur në

Fushën e Bujqësisë – AgriBase” – projekt i mbështetur në kuadër të programit Erasmus+.

Ky raport është projektuar për të dhënë një kuptim më të mirë të nevojave dhe drejtimin e mundshëm për zhvillimin e mëtejshëm të sistemit për arsimin e të rriturve në fushën e bujqësisë, në të gjitha vendet e konsorciumit “AgriBase”. Raporti bazë përfshin fakte të përgjithshme për sektorin e bujqësisë për secilin prej shteteve të lartpërmendura dhe jep informata të detajuara për produktet tipike bujqësore duke përfshirë të dhënat e prodhimit dhe eksportit të tyre. Analizat janë bërë duke u bazuar në kushtet për mësimin gjatë gjithë jetës në fushën e bujqësisë dhe Agro-Ekonominë, me fokus të veçantë në ndërtimin institucional, kornizën ligjore, rolin dhe rëndësinë e universiteteve në këtë proces, analizën e hulumtimeve të mëparshme në këtë fushë, mënyrën e financimit të sistemit të arsimit për të rritur, të dhëna të gatshme në lidhje me efektivitetin e sistemit ekzistues etj.;

Gjatë krijimit të këtij raporti, i është kushtuar vëmendje përmbledhjes së ligjeve dhe politikave që kanë të bëjnë me sistemin e arsimit të të rriturve në vendet partnere të konsorciumit. Janë identifikuar institucionet kryesore qeveritare të cilat kanë juridiksion në sistemin e arsimit të të rriturve, si dhe janë identifikuar institucionet specifike të cilat janë përgjegjëse për sistemin e arsimit të të rriturve në bujqësi. Dokumenti jep informata rreth bartësve të arsimit formal, joformal dhe informal në aftësimin e të rriturve në bujqësi. Poashtu janë përfshirë, institucionet publike dhe private, shkollat e mesme, universitetet, institucionet e specializuara për arsimimin e të rriturve, shërbime këshilluese në fushën e bujqësisë. Janë prezantuar shembuj të praktikave të mira në lidhje me rolin e universiteteve në sistemin e arsimit të të rriturve në fushën e bujqësisë.

Pavarësisht dallimeve në mes të vendeve të caktuara partnere të konsorciumit, përmes politikave të caktuara, ka një konvergjencë të qartë të parimeve të sistemit të arsimit të të rriturve në fushën e bujqësisë. Shtetet jo anëtare të BE-së, në konsorcium, kanë zbatuar të mësuarit gjatë gjithë jetës dhe arsimit të të rriturve (në bujqësi) në kuadër të dokumenteve të tyre strategjike të prioritetëve evropiane. Ka një heterogjenitet të shquar të formave të arsimit dhe aftësimit për të rritur në fushën e bujqësisë, jo vetëm midis vendeve të ndryshme, por edhe brenda një vendi.

E-learning ende nuk është zhvilluar sa duhet për t'u përdorur për qëllime të arsimit dhe aftësimit për të rritur në fushën e bujqësisë. Kjo është veçanërisht e shquar në vendet në tranzicion, pjesë e konsorciumit, por ky problem nuk është një përjashtim për vendet e zhvilluara. Është e pritshme që, duke ndjekur shembullin e zonave të tjera të arsimit, e-learning është përdorur gjithnjë e më shumë në sistemin e AE dhe trajnimit në fushën e bujqësisë. Rezultati i pritshëm i këtij raporti është në drejtim të forcimit të kompetencave profesionale të së paku 3000 mësimdhënësve të rritur bujqësor në fushën e gjuhës angleze, aftësive transversale dhe aftësive të agro-biznesit; programe inovative, të modernizuara të edukimit për të rritur në fushën bujqësisë të cilat ofrohen në vendet e konsorciumit Agri Base të përshtaten me nevojat e bashkëkohore agro-biznesit; zhvillimi i rrjeteve të bashkëpunimit dhe ndarjen e praktikave më të mira

ndërmjet mësimdhënësve në sektorin arsimor për të rritur në bujqësi duke përdorur Webinare dhe platformën elektronike. Çështja për validimin e mësimit jo-formal dhe informal është ende e vlefshme për të gjitha vendet dhe është diçka që do të vazhdojë të punohet edhe në të ardhmen.



Acest raport de referință prezintă condițiile și tendințele actuale în domeniul educației adulților în agricultură, în zece țări (Republica Macedonia, Bosnia și Herțegovina, Italia, Spania, Serbia, Kosovo, România, Estonia, Bulgaria și Turcia), toate care alcătuiesc consorțiul proiectului Erasmus + "Stimularea sistemului educației adulților în agricultură" AgriBase. Accentul din raportul de bază este pus pe sistemul de educație a adulților în domeniul agriculturii. Acesta este conceput pentru a contribui la o mai bună înțelegere a nevoilor și direcției de potențial pentru dezvoltarea în continuare a sistemului de educație a adulților în domeniul agriculturii în toate țările din consorțiul Agri Base. Raportul de bază face o trecere de la unele fapte generale din fiecare țară menționată mai sus la aspectul particular asupra sectorului agriculturii printr-un un profil agricol detaliat cu referire la problemele specifice din acest domeniu, produsele și datele cu privire la producția și exportul produselor agricole tipice. Analiza se efectuează în contextul actual al învățării permanente și AE în agricultură, ținând seama de: cadrul instituțional, cadrul legal, rolul și locul universității în acest proces, eventualele cercetări anterioare în acest domeniu, finanțarea sistemului de educație a adulților, posibile date ale eficienței sistemului existent; în plus, identificări precum ale unor nevoi / domenii / teme preconizate de educație pentru fiecare instituție. În alcătuirea raportului de bază, accentul s-a pus pe rezumarea legilor și politicilor referitoare la sistemul de educație a adulților în țările partenere ale consorțiului. Au fost identificate instituțiile guvernamentale în a căror jurisdicție se află sistemul de educație pentru adulți, în general, precum și instituțiile specifice care sunt responsabile pentru sistemul de educație a adulților în agricultură. Documentul prezintă furnizorii care sunt responsabili de educația formală, non-formală și informală precum și formarea adulților

în agricultură. De asemenea, sunt cuprinse instituții publice și private, licee, universități, instituții specializate pentru educația adulților, servicii de consiliere în domeniul agriculturii. Sunt arătate exemple de bună practică privind rolul universităților în sistemul de educație a adulților în domeniul agriculturii. În ciuda diferențelor dintre anumite țări partenere din consorțiu, prin intermediul politicilor definite, există o convergență evidentă a principiilor sistemului de educație a adulților în domeniul agriculturii. Statele din consorțiului care nu sunt membre ale UE implementează domeniul învățării pe tot parcursul vieții și al educației adulților (în agricultură), conform documentele lor strategice de priorități europene. Există o eterogenitate remarcabilă a formelor de educație și de formare a adulților în domeniul agriculturii, nu numai între diferite țări, dar, de asemenea, într-o singură țară. E-learning nu este încă suficient dezvoltat pentru a fi utilizat în scopul educației și formării profesionale a adulților în domeniul agriculturii. Acest lucru este deosebit de remarcabil în țările din consorțiu aflate în tranziție, dar, în aceeași măsură, această problemă nu este o excepție pentru țările dezvoltate. Este realist să ne așteptăm ca, urmând exemplul altor domenii ale educației, e-learning-ul să fie folosit din ce în ce în sistemul de AE învățare și de formare în domeniul agriculturii. Rezultatul așteptat al raportului de bază este consolidarea competențelor profesionale a cel puțin 3000 educatori agricoli adulți în domeniul limbii engleze, al abilităților transversale și de agro-business; programe inovative, moderne și actualizate de educație pentru adulți agricultură oferite în țările consorțiului Agri Baza pentru a se potrivi nevoilor contemporane agro-business; și inițierea creării de rețele și cele mai bune practici de partajare în rândul educatorilor agricoli adulți prin cursuri web și crearea unei e-platforme. Chestiunea privind validarea învățării non-formale și informale este încă valabilă pentru toate țările și este ceva care se va mai lucra în viitor.



See lähteolukorra aruanne käsitleb hetkeolukorda ja suundumusi täiskasvanuhariduses põllumajanduse valdkonnas kümnes riigis (Makedoonia Vabariik, Bosnia ja Hertsegoviina, Itaalia, Hispaania, Serbia, Kosovo, Rumeenia, Eesti, Bulgaaria ja Türgi),

mis kõik moodustavad konsortsiumi Erasmus+ projektis "Põllumajanduse valdkonna edendamine täiskasvanuhariduse süsteemis" AgriBase. Aruanne keskendub täiskasvanuhariduse süsteemile põllumajanduse valdkonnas. Selle eesmärk on aidata paremini mõista vajadusi ja potentsiaali täiskasvanute haridussüsteemi edasiseks arendamiseks põllumajanduse valdkonnas kõikides Agri Base konsortsiumi liikmesriikides. Lähteolukorra aruandes on välja toodud üldised faktid iga eespool mainitud riigi kohta, liikudes edasi üksikasjalikuma kirjelduseni põllumajandussektori kohta koos detailse põllumajandusliku profiiliga, viidates probleemidele selles valdkonnas ning tuues välja tüüpilised põllumajandustooted ja andmed tootmise ja ekspordi kohta. Analüüs on tehtud tuginedes praegusele elukestva õppe ja täiskasvanuhariduse olukorrale põllumajanduse valdkonnas võttes arvesse järgnevat: institutsionaalne raam, õigusraamistik, ülikooli roll ja koht selles protsessis, varasemad võimalikud uuringud selles valdkonnas, rahastamise süsteem täiskasvanuhariduses, võimalikud andmed olemasoleva süsteemi tõhususest; lisaks identifitseerides näiteks soovituslikud vajadused/valdkonnad/teemad igale institutsioonile. Lähteolukorra aruande loomisel oli rõhk seaduste ja poliitikate kokkuvõtmisel, mis on seotud konsortsiumi partnerriikide täiskasvanuhariduse süsteemidega. Tuvastati valitsusasutused, kelle pädevusse kuulub üldisemalt täiskasvanuhariduse süsteem, kuid ka konkreetsed asutused, kelle valdkonda kuulub põllumajandusvaldkonna täiskasvanuhariduse süsteem. Dokumendis on välja toodud pakkujad, kes vastutavad formaalse, mitteformaalse ja informaalse hariduse ja koolituste eest täiskasvanute hariduses põllumajanduse valdkonnas. Lisaks avalikud ja erainstitutsioonid, gümnaasiumid, ülikoolid, allasutused, kes on spetsialiseerunud täiskasvanuharidusele ja nõustamisteenuste pakkujad põllumajanduse valdkonnas. Välja on toodud hea tava näited ülikoolide rollist täiskasvanuhariduse süsteemis põllumajanduse valdkonnas. Hoolimata erinevustest teatud konsortsiumi partnerriikide vahel, on ilmsed sarnased lähenemise põhimõtted ja poliitikad täiskasvanuhariduses põllumajanduse valdkonnas. ELi mittekuuluvad konsortsiumi riigid rakendavad elukestva õppe ja täiskasvanuhariduse (põllumajanduses) põhimõtteid oma Euroopa prioriteetide strateegilistes dokumentides. Märkimisväärne heterogeensus põllumajanduse valdkonna täiskasvanute hariduses ja koolituste valdkonnas, pole ilmne mitte ainult erinevate riikide vahel, vaid ka ühe riigi piires. E-õpe ei ole põllumajanduse valdkonna

täiskasvanuhariduses veel piisavalt arenenud, et seda kasutada õppevormina. See on eriti märkimisväärne konsortsiumi siirderiikides, kuid see probleem ei ole erandiks ka arenenud riikides. On realistlik eeldada, et teiste hariduse valdkondade eeskujul kasutatakse e-õpet üha enam täiskasvanuhariduses ja -koolitusel ka põllumajanduse valdkonnas. Oodatav tulemus lähteolukorra aruandes on tugevdada min. 3000 professionaalse pädevusega põllumajanduse valdkonna andragoogi teadmisi inglise keeles, üld- ja ärioskusi põllumajanduses; luuakse innovatiivsed, moderniseeritud ja ümberehitatud põllumajanduse valdkonna täiskasvanuhariduse programmid, mida pakutakse Agri Base konsortsium riikidele, et täita tänapäeva põllumajandusliku äri vajadused; ja algatades võrgustikke ja heade tavade jagamist põllumajanduse valdkonna andragoogide vahel läbi webinaride ja e-platvormide. Mitteformaalse ja informaalse õppimise tunnustamine vajab veel kõikides riikides arenemist, kuid see on midagi, mida saab tulevikus arendada.



Овај извјештај представља садашње стање и трендове у образовању одраслих у пољопривреди у десет земаља (Република Македонија, Босна и Херцеговина, Италија, Шпанија, Србија, Косово, Румунија, Естонија, Бугарска и Турска) које су дио конзорцијума Еразмус + пројекта "Јачање образовање одраслих у пољопривреди" Agri Base. Фокус извјештаја је на систему образовања одраслих у области пољопривреде. Дизајниран је да допринесе бољем разумевању потреба и потенцијалних праваца развоја образовања одраслих у области пољопривреде у свим земљама из Agri Base конзорцијума. Документ креће од неких општих чињеница о свакој од горе наведених земаља, са нешто детаљнијим пољопривредним профилем који се односи на питања у овој области, као што су најзаступљенији пољопривредни производи и подаци о њиховој производњи и промету. Документ се наставља анализом тренутног стања целоживотног учења и образовања одраслих у пољопривреди у смислу: институционалног оквира, правног оквира, улози и мјесту универзитета у том процесу, постојећим ранијим истраживањима у овој области, финансирањем система образовања одраслих, постојећим подацима о ефикасности система; те идентификацији потреба,

односно /поља/ тема за образовање за сваку институцију. Приликом креирања студије акценат је био на сумирању закона и политика које се односе на систем образовања одраслих у земљама партнерима конзорцијума. Идентификоване су владине институције чија се надлежност односи на систем образовања одраслих у целини, али и специфичне институције које су одговорне за систем образовања одраслих у пољопривреди. У документу су представљене провајдери који су задужени за формално, неформално и информално образовање и обуку одраслих у пољопривреди. Осим тога, обухваћене су и јавне и приватне институције, средње школе, универзитети, специјализоване институције за образовање одраслих, саветовалишта у области пољопривреде. Приказани су примери добре праксе у вези са улогом универзитета у систему образовања одраслих. Упркос разликама између појединих земаља партнера конзорцијума, кроз дефинисане политике, постоји очигледна конвергенција принципа система образовања одраслих у области пољопривреде. Земље које нису чланице ЕУ, а које су дио конзорцијума у својим стратешким документима који се односе на систем образовања одраслих у пољопривреди уграђују европске приоритете и принципе на којима се систем заснива. Постоји изузетна хетерогеност облика образовања и обуке одраслих у области пољопривреде, не само између различитих земаља, већ и унутар појединачних земаља. Е-учење још није довољно развијено и не користи се у одговарајућој мјери у сврху образовања и образовања одраслих у области пољопривреде. Ово је прилично изражено у земљама у транзицији, а које су дио конзорцијума, а на овај проблем нису имуне ни развијеније земље.. Реално је очекивати да, по узору на друге области образовања, е-учење се све више користи у систему образовања одраслих у области пољопривреде. Очекивани исход основног извештаја је стварање претпоставки за развој професионалних компетенција минимално 3.000 актера у систему пољопривредног образовања одраслих у области енглеског језика, трансверзалних вештина и пословних вештина; те модернизоване и надограђене програме образовања одраслих у области пољопривреде који се нуде у земаља са Agri Base конзорцијума у складу са потребама савременог агробизниса, као и иницирано умрежавање и размена најбољих пракси између актера у систему образовања одраслих у области пољопривреде кроз вебинаре и стварање е-платформе. Питање о нострификацији

не-формалног и информалног учења још увјек важи за све земље и представља нешто на чему ће се радити у будућности.



Този доклад за базовата студия представя текущите условия и тенденции в образованието за възрастни в селското стопанство в десет страни (Македония, Босна и Херцеговина, Италия, Испания, Сърбия, Косово, Румъния, Естония, България и Турция), всички от които се състои консорциума на Еразъм + проект "Усилване на възрастната образователна система в земеделието" AgriBase. В Фокусът на доклада за базовата студия е системата на образованието за възрастни в областта на селското стопанство. Тя е предназначена да допринесе за по-добро разбиране на нуждите и потенциала в посока за по-нататъшно развитие на възрастната образователна система в областта на селското стопанство във всички страни от консорциума Agri Base. Докладът за базовата студия се движи от някои общи факти за всяка една от посочените по-горе страни, в частност аспект на сектора на селското стопанство с подробен селскостопанска профил, отнасящи се до проблемите в тази област, типични земеделски продукти и данни за тяхното производство и износ. Анализите са направени на сегашното състояние на ЛЛЛ и АЕ в селското стопанство по отношение на: институционална рамка, законова рамка, ролята и мястото на университета в този процес, възможни предишни изследвания в тази област, финансиране на системата на образованието за възрастни, възможни съществуващи данни за ефективността на системата, както и идентификация т.е. предложи нужди / области / теми за образование за всяка институция. При създаване на доклад за базовата студия акцентът беше върху обобщаване на законите и политиките, свързани със системата на образованието за възрастни в страните партньори на консорциума. Държавните институции, чиято юрисдикция е по системата на образованието за възрастни като цяло, са идентифицирани, но и конкретните институции, които са отговорни за системата на образованието за възрастни в селското стопанство. Документът се представя на доставчиците, които са отговорни за формалното, неформалното и информалното образование и обучение на възрастни в селското стопанство. Освен това са включени обществени и частни институции, средни училища, университети,

специализирани институции за образование на възрастни, консултантски услуги в областта на селското стопанство. Примери за добри практики, свързани с ролята на университетите в системата на образованието за възрастни в областта на селското стопанство, са показани. Въпреки различията между някои страни партньори в консорциума, чрез определени политики, има очевидно сближаване на принципите на системата на образованието за възрастни в областта на селското стопанство. Някои страни-членки на ЕС на консорциума са изпълнителни в областта на ученето през целия живот и образованието за възрастни (в селското стопанство) в рамките на своите стратегически документи на европейските приоритети. Има една забележителна хетерогенност на форми на образование и обучение на възрастни в областта на селското стопанство, не само между различните страни, но също така и в рамките на една държава. За електронно обучение все още не е достатъчно развита, за да бъдат използвани за целите на образованието и обучението на възрастни в областта на селското стопанство. Това е особено забележително в страните в преход в консорциума, но този проблем не е изключение и за развитите страни. Така е реалистично да се очаква, че, следвайки примера на други области на образование, електронното обучение се използва все повече в системата на АЕ и обучението в областта на селското стопанство. Очакваният резултат на доклад за базовата студия е от гледна точка на засилени професионални компетенции на мин. 3000 земеделски възрастни преподаватели в областта на английски език, уменията в и агро-бизнес умения; обновено, модернизирани и обновен образователни програми земеделието възрастни, които се предлагат в страните от консорциума Agri Base, за да отговарят на нуждите на съвременният хранителен-бизнес, и да започне работа в мрежа и споделяне на добри практики между земеделски обучители на възрастни чрез уебинари и създаването на електронна платформа. Въпросът за валидиране на неформалното и информалното обучение все още е валидна за всички страни и е нещо, което ще се работи повече, за в бъдеще.



Bu çalışma, on ülkenin (Makedonya, Bosna-Hersek Cumhuriyeti, İtalya, İspanya, Sırbistan, Kosova, Romanya, Estonya, Bulgaristan ve Türkiye) tarımda yetişkin eğitiminde ve eğilimler olan mevcut durumlarına genel bir bakış sağlar. Bütün bunlar Erasmus + projesi konsorsiyumun "tarımda yetişkin eğitiminin sisteminin güçlendirilmesi"nin olan (Agri Base) ortak parçasıdır. Raporun odak noktası tarımda yetişkin eğitim sistemidir. Konsorsiyum tüm ülkelerde tarımda yetişkin eğitiminin daha da geliştirilmesi için ihtiyaç ve potansiyel yönleri daha iyi anlaşılmasına katkıda bulunmak amacıyla tasarlanmıştır. Temelde rapor yukarıdaki ülkelerin her biriyle ilgili bazı genel gerçekler arasında değişmektedir. Tarımsal detaylı profil ile tarım sektörünün özel bir yönü kendi üretim ve ihracat tipik tarım ürünleri ve verileridir. Analizler hayat boyu öğrenme için yapılmış ve ilgili tarımda yetişkin eğitimi: kurumsal çerçeve, yasal çerçeve, süreçte üniversitenin rolü ve yeri, bu alandaki olası önceki araştırma, yetişkin eğitimi sistemi finansman, sistemin etkinliği hakkında olası mevcut veri; ayrıca, İhtiyaçları / alanlar kimlik ya da her kurum için Milli Eğitim tarafından önerilen özel temalar. Bazal rapor oluştururken vurgu yasa ve konsorsiyum ortağı ülkelerin yetişkin eğitimi sistemine ilişkin politikaları özetleyen oldu. Genel olarak yetişkin eğitim sistemi devlet kurumların yetkisine bağlıdır prensip olarak, tespit edilmiş ama aynı zamanda diğer bazı kurumlar bu tarımda yetişkin eğitimi sisteminden sorumludur. Belge, örgün, yaygın ve informal eğitim ve tarım yetişkin eğitimden sorumlu aktörleri sunar. Ayrıca, yetişkin eğitimi için kamu ve özel kurum, ortaöğretim okulları, üniversiteler, özel kuruluşlar, tarım alanında danışmanlık hizmetleri kapsam dahilindedir. Tarım alanında yetişkin eğitimi sisteminde üniversitelerin rolüne ilişkin iyi uygulama örnekleri gösterilmiştir. konsorsiyum belli ortak ülkeler arasındaki farklılıklara rağmen, belirlenen politikalar vasıtasıyla, tarım alanında yetişkin eğitimi sisteminin ilkeleri açık bir yakınsama var. Konsorsiyumun olmayan AB üyesi devletler, Avrupa öncelikler stratejik belgeleri içinde yaşam boyu öğrenme ve yetişkin eğitimi (tarımda) alanını uygulamaktadır. Tarım alanında yetişkin eğitim ve öğretim biçimlerinin dikkate değer bir heterojenlik vardır, sadece farklı ülkeler arasında değil, aynı zamanda bir ülke içinde. e-öğrenme henüz yeterince tarım alanında yetişkin eğitimi ve öğretimi amacıyla kullanılmak üzere geliştirilen değildir. Bu konsorsiyum geçiş ülkeleri özellikle dikkat çekici, ancak bu sorunun yanı sıra gelişmiş ülkeler için bir istisna değildir. Bu eğitimin diğer alanlarında örnek alarak, beklemek gerçekçi değildir, e-öğrenme giderek tarım

alanında AE sistemi ve eğitim kullanılmaktadır. Bazal raporun beklenen sonuçların güçlendirilmiş mesleki yeterlikler açısından olduğunu. İngilizce, çapraz becerileri ve tarımsal iş becerileri alanında 3000 tarım yetişkin eğitimcileri; , Yenilikçi modernize ve çağdaş tarım iş ihtiyaçlarına uyacak şekilde Ağrı Base konsorsiyum ülkelerde sunulmaktadır tarım yetişkin eğitim programları yükseltilmiş; ve e-platförm bir ağ ve web seminerleri yoluyla tarımsal yetişkin eğitimciler arasında en iyi uygulama paylaşımı ve oluşturulması başlattı. Yaygın ve informal öğrenmenin onaylanması üzerine sorun hala tüm ülkeler için geçerlidir ve gelecekte üzerine çalışmış olacak bir şeydir.

INTRODUCTION

The rapid implementation of technical and technological innovation in agriculture by the agricultural producers relates to a greater and wider quantum of knowledge. The development brings complex problems for which not only knowledge in the agriculture is required, but also from some fields that have been inconsistent until recently, like information - communication technology, environmental protection, food safety etc. These are exactly the areas in which innovations are born on a daily basis. The everyday life imposes the necessity of stakeholders in food production for a continuous acquirement of new knowledge and skills. It is very obvious that the formal education in agriculture, regardless of the level, the institution and the country where it is attained, is not sufficient for competitive agricultural production. In response to this kind of challenge, not only in agriculture but also in other fields of human endeavor, there is a concept of lifelong learning. A key component of the concept of lifelong learning is the adult education. When it comes to agriculture, adult education is of a special importance, considering that the agricultural production has a higher number of producers who do not have formal training in agriculture. This is particularly the case in less developed countries where a higher percentage of the population falls on the agricultural population. Addressing the theme of lifelong learning and adult education and training with a focus on agriculture in one environment as is the consortium of AgriBase project is a real challenge. The consortium itself consists of 10 countries that are characterized by a mutual diversity. There differences between partners of the consortium in many aspects, which provides for a major research area. The heterogeneity of consortium partners, among other things, is reflected on the population, the total land, the agricultural arable land, the role of agriculture in the economic structure, the participation of the agricultural population in the total of retail, the agro-ecological conditions for agricultural production, as well as a number of other indicators. Five partners of this project consortium are EU member states, three are EU

candidate countries and two countries are with the status of potential candidate countries for EU membership. The focus of the AgriBase project is on the system of adult education in agriculture in 10 countries, and within the project application, a baseline study is planned which is a report that puts at one place the present system of adult education in agriculture in the 10 countries. The background objective is to allow access to the system and to introduce the system of adult education in agriculture in a broader context. Accordingly, in this document also presents some general information about agriculture and the formal education system in all ten countries. In this way, a clearer picture of the system of adult education in the field of agriculture is obtained. The baseline report is a starting point for the further activities within the AgriBase project, but also a valuable material for all the interested parties which are engaged in the activities of education and training of adults in the ten countries of the consortium.

METHODOLOGY

In defining the methodology of work, it was necessary to consider the following:

The objective of the document - the objective of this baseline study is to enable better understanding of adult education systems in the field of agriculture and the 10 partner countries.

Purpose of the document - the purpose of this baseline study is to create the base and starting point for the development of agricultural adult education courses in 10 countries.

Heterogenous in the partner countries of the project consortium – the emphasized heterogenous condition leads to differences in many aspects to the relevant research, which primarily refers to the system of statistical records in the country and the availability of other data.

The scope of work planned within the project application - precisely defined scope of work was presented per working days for each partner.

Based on the above, but also other facts, the coordinator of O1 (UES) created a draft work plan and presented it during the Transnational meeting in Foggia (24-25 November, 2015). At the same meeting a group activity "knowledge cafe" was held where all participants of the consortium contributed to the improvement of the concept as well as the content of reporting, and work methodology. On the basis of the draft version and the collected suggestions, the final plan for baseline Report was created.

The plan stipulates that all members of the consortium create their own state report, which consists of three general parts: country profiles, agriculture profiles and system of adult education and agriculture.

Respecting the already mentioned heterogeneity within the consortium, it was rational to define more structured forms of reports. The draft document listed topics that should contain individual chapters, and the rest aspects was left to the authors themselves to have it defined. In this way, the situation in which the consortium itself would brought into the trap of creating a strictly unified statements in circumstances different data availability was avoided.

The methodology of work planned a two-phase activities, whereas the first one referred to the following:

- a) Skype team meeting to ensure common understanding of the process
- b) collection of sources and materials for analyses
- c) reviewing of sources and materials
- d) drafting of country reports in English and delivering reports to activity coordinator.

The second phase referred to the following;

- a) comparative review and compilation of country reports into general one, first draft reading and commenting
- b) translation of executive summaries into national languages
- c) designing and publishing.

The methodology provided according to the plan was complied during the preparation of the the report.

During the creation of the many single samples and the unified Report a large number of technical and scientific articles were consulted as well as documents related to politics and law of the EU and individual states.

The working language of the baseline report in English onto which the entire set material is written. The plan envisages that the summary would be translated into the languages of the partners of the consortium, which is in the document and accomplished.

LITERATURE REVIEW

Considering the importance of emphasizing the significance of the LLL and raising the awareness for the adult education and training in every sphere, with a special aspect on the agriculture, this baseline study analyses is primarily directed towards following:

- to collect at one place a lot of data about the system of adult education in agriculture (SAEA) in the ten partner countries of the AgriBase consortium;
- to present a clear picture about SAEA in the ten countries by identifying the similarities and differences between them; and,
- to make it a platform for exchange of good practices in the field of SAEA.

In that context, for the preparation of this baseline study,a particular emphasis was put on the available literature in this filed, including: scientific and expert papers about SAEA, EU and other reports, studies and key documents about SAEA (like politics, strategies – goals) as well as the key constraints in the SAEA.

The conditions for agricultural production are rapidly changing due to urbanisation, growing inequities, human migration, globalisation, changing dietary preferences, climate change, environmental degradation, a trend toward biofuels and an increasing population. Farmers need to adapt production and management systems in order to maintain or even enhance the competitiveness of their businesses. Innovations are expressed in structural changes (farm size, cooperation, land ownership, labour/income organisation, equity capital and borrowed capital ratio, infrastructure, market structure) and in farming practices (intensity, productivity and specialisation/ diversifi cation of existing systems, new products and technologies, management innovations). Agricultural information, knowledge and the ability to learn are preconditions to handle change successfully. A very good knowledge of innovative technics and processes is crucial when a farmer plans to:

- increase productivity of traditional production system e.g. by introducing new technology (intensification);
- produce new crops, animals or services (diversification);
- reduce the scope of farm products (specialisation);
- alter the farm's orientation e.g. towards organic farming;
- change the farm's size (e.g. full-time versus part-time farming, family labour versus employees etc.).

Agricultural knowledge and information systems aim to support the knowledge exchange between farmers, technology developers, plant breeders, universities and researchers. Adult learning brings considerable benefits to individuals and to society. Despite these benefits, the EU is far from attaining its modest benchmark of 15% adult participation in learning by 2020. Progress towards achieving the European adult learning benchmark has been limited due to the coordinating adult learning strategies at national level, implementation of adult learning policies and ensuring equitable access to education and training, and improving adults' basic skills are critical weaknesses of current adult learning policies in EU Member States in particular. The following effective policy actions are proposed for addressing the challenges in AE:

-participation in learning is strongly linked to the availability of learning opportunities which governments fund in whole or part, and the amount of government investment in learning; this suggests that critical policy actions should be those which increase the availability of learning (both formal and nonformal, both in work and out of work);

-focusing investment on underrepresented groups in adult learning not only reduces inequalities in accessing learning, but also increases overall adult participation in learning; critical policy actions should be those which provide suitable learning opportunities for adults with a specific need (e.g. to re-skill or upskill);

-provision of employment- and work-related training is a key driver in increasing the overall participation rate, not least because the majority of adults are in work; so critical policy actions should be those which increase the motivation of employers to train and

develop their employees as well as the motivation of adults themselves to take up available opportunities to learn;

-improving learners' disposition to learning increases participation in learning; this suggests that critical policy actions should be those which encourage and enable access to adult learning by adults, particularly those who currently undertake little or no learning.

Adult learning is the entire range of formal, non-formal and informal learning activities which are undertaken by adults after a break since leaving initial education and training, and which results in the acquisition of new knowledge and skills. Additionally, adult learning will include a proportion of adults aged between the end of compulsory schooling and about the age of 25 and all adults thereafter (since all adults might be expected to engage in these types of learning).

https://ec.europa.eu/epale/sites/epale/files/all_in-depth_analysis_of_adult_learning_policies_and_their_effectiveness_in_europe_12.11.2015_pdf.pdf).

On the other side, Adult learning policy is a course or principle of action, adopted or proposed by government institutions(s), focused on the area of adult learning in general, or to any sub-sector of adult learning in particular.

According to European Commission/EACEA/Eurydice, 2015 Adult Education and Training in Europe: Widening Access to Learning Opportunities. Eurydice Report. Luxembourg: Publications Office of the European Union adult education refers to the general or vocational education provided for adults after initial education and training for professional and/or personal purposes, and which aims to:

- provide general education for adults in topics of particular interest to them (e. g. in open universities);
- provide compensatory learning in basic skills which individuals may not have acquired earlier

in their initial education or training (such as literacy, numeracy) and thus to;

- give access to qualifications not gained, for various reasons, in the initial education and

training system;

- acquire, improve or update knowledge, skills or competences in a specific field: this is continuing education and training (Cedefop, 2008)

According to the perception of a number of civil society organizations and adult education providers(http://www.eaea.org/media/policy-advocacy/adult-education-policy-in-europe-country-reports/country-reports_2015.pdf) one of the three main topics in 2015 was development of basic skills for low-skilled and low-educated learners. Many of EAEA's Central and Western European members are currently involved in the development or implementation of National Qualification Frameworks or Validation Frameworks for non-formal adult education.

At the Southern European, Central and Eastern European countries (ES, IT, TR, MK, BG, SR) the recognition of the non-formal adult education is an issue and raising the awareness is the basic problem.

In Bulgaria the major challenge is to increase the awareness of adults for LLL measures and to challenge their participation in different civil initiatives.

In order to correspond to the increasing number of the job-seekers on the labor market, the adult education in Italy is mostly oriented towards ICT and foreign languages implemented through innovative strategy courses and interactive approach.

Macedonia is raising the awareness through the manifestation "Days of LLL" and the adopted concept for recognized primary education for adults.

Following the same course, Romania is also raising awareness by organization of national symposiums and conferences in LLL, but also adopted the National Strategy on LLL.

The AE in Serbia is still on a low scale depending on donations and with insufficient tries for the situation to be developed. There is a strong need for implementation of a national quality framework and raising this issue, as it was

somehow done through the “Second Chance” program, and the festival “Learning cities”.

In Turkey, the AE is inter-mixing with the increased number of refugees, but due to the developed e-learning tools and technologies, there is a notable change in the opportunities offered for AE. Still, the raising of the awareness among the population is an issue which needs to be worked upon.

In Spain the AE is marking improvements, preparing the adults for an active post-working life through designing of new programs and aging educative approaches, in particular in ICT.

Estonian government, on the other hand in 2014 has developed a Lifelong Learning Estonian Strategy with an objective to provide everyone in Estonia with a learning opportunities that are tailored to their needs and capabilities for a better self-actualization within the society. Their focus now is on the implementation of the Adult Education Act for which a developed curricula as well as a self-evaluation model needs to be provided by the adult educators.

The share of people participating in LLL activities varies among the countries. According to the statistical and economic information for the rural development in the EU and the report of the EC from 2013 (http://ec.europa.eu/agriculture/statistics/rural-development/2013/full-text_en.pdf), the inclusion of adults from the rural areas into the LLL is between 5-10% in Spain, Italy and Estonia (where a positive trend is noted), around 1% in Bulgaria, Romania, and no data at all for Macedonia, Bosnia and Herzegovina, Turkey, Kosovo and Serbia.

Table 1. Educational attainment

Country	Context 22 - Educational attainment				Change in educational attainment			
	% of adults with medium or high educational attainment - 2012				Change in % of adults with medium or high educational attainment - 2007 to 2012			
	Thinly-populated areas	Intermediate urbanised areas	Densely-populated areas	MS	Thinly-populated areas	Intermediate urbanised areas	Densely-populated areas	MS
Belgium	73.0	72.7	68.8	71.6	3.6	4.6	3.1	3.7
Bulgaria	62.6	84.7	91.5	81.0	3.1	2.7	3.5	3.5
Czech Republic	91.4	92.1	94.0	92.4	1.4	2.3	2.3	1.9
Denmark	74.1	78.8	82.1	77.9	2.7	3.7	4.3	3.6
Germany	89.5	86.3	84.4	86.3	2.0	2.2	1.7	1.9
Estonia	85.2	91.4	93.6	89.8	2.3	0.9	-0.9	0.7
Ireland	71.5	76.9	77.2	74.6	8.1	-	4.8	6.9
Greece	49.8	63.6	77.8	65.7	18.8	26.4	7.2	5.9
Spain	41.7	53.0	61.6	54.4	5.0	4.4	3.6	3.9
France	72.8	68.9	74.0	72.5	4.8	3.3	4.3	4.1
Italy	51.9	55.5	63.7	57.2	4.4	4.8	4.6	4.9
Cyprus	65.1	76.8	83.1	77.4	3.5	5.8	6.3	5.4
Latvia	83.7	88.0	93.9	89.0	5.8	5.6	2.2	4.1
Lithuania	89.1	94.5	97.6	93.4	4.8	-	4.0	4.5
Luxembourg	78.5	76.2	81.1	78.3	12.4	12.1	13.2	12.6
Hungary	72.1	84.7	91.0	82.1	2.8	2.6	2.9	2.9
Malta	41.3	42.4	33.8	38.1	14.4	16.9	10.6	11.4
Netherlands	69.9	71.9	75.6	73.4	-0.1	-0.1	0.3	0.2
Austria	83.1	83.2	83.2	83.1	3.8	2.5	2.4	3.0
Poland	84.0	91.6	94.3	89.6	3.8	3.0	2.8	3.3
Portugal	27.5	35.2	45.3	37.6	11.4	11.1	9.0	10.2
Romania	58.5	79.9	91.1	75.9	-0.7	4.4	3.2	1.0
Slovenia	81.7	86.4	91.3	85.0	4.0	3.1	0.9	3.2
Slovakia	87.4	94.2	96.7	91.7	2.8	2.1	2.0	2.6
Finland	81.0	85.3	87.9	84.8	5.0	4.3	3.4	4.3
Sweden	79.2	81.9	84.9	82.4	8.4	1.8	-5.6	3.1
United Kingdom	80.0	78.4	77.2	77.9	4.6	3.5	4.7	4.5
EU-27	70.7	73.5	77.0	74.2	3.4	3.9	3.4	3.5
EU-15	68.0	70.6	73.5	71.2	4.3	3.9	3.6	3.8
EU-N12	77.2	87.7	92.7	85.5	2.1	2.9	2.9	2.6

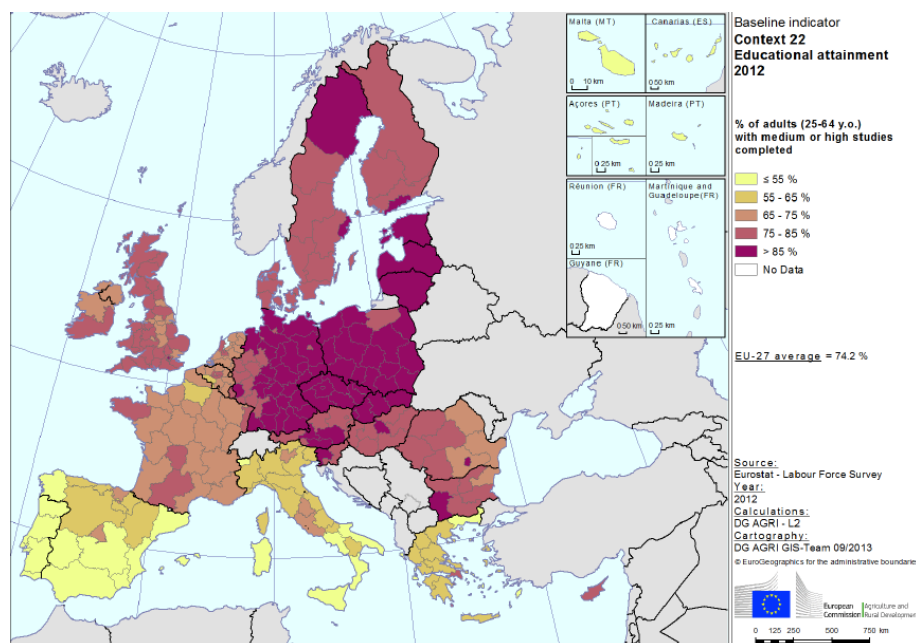


Figure 1. Share of adults with medium or high educational attainment, 2012

Source:

http://ec.europa.eu/agriculture/statistics/rural-development/2013/full-text_en.pdf

EU objective in terms of adult education in 2015 was to develop from an-depth analysis of adult learning policies and their effectiveness an analytical framework and tool for the assessment of adult learning policies to support Member States in designing and implementing adult learning policies more effectively. The study's aims set out in the terms of reference are twofold:

- to evaluate the performance of European countries in the field of adult education and training based on available statistical data;
- to identify a set of success factors of effective development and implementation of relevant policies based on an analysis of well-performing countries.

Such studies are conducted and done at the EU countries, but with a much lower intensity at the East European and Balkan countries. This AB study analyses contributes in that context.

Three long-term strategic objectives can be identified for EU rural development policy in the 2014-2020 period (<https://enrd.ec.europa.eu/en/policy-in-action/cap-towards-2020/rdp-programming-2014-2020/policy-overview>):

- improving the competitiveness of agriculture;
- the sustainable management of natural resources and climate action; and
- a balanced territorial development of rural areas.

For the purposes of managing rural development policy through Rural Development Programmes (RDPs) these broad objectives are given more detailed expression through 6 priorities (where the first one is in line with the AgriBase):

1. Fostering knowledge transfer in agriculture, forestry and rural areas
2. Enhancing the competitiveness of all types of agriculture and enhancing farm viability
3. Promoting food chain organisation and risk management in agriculture
4. Restoring, preserving and enhancing ecosystems dependent on agriculture and forestry
5. Promoting resource efficiency and supporting the shift toward a low-carbon and climate-resilient economy in agriculture, food and forestry sectors

6. Promoting social inclusion, poverty reduction and economic development in rural areas

The European Agenda for Adult Learning was formally adopted by the Council in November 2011 (<http://www.vox.no/English/international-cooperation/European-Agenda-for-Adult-Learning/>). The new Agenda builds upon work initiated under the Action Plan on adult learning (2008–2010), which led to the conclusion that more needs to be done in order to improve the status of adult learning in Europe. It builds on the Strategic Framework for European Cooperation in Education and Training (ET2020) from an adult learning perspective. The Agenda should be seen in the context of the Europe 2020 strategy. The Agenda predicts that, by 2020, adult learning systems will be faced with a strong demand for access to high-quality lifelong learning opportunities and an enhanced role for local authorities, employers, social partners, civil society and cultural organisations, all of which should cooperate in the development and implementation of coherent adult learning policy. Among the issues targeted for action in the Agenda are improved quality assurance, viable funding, accessible information and guidance, validation of non-formal and informal learning and a focus on well-developed learning provision for seniors to support their active ageing and enable them to contribute to society for longer.

The European Agenda for Adult Learning (<http://www.eaea.org/en/policy-advocacy/european-agenda-for-adult-learning.html>) defines the focus for European cooperation in adult education policies. EAEA participates in the European policy making by publishing reports and statements, participating ET2020 working groups and being involved in several EU projects. The Agenda highlights the need to increase participation in adult learning of all kinds (formal, non-formal and informal learning) whether to acquire new work skills, for active citizenship, or for personal development and fulfilment.

Education and training 2020 (ET 2020) (http://ec.europa.eu/education/policy/strategic-framework/index_en.htm) is the framework for cooperation in education and training.

ET 2020 is a forum for exchanges of best practices, mutual learning, gathering and dissemination of information and evidence of what works, as well as advice and support

for policy reforms. ET 2020 set four common EU objectives to address challenges in education and training systems by 2020:

- Making lifelong learning and mobility a reality;
- Improving the quality and efficiency of education and training;
- Promoting equity, social cohesion, and active citizenship;
- Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training.

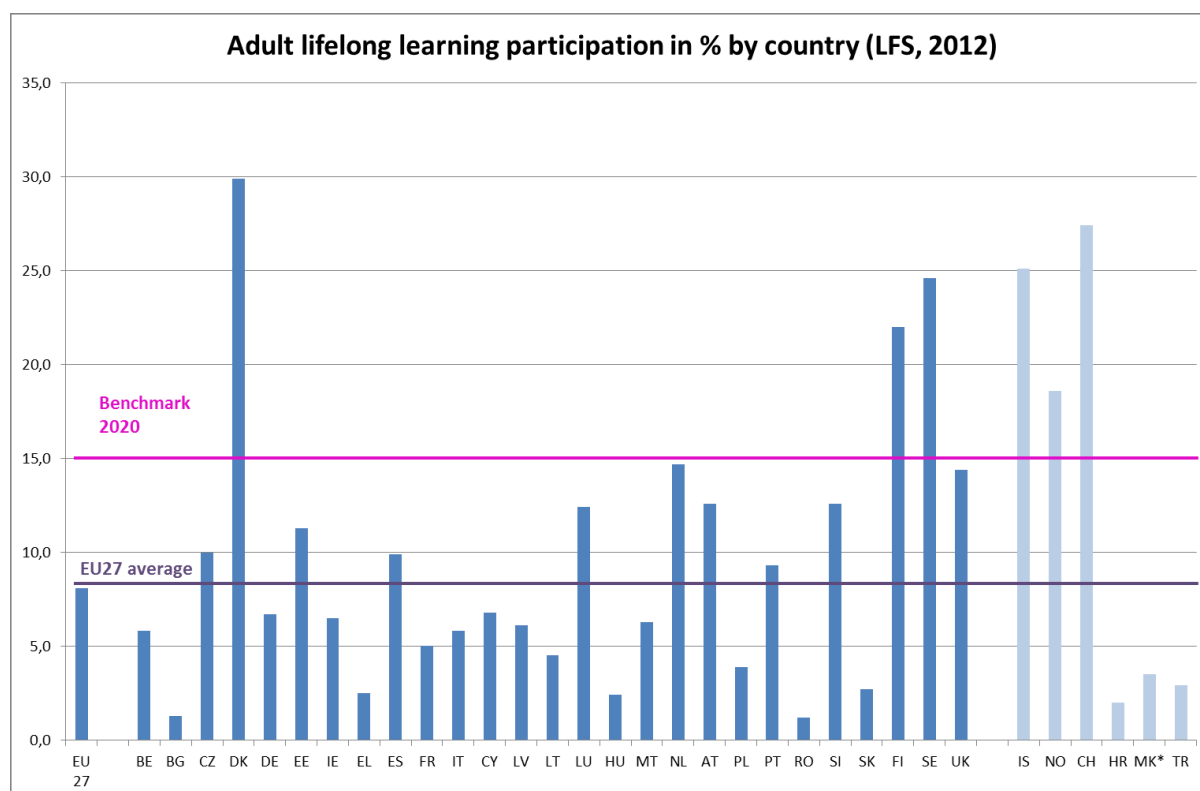


Figure 2. Adult lifelong learning participation (in % by contry)

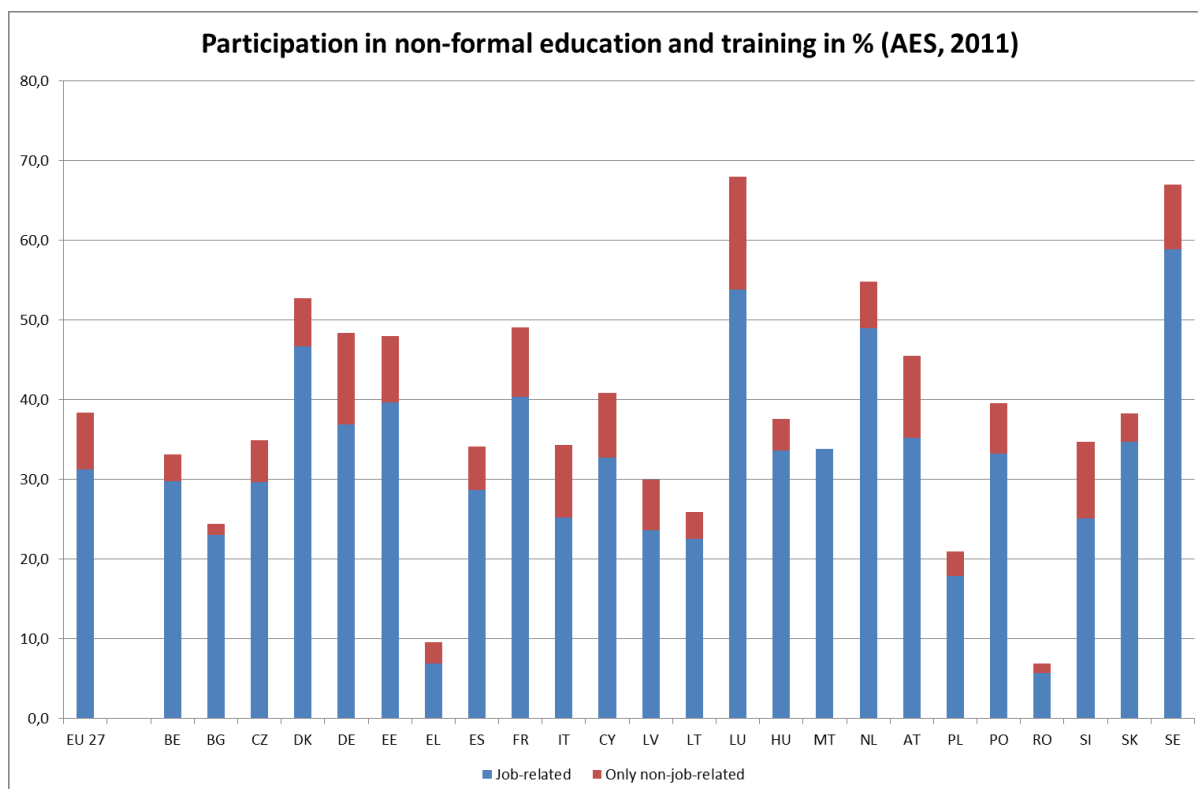


Figure 3. Participation in non-formal education and training in %

The European Innovation Partnership for Agricultural Productivity and Sustainability (EIP-AGRI) is the main new element established to interlink existing policies, foster co-operation among partners and build bridges between researchers and rural businesses (<https://enrd.ec.europa.eu/en/policy-in-action/cap-towards-2020/rdp-programming-2014-2020/rural-development-priorities/knowledge-transfer>). Its areas of intervention (Focus areas) are:

1. Fostering innovation and the knowledge base in rural areas.
2. Strengthening research and innovation links in agriculture and forestry.
3. Fostering lifelong learning and vocational training in agriculture and forestry sectors.

The third focus area is in line with the AgriBase project activities.

In this context, it is worthwhile to mention the AKIS (Agricultural Knowledge and Information Systems) which is a set of agricultural organizations and/or persons, and the links and interactions between them, engaged in the generation, transformation, transmission, storage, retrieval, integration, diffusion and utilization of knowledge and

information, with the purpose of working synergistically to support decision making, problem solving and innovation in agriculture (Röling and Engel, 1991). Research could play a stronger role if different actors (farmers, advisory services, consumers, private sector, civil society, policy makers) were better integrated into actual agenda setting and became part of the research process through acting together as innovative networks. The national AKIS are not directly comparable because of their embeddedness in national institutions, laws and cultures. The 'level of integration' refers to the formal links between AKIS actors. A fragmented AKIS is characterised by several independent knowledge networks that operate in parallel. They are typically not well coordinated, rarely cooperate and even might compete. An integrated AKIS features a coordinating structure, often a public body, and the system is supported by national policies on AKIS and advisory services that frame the (inter)actions of AKIS actors. In addition, in an integrated AKIS there is evidence of linkages between various actors.

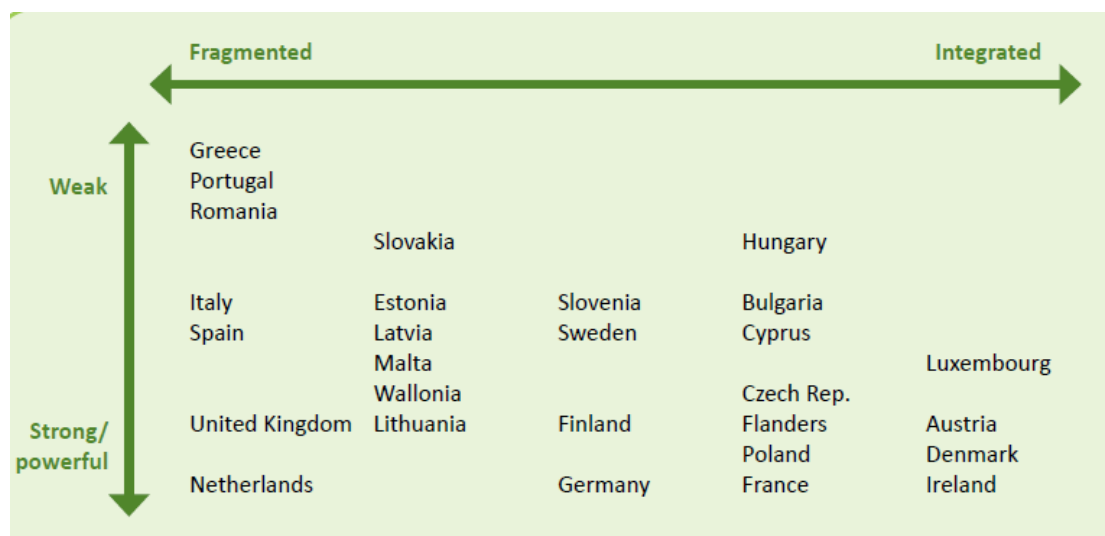


Figure 4. An overview of European AKIS distinguished along a continuum from weak – strong and fragmented – integrated

Farming (EU SCAR (2012), Agricultural knowledge and innovation systems in transition – a reflection paper, Brus-sels) is much more diverse than in the past and is often combined with other activities. New knowledge is generated by farmers,

researchers (basic and applied) and private companies. The old linear model of technology transfer (from scientists to the users) is therefore outdated and should be replaced by an interactive model of networking systems, which integrate knowledge production, adaptation, advice and education .AKIS as a system that links people and organisations to promote mutual learning, to generate, share, and utilize agriculture-related technology, knowledge, and information should be given particular attention in the transition countries and to represent a starting point in the further upgrades in adult education.

COUNTRY PROFILE



Republic of Macedonia



Republic of Macedonia is a country on the Balkan Peninsula spreading on 25.713 km² bordering Serbia on north, Albania on west, Bulgaria on east and Greece on south. According to the census of 2002 the population is 2.114.550 inhabitants. The official language of the country is Macedonian and the currency is Macedonian denar. The capital city is Skopje, and among the other notable towns are Ohrid, Bitola, Kumanovo, Tetovo, Stip, Kavadarci and Strumica. Macedonia is a parliamentary democracy with an executive government composed of a coalition of parties from the unicameral legislature (the Assembly) and an independent judicial branch with a constitutional court. Macedonia is a member of the UN and of the Council of Europe. Since December 2005 it has also been a candidate for joining the European Union and has applied for NATO membership.

It is a continental country, yet there are more than 50 lakes and 16 mountain tops higher than 2000 meters (among them Big Korab with height of 2764 m). The terrain is mostly rugged, located between the Šar Mountains and Osogovo, which frame the valley of the Vardar river. On the southern border are the three natural lakes, Dojransko, Prespansko and Ohridsko. The Ohridsko Lake is one of the oldest in the world and considered a biotope. The biggest valley is Pelagonija which is spread on 1570 km² and is the reservoir for growing of many agricultural crops. The biggest river is Vardar which springs from Vrutok on Sar Planina , divides the country into two halves and flows into Aegean sea.

The region of Macedonia is seismically active and marked with a number of catastrophic earthquakes in the past, the most recent one in Skopje in 1963. Due to the geographic position, the territory of RM is under few climates: from south and west the

Mediterranean climate, from north and north-east the continental climate. As a result, the three types of climate in RM are the temperate Mediterranean (south-to-southern part including Strumica-Radovis area), mountainous (mostly western part and on the malesevski Planinin in the east) and mildly continental (in the northern and central part). The summers are hot and dry and the winters are moderately cold. The rainfalls are irregular and scarce with annual average of 1000-1500 mm in the mountains, to 600-700 mm in the valleys, with the lowest of 490mm in the Ovcepole area. Macedonia is a natural museum according to the variety of the soil characteristics.

There are three national parks in Macedonia: Mavrovo, Galicica and Pelister. The flora and fauna are very rich and notable. Among the most recognized marks from Macedonia is the pine Molika growing in the National park Pelister. The forest in Macedonia is also represented by the Macedonian oaks, the sycamore, weeping willows, white willows, alders, poplars, elms and the common ash. From the flora, the Macedonia poppy is also worth mentioning for its thick juice which contains a full of 14 morphine units and is one of the best quality opium in the world. The fauna of Macedonian forests is abundant and includes bears, wild boars, wolves, foxes, squirrels, chamois and deer. The lynx is found, although very rarely, in the mountains of western Macedonia, while deer can be found in the region of Demir Kapija. Forest birds include the blackcap, the grouse, the black grouse, the imperial eagle and the forest owl. A very notable domestic animal is the Sarplaninec which is a shepherd's dog and is known as such since 1956.



Pine Molika



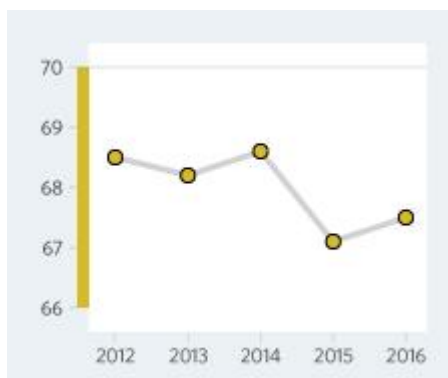
Shepherd's dog Sarplaninec

Republic of Macedonia is an upper middle-income country that has made great strides in reforming its economy over the last decade. While the country has made significant progress in terms of its economic development, efforts across a range of areas are still

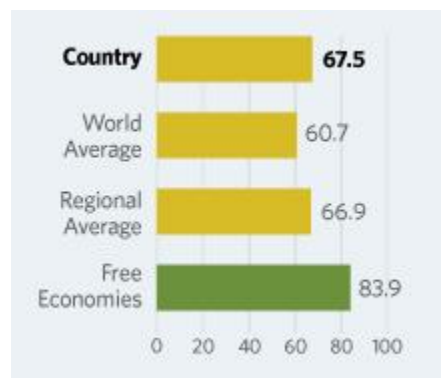
needed to generate economic growth that will create jobs and improve living standards for all. Macedonia's transition to a more open and flexible economic system has been facilitated by 10 years of substantial economic reform. Macroeconomic stability is relatively high, and implementation of competitive flat tax rates and an open trade regime has encouraged the development of a growing entrepreneurial sector. The main industries are food processing, beverages, textiles, chemicals iron, steel, cement, energy and pharmaceuticals.

The country became a full World Trade Organization (WTO) member in April 2003. The main export partners are Germany, Bulgaria, Italy, Serbia, Kosovo and Greece and the export goes in forms of food, beverages, tobacco, textile, steel and automotive parts.

According to the State statistical office of RM the unemployment is 25.5% (as of December 2015). The GDP is \$12 billion (nominal 2015 est.) and \$29 billion (PPP) 2015 est.



Country's Score over time



Country comparisons

Even though a small country, R Macedonia is proud of its history. It is dotted with beautiful Orthodox churches, monasteries and ottoman mosques. The ethno-tourism is becoming very popular in the past years, and together with the natural parks, lakes and spas, it is bringing towards the recognition of Macedonian culture and heritage.

Bosnia and Herzegovina



Bosnia and Herzegovina is located in Southeast Europe, in the western of the Balkan. It occupies an area of 51,209.0 km² (of which 51,197 km² and 12.2 km² the sea).

In the north, west and south, with a total length of 932 km with the Croatian borders in the east with Serbia (total border length

312 km) and Montenegro to the southeast (total border length 215 km).

The borders of Bosnia and Herzegovina, mostly, are of natural origin and the majority makes them part of the river Drina, Sava, Una and mountain Dinara in the southwest. Bosnia and Herzegovina has access to the Adriatic Sea, a length of 21.2 km, near the town of Neum.

Capital city of Bosnia and Herzegovina is Sarajevo, while other major towns are Banja Luka, Tuzla, Zenica, Mostar, Doboj. According to data from 2014 the population in Bosnia and Herzegovina was 3,871,643, with a density of 75.62 inhabitants/km².

On the basis of the Peace Agreement signed in Dayton (14.12.1995.), Bosnia and Herzegovina is administratively divided into two entities: the Federation of Bosnia and Herzegovina (which covers 51% of the territory of Bosnia and Herzegovina) and the Republic of Srpska (which covers 49% of the territory of Bosnia and Herzegovina).

The city Brcko is a separate administrative unit-District. The Federation of Bosnia and Herzegovina is administratively divided into 10 cantons, which are divided into municipalities.

In the Federation of Bosnia and Herzegovina there are 79 municipalities, while the Republic of Srpska administratively is divided into 63 municipalities.

Italy



To the north, Italy borders France, Switzerland, Austria, and Slovenia, and its borders are largely naturally defined by the Alpine watershed. To the south, it consists of the entirety of the Italian Peninsula and the two largest Mediterranean islands of Sicily and Sardinia as well as around 68 smaller islands.

There are two small independent states within Italy: the Vatican City in Rome, and the Republic of San Marino. The capital city of Italy is Rome.

It's spread on 302 073 km² with a population of 60 782 668 (as of 2014) which makes a 12 % of the total EU population.

The official language of the country is Italian. Italy is a parliamentary republic and an EU member state since 1 January 1958 with a 73 seats in the European Parliament. Italy has held the revolving presidency of the Council of the EU 12 times between 1959 and 2014. It is a schengen Area member since 26 October 1997.

The GDP is € 1.616 trillion (2014) and being a member of the euro zone since 1 January 1999 the currency is Euro. The most important sectors of Italy's economy in 2014 were wholesale and retail trade, transport, accommodation and food services (20.1 %), industry (18.5 %) and public administration, defence, education, human health and social work activities (17.2 %).

The breakdown of Italy's finances with the EU in 2013 is as follows:

-total EU spending in Italy – € 12.554 billion;

-total EU spending as % of Italian GNI – 0.81 %;

-total Italian contribution to the EU budget – € 15.748 billion;

-Italian contribution to the EU budget as % of its GNI – 1.02 %

Italy's main export partners are Germany, France and the US while its main import partners are Germany, France and China.

Spain



Most of Spanish national territory is located on the Iberian Peninsula (which it shares with Portugal and Andorra) situated in the southwest corner of Europe. However the Canary Islands, the Balearic Islands, a few smaller islands and the cities of Ceuta and Melilla in North Africa are also territories of Spain.

Covering an area of 506,030 square kilometers, Spain is among the fifty largest countries in the world and the fourth largest country in the European continent, after Russia, Ukraine and France. The mainland territories cover an area of 493,514 square kilometers; the Balearic Islands cover 4,992 square kilometers; the Canary Islands cover 7,492 square kilometers; and the cities of Ceuta and Melilla cover 32 square kilometers. With an average altitude of 650 meters above sea level it is one of the most mountainous countries in Europe. The mainland shares land borders with France and Andorra to the north, Portugal to the west and British territory of Gibraltar to the south. In its African territories, it shares land and sea borders with Morocco (Figure).

The climate of Spain varies across the country. Three main climatic zones can be distinguished, according to geographical situation and orographic conditions: the Mediterranean climate is characterized by dry and warm summers and cool to mild and wet winters, the oceanic climate is located in the northern part of the country, and the semiarid climate is located in the south eastern part of the country. In contrast to the Mediterranean climate, the dry season continues beyond the end of summer (Figure).

In the oceanic climate, where temperatures are influenced by the continental factor, the winters are very cold, with average January temperatures range between 0 and 3°C, while the summers are hot, with an average of 24°C in July and August. Meanwhile, in the peripheral areas the winters are mild, with an average of 10°C in January, and an average annual temperature, especially on the Mediterranean coast, of between 16 and 18°C.

Precipitation is also marked by sharp contrasts: the north and northwest, which are directly influenced by the Atlantic, are characterized with abundant rainfall and no distinguishable dry season. This area is sometimes known as the España Húmeda, or Wet Spain, with annual precipitation exceeding 600 mm and rising occasionally to 2,000 mm. The rest of the country is predominantly dry, with an annual precipitation of less than 600 mm. The southeast of Spain is semi-arid, with annual precipitation below 300 mm and a semi-desert landscape that at times is reminiscent of the Sahara.

In recent years the resident population has unexpectedly begun to recover. At the beginning of the 1990s, demographers and other experts announced that the population showed a tendency to decline and that the figure of 40 million inhabitants would therefore not be reached in the short term. However, the massive influx of foreigners has overturned these projections and the resident population in Spain has not only broken through the 40 million threshold but has continued to rise steeply during this first decade of the 21st century. Based on data from 2015, the registered population in Spain is over 46.4 million, 9.2 % of the total EU population; the number of registered foreign nationals is 5.7 million, of which 2.3 million are European Union citizens.

Since the transition to democracy, the Spanish labour market has retained a high rate of structural unemployment that is exacerbated by economic downturns such as the present one. The unemployment rate has never fallen below 8% and has topped out at close on 26% during the periods of economic crisis, unemployment was 22.7 % in 2015. This high unemployment is compounded by excessive segmentation in the labour market between workers on permanent employment contracts and those on temporary contracts. This duality means that 40-50% of the employee population alternates between periods of unemployment and temporary jobs. This state of affairs mainly affects young people

and less skilled workers. These are also the population segments hardest hit by the high unemployment rates suffered by Spain in times of economic crisis.

In recent years, the labour force has shifted enormously into the services sector. Today, three quarters (75.9%) work in the services sector; industry accounts for 13.61% of workers; construction for 5.8% of workers; and agriculture 4.7%.

Spain experienced a prolonged recession in the wake of the global financial crisis. GDP contracted by 3.7% in 2009, ending a 16-year growth trend, and continued contracting through most of 2013. Economic growth resumed in late 2013, albeit only modestly, as credit contraction in the private sector, fiscal austerity, and high unemployment continued to weigh on domestic consumption and investment. Exports, however, have been resilient throughout the economic downturn, partially offsetting declines in domestic consumption and helped to bring Spain's current account into surplus in 2013 for the first time since 1986.

The Spanish economy continued to grow robustly in 2014-2015, as the country remains firmly entrenched on the path of recovery after years of recession. GDP was 1.058 trillion € in 2014, and expanded a seasonally-adjusted 0.8% in Q4 2015 over the previous quarter, according to data released by the National Statistics Office (INE). The Central Bank expects the economy to grow 2.8% in 2016.

The most important sectors of Spain's economy in 2014 were wholesale and retail trade, transport, accommodation and food services (24.1 %), public administration, defense, education, human health and social work activities (18.6 %), and industry (17.5 %). Spain's main export partners are France, Germany and Portugal while its main import partners are Germany, France and China.

Republic of Serbia



Serbia is located on the Balkan Peninsula, in Southeastern Europe on the Pannonian Plain. The country is landlocked, although access to the Adriatic Sea is available through Montenegro, and the Danube River provides shipping access to inland Europe and the Black Sea. Serbia covers a total of 77,474 km², and has 4,720 settlements, of which 187 are urban. Serbia's terrain ranges from rich, fertile

plains in the northern Vojvodina region, to limestone ranges and basins in the east, and, in the southeast, to ancient mountains and hills. In Central Serbia, the terrain consists chiefly of hills and low and medium-high mountains that are interspersed with numerous rivers and creeks. Four mountain systems meet in Serbia: the Dinaric Alps in the west cover the greatest territory, and stretches from the northwest to southeast. Apart from the Danube, the chief rivers are its tributaries the Sava, Tisa, Drina and Morava. Serbia's climate is moderate continental with diversity on the local level caused by geographic location, relief, terrain, the presence of river and lake systems, vegetation, urbanization, etc.

According to the most recent National Population Census (2011), the population in Serbia is 7.186.862 million inhabitants. In total, during the period 2002- 2013, the population of Serbia declined by 4.15%, while the rural population decreased by 10.9%. Viewed by region, the largest decrease of the rural population was recorded in the Southern and Eastern Serbia (-18.7%). The major part of the rural population is concentrated in the region of Šumadija and Western Serbia, which is also the only region where the rural population counts for more than 50%. The unfavourable

demographic trends are caused by numerous factors, such as limited access to quality services and public goods like infrastructure, access to quality education, health services, lack of social life in the rural community, as well as the dominance of primary agriculture and poor diversification of production and nonproduction activities, etc. As a result, the presence of migration of the non-agricultural population and young people is significant, which leads to aging of the rural population and an unfavourable educational structure of the rural workforce. At the same time, it reduces human capital needed for development of the economy and quality of life in rural areas.

One of the main characteristics of the demography of rural Serbia is the unfavourable age structure of the population. Every fifth resident of villages in Serbia is older than 65 years, while in the Southern and Eastern Serbia it is every fourth resident. The average age of the rural population in the period 2002-2011 increased from 42 to 43.6 years. The age structure of the population is most unfavourable in the Southern and South-Eastern Serbia, where the average age of rural population reached 45.7 years (for women even 47.1).

Educational characteristics of the rural population are less favourable compared to urban areas. The rural population has a considerably larger share of population with no education and those who have completed only primary school; also there is a very small proportion of people with higher education. The situation is especially unfavourable for the rural female population, of which nearly one-third have not attended any school, and more than half lack any qualifications (no education, unfinished and finished elementary school).

The situation in the field of education is directly connected with the situation on the labour market.

The unemployment rate (21.3%) and inactivity rate (39.1%) of the rural population in 2012 were below those of the urban population (26.9% and 40.5% respectively). However, other performance indicators of the rural labour market, especially the share of vulnerable employment and the professional status of employees etc., are significantly worse among the rural population. The higher percentages of vulnerable employment among the rural population are caused by the high percentage of farmers

and unpaid family members and a smaller share of wage-earning employees in the rural population compared to urban. Total employment in agriculture, forestry and fisheries for working-age population is 18.3% and for the population over 15 years is 21.0%. Employment for working-age population in agriculture in rural areas in 2012 was 37.5%, which is higher than at most of the other European countries. In 2012, the highest share of people employed in rural areas were skilled workers in agriculture and fishing (34.8%), followed by crafts worker (13.8%), service providers and traders (11.7%), while employment in other occupations recorded significantly lower participation.

Following the dissolvment of the Socialist Federal Republic of Yugoslavia (SFRY) in the 1990s, the Serbian economy was devastated as a result of armed conflicts, international sanctions, and trade shocks. The period from 2001 to 2008 in Serbia was characterized by the implementation of a number of reforms aimed at establishing macroeconomic stability and sustainable and stable economic development. In this period, the process of restructuring large systems and the privatization of publicly-owned companies was accomplished (or initiated) and activities related to European Union (EU) accession were intensified. Production activity in that period took place along with reforms to the tax system, labor market and social sector. Also during this period, the exchange rate (excluding 2005) was stable, the foreign currency reserves in the country permanently increased, deregulation and the liberalization of prices and foreign trade were carried out, and relations with international financial institutions were regulated. Significant advances were achieved in the implementation of structural reforms, especially regarding the privatization of companies and the consolidation and privatization of the devastated banking sector. Serbia became a potential candidate for EU membership following the Thessaloniki European Council of June 2003. On 29 April 2008 Serbia signed the Stabilisation and Association Agreement (SAA) and the Interim Trade Agreement with the EU. Serbia has started unilaterally to implement the Interim Trade Agreement, as implementation from the EU side remains blocked because of Serbia's perceived lack of full cooperation with the International Criminal Tribunal for the former Yugoslavia in The Hague. Nevertheless, the EU Interior and Justice Ministers officially vote on the European Commission visa proposal of 15 July 2009. The council decided to abolish the visa requirement for Serbian citizens beginning in

December 2009. On 1 March 2012 the European Council granted Serbia membership candidate status. In end 2014 in Brussels was held the Second Intergovernmental Conference which marked the formal opening of the EU negotiation process starting with Chapter 32 on financial control and Chapter 35 on normalization of Belgrade-Pristina ties. Negotiation chapter on Agriculture remains to be open and country harmonization with the EU Common Agriculture Policy is envisaged to take place in years to come.

Negotiations on membership in the World Trade Organization (WTO) that began in 2005, are at an advanced stage. The current financial crisis has exposed Serbia to economic uncertainty, primarily because of its large current account deficit. Serbia also suffers from high levels of unemployment and poverty. A key prerequisite for establishing and maintaining macroeconomic stability in the long run is structural change, primarily the completion of the privatization process and the process of restructuring large public companies initiating bankruptcy where privatization has failed.

Kosovo



Kosovo is landlocked in the central Balkan Peninsula. Its capital and largest city is Pristina. It is bordered by the Republic of Macedonia and Albania to the south, Montenegro to the west, and the uncontested territory of Serbia to the north and east.

Kosovo has an area of 10,887 square km. Most of Kosovo's terrain is mountainous; the highest peak is

Deravica (2,656 m or 8,714 ft).

The main rivers of the region are the White Drin, running towards the Adriatic Sea, the South Morava in the Goljak area, and Ibar in the north. Sitnica, a tributary of Ibar, is the longest river lying completely within Kosovo. The biggest lakes are Gazivoda, Radonjić, Batlava and Badovac. The largest cities are Pristina, the capital, with an estimated 198,000 inhabitants, Prizren on the southwest, with a population of 178,000, Peć/Peja in the west has 95,000 inhabitants, and Ferizaj (Uroševac) in the south at around 108,000. 39.1% of Kosovo is forested, about 52% is classified as agricultural land, 31% of which is covered by pastures and 69% is arable. The 39,000 ha Šar Mountains National Park, established in 1986 along the border with the Republic of Macedonia, and Prokletije are the national parks in Kosovo. Kosovo has a humid continental climate with Mediterranean and oceanic influences, featuring warm summers and cold and snowy winters.

Precipitation ranges from 600 to 1,300 mm (24 to 51 in) per year, and is well distributed year-round. The average annual temperature of Kosovo is 9.5 °C (49.1 °F). The

warmest month is July with average temperature of 19.2 °C (66.6 °F), and the coldest is January with -1.3 °C (29.7 °F). Except Prizren and Istok, all other meteorological stations in January recorded average temperatures under 0 °C (32 °F).

The Republic of Kosovo is governed by legislative, executive and judicial institutions which derive from the Constitution of Kosovo, adopted in June 2008. The Constitution provides for a temporary international supervisory function exercised by the International Civilian Office (ICO), and, in the field of the rule of law, by EULEX. The International Steering Group has announced that the ICO's mandate has been successfully concluded and that the ICO ceased to exist on 10 September 2012.

Kosovo's economy has shown progress in transitioning to a market-based system and maintaining macroeconomic stability, but it is still highly dependent on the international community and the diaspora for financial and technical assistance. Remittances from the diaspora - located mainly in Germany, Switzerland, and the Nordic countries - are estimated to account for about 15% of GDP and international donor assistance accounts for approximately 10% of GDP. With international assistance, Kosovo has been able to privatize a majority of its state-owned enterprises.

Kosovo's citizens are the poorest in Europe with a per capita GDP (PPP) of \$8,000 in 2014. An unemployment rate of 31%, and a youth unemployment rate near 60%, in a country where the average age is 26, encourages emigration and fuels a significant informal, unreported economy. Most of Kosovo's population lives in rural towns outside of the capital, Pristina. Inefficient, near-subsistence farming is common - the result of small plots, limited mechanization, and a lack of technical expertise.

Minerals and metals production - including lignite, lead, zinc, nickel, chrome, aluminum, magnesium, and a wide variety of construction materials - once the backbone of industry, has declined because of ageing equipment and insufficient investment. A limited and unreliable electricity supply is a major impediment to economic development, but Kosovo has received technical assistance to help improve the sector's performance. In 2012, Kosovo privatized its electricity supply and distribution network.

The US Government is cooperating with the Ministry of Economic Development (MED) and the World Bank to conclude a commercial tender for the construction of a new power plant, Kosovo C. MED also has plans for the rehabilitation of an older coal power plant, Kosovo B, and the development of a coal mine that could supply both plants.

Romania



Romania is situated in the geographical centre of Europe (south-east of Central Europe), north of the Balkan Peninsula, midway from the Atlantic Coast and the Ural Mountains, inside and outside the arch of the Carpathian Mountains, along the lower Danube (1075 km) and

bordering the Black Sea. The 45°N intersects the 25°E meridian close to the geometric centre of the country, 100 km N-V to the capital of the country, Bucharest. Covering 238391 km², Romania is the 12th largest country of Europe. The exit to the sea facilitates the connections with the countries from the Black Sea basin, the Mediterranean Sea, and through this, with the rest of the world.

The Romanian coast of the Black Sea unfolds along 245 km between backwater Musura (border with Ukraine) and Vama Veche (border with Bulgaria). Romania's relief consists of three major layers: the high one to the Carpathian Mountains (highest peak Moldoveanu 2544 m), the average corresponding to the Sub-Carpathians, hills and plateaus, and the lowest to plains, meadows and the Danube Delta. The Danube Delta, the youngest relief unit, still under continuous formation, has an average elevation of 0.52 m. The main features of relief units are proportionality (31% mountains, 36% hills and plateaus, 33% plains and meadows) and concentric layout of the major relief layers. The climate is transitional temperate continental, with oceanic influences from the west, Mediterranean from the south-west and continental-eastern excessive. The average yearly temperature is differentiated across latitude, i.e. 8° C in the north and over 11° C in the south, and by altitude, with values ranging between -2.5° C in the mountainous area (Vârful Omu - Bucegi) and 11.6 ° C in the plains (Zimnicea - Teleorman county).

Annual rainfall decreases in intensity from west to east, respectively from over 600 mm to less than 500 mm

Capital: Bucharest Municipality (1886866 inhabitants, resident population (stable) as of 1 January 2012, estimated in terms of comparability with the final results of the Population and Housing Census - 2011).

The official language is Romanian. The flag of Romania is tricolor; colors are arranged vertically in the following order from the flagpole: blue, yellow, red. Romania's National Day is December 1. The national anthem of Romania is "Awake, Romanian". Romania's form of government is a Republic - Republic under the Constitution adopted in 1991 and amended in 2003; - Legislative Power is represented by a bicameral parliament (Chamber of Deputies and Senate) and the Executive power is exercised by the government headed by a prime minister appointed by the President; - The president is elected following general elections by universal vote for a term of 5 years. Currency: Leu, with subdivision "ban". The exchange rate is set daily on the interbank foreign exchange market, reference currency being the euro.

The land reserve represents all land, regardless of destination, of the property title, or the private or public domain that it belongs to. The agricultural land, by its use, includes the land with agricultural destination, owned by private individuals or legal entities, and is classified as follows: arable land, pastures and hayfields, vineyards and vine nurseries, orchards and tree nurseries. The arable land represents the surface that is plowed every year or different years, and is cultivated with annual or perennial plants. Pastures represent the land covered with grasses, naturally grown or regenerated through sowing, for grazing animals. The hayfields represent the land covered with grasses, naturally grown or regenerated through sowing, for making hay. Vineyards and vine nurseries represent the land with vineyards, vine nurseries and the land in preparation for vineyards. The orchards and tree nurseries represent the land with orchards, fruit trees, orchard nurseries and the land in preparation for orchards. The cultivated land represents the sowed land / planted land in private property, sowed in the agricultural reference year (1 October - 30 September) with a main crop (occupying the land for the longest period of time) or in the preceding agricultural years for biennial, triennial or perennial crops. The irrigated agricultural land represents the surface on which at least

one watering during the agricultural reference year. The farm is a self-contained technical – economic unit, with a unique management which carries out agricultural activities through using surfaces and / or growing animals, or activities to maintain the agricultural land in good agricultural and environmental condition, either as a main activity or as a secondary one. The agricultural surface used contains arable land, family gardens, pastures and hayfields (permanent) and permanent crops (vineyards and orchards). The agricultural production is determined in accordance with the Eurostat methodology concerning the Economic accounts for agriculture and comprises the value of all agricultural products (including the value of wine production obtained in units that do not feature industrial winery equipment) and the value of agricultural services performed by specialized units.

Estonia



The Republic of Estonia (area 45339 km²) is situated in the Baltic region of Northern Europe bordered to the north by the Gulf of Finland, to the west by the Baltic Sea, to the south by Latvia, and to the east by Lake Peipus and Russia (Fig 1). It is a democratic parliamentary republic with its capital and

largest city being Tallinn. Estonian territory consists of mainland and many islands and islets situated in the Baltic Sea (~2355). According to the Population Register the population of Estonia is about 1.3 million with the population density of 31 inhabitants per square km. Estonia is one of the least-populous member states of the European Union, Eurozone, the North Atlantic Treaty Organisation, the OECD and the Schengen Area.

Estonia is situated in the northern part of the temperate climate zone and also in the transition zone between maritime and continental climate. The country is characterized with four seasons of near-equal length. Average temperatures range from 16.3 °C on the Baltic islands to 18.1 °C inland in July and from -3.5 °C on the Baltic islands to -7.6 °C inland in February. The average annual temperature is 5.2 °C.

There are over 1400 lakes in Estonia. The largest is Lake Peipus (3555 km²), which is the fourth largest freshwater lake in Europe. Most of Estonia's lakes are small and are found in the southern part of the country. Larger lakes such as Lake Peipus and Lake Võrtsjärv are rich in fish. One can find rare species of fish such as the lake whitefish and the Peipsi smelt in Lake Peipus.

There is a large number of rivers in the country. The longest of them are Võhandu (162 km), Pärnu (144 km) and Põltsamaa (135 km). The highest point in the country is Suur

Munamägi (Great Egg Hill), with the tip 318 meters above sea level. Estonia also has numerous fens and bogs mostly located in the central and eastern parts of the country.

Forests cover about 61% of Estonia which makes Estonia together with Finland and Sweden a country with the greatest percentage of forested land in Europe. The most common tree species in Estonian forests are pine, spruce and birch. Most common wild animals are elks, roe deers, wild boars, beavers, lynxes, bears and wolves. Forest management and wood production are particularly important for the Estonian economy.

About one third of the Estonian forests are protected areas.

Another unique natural habitats in Estonia are species rich meadows. For example wooded meadows of Estonia are recorded to have up to 74 different plant species per square meter.

Estonia declared its independence on February 24 in 1918 but was incorporated to The Soviet Union in 1944. Independence was regained in 1991. Estonia became a NATO member state on March 2004 and European Union member state on May 2004. Since 2011 the national currency is euro.

The proportion of urban population in year 2011 was 68%. Largest ethnic groups were Estonians (69%), Russians (26%), Ukrainians (2%), Belarussians (1%) and Finns (1%). The official language of the country is Estonian which belongs to the Finno-Ugric language family and is closely related to Finnish.

The key indicators of Estonian economy of recent years are presented in table 1. In 2014 78% of Estonia's total trade was with EU member countries. Estonia's main trade partners are Finland, Sweden, Latvia and Germany. According to the Statistical Office of Estonia both the main three export and import articles in 2014 were (as a % of total trade) machinery and appliances, mineral products and agricultural products and food preparations (Table 3). In 2016-2017 Estonian economic growth is expected to stabilise at around 3 %.

Table 2. The key indicators of Estonian economy according to Population Bank of Estonia, Ministry of Finance, Statistical Office of Estonia, Eurostat

Key Indicators	2011	2012	2013	2014
GDP at current prices (billion EUR)	16.7	18	19	20
Real growth of GDP (%)	7.6	5.2	1.6	2.9
GDP per capita at current prices (EUR)	12556	13613	14427	15186
Annual FDI (million EUR)	700.5	1221.4	416.4	740.9
Unemployment rate (%)	12.5	10.2	8.6	7.4
Average monthly wage (EUR)	839	887	949	1005

Table 3. The top five export and import articles (as a % of total trade) in Estonia (2014, according to Statistical Office of Estonia).

Commodity Groups	Exports	Commodity Groups	Imports
Machinery and appliances	29.1	Machinery and appliances	28.1
Mineral products	11.4	Mineral products	12.9
Agricultural products and food preparations	10.1	Agricultural products and food preparations	10.8
Wood and articles of wood	9.2	Transport equipment	8.6
Miscellaneous manufactured articles	7.5	Chemical products	8.1

Bulgaria



Located on the Balkan Peninsula, Bulgaria extends from the western shore of the Black Sea to Serbia and Macedonia in the west. In the north, the Danube River forms the greater part of Bulgaria's common border with Romania. Greece and European Turkey lie to the south and southeast of Bulgaria.

The country is divided roughly into three parallel zones: the Danubian table land in the north, the Stara Planina (or Balkan) Mountains in the center, and the Thracian Plain and the Rhodope and Pirin Mountains in the south and southwest. About one-third of the country lies at an altitude of 500 meters (1,640 ft.) above sea level. The average elevation is 480 meters (1,575 ft.) above sea level.

The surface area (sq. km) in Bulgaria was last measured at 111 002 km² in 2014, according to the World Bank. On the fringe of the humid continental climate zone. The weather varies considerably from year to year, as do these various climatic subzones within the country. Summer temperatures average about 24 C (75 F); winter temperatures average around 0 C (32 F). Annual precipitation averages 63 centimeters (25 in.).

The official language is Bulgarian. Bulgaria is a parliamentary Republic and its capital city is Sofia. Among the main towns are Plovdiv, Varna, Bourgas and Rousse. The population is 7 245 677 (2014), which makes 1.4 % (2014) of the total EU population. Bulgaria is an EU member state since 1 January 2007 with 17 seats in the European parliament. It is a member of the Schengen area and will hold the revolving presidency of the Council of EU for the first time in 2018.

The currency is the Bulgarian Lev and the GDP is € 42.011 billion as of 2014. Unemployment Rate in Bulgaria increased to 10.20 percent in January 2016 from 10

percent in December of 2015. Unemployment Rate in Bulgaria averaged 12.06 percent from 1991 until 2016, reaching an all time high of 19.27 percent in February of 2001 and a record low of 4.68 percent in April of 1991.

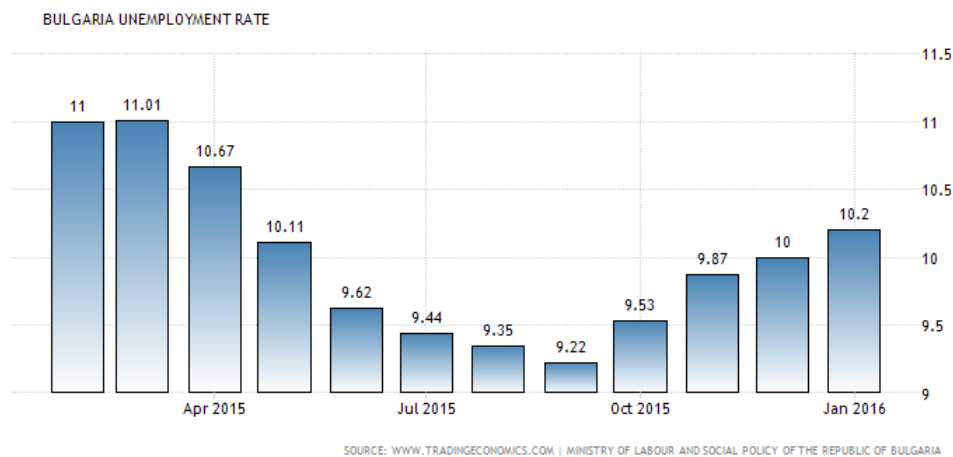


Figure 5. Unemployment Rate in Bulgaria by the Ministry of Labour and Social Policy of the Republic of Bulgaria

A landmark of Bulgaria are its natural resources bauxite, copper, lead, zinc, coal, timber, arable land. It exports clothing, footwear, iron and steel, machinery and equipment, fuels and its main export partners are Germany, Italy, Turkey, Romania, Greece and France. The import refers on machinery and equipment; metals and ores; chemicals and plastics; fuels, minerals, and raw materials.

Turkey



Turkey is located between 36°-42° N and 26°-45° E, forming a land bridge between Europe and Asia, divided by the Sea of Marmara. Total land area is 783 577 km², of which 759 752 km² are in Asia and 23 825 in Europe. The Asian part is called "Anatolia" and the European part "Thrace". The country is roughly rectangular and

measures about 1 600 km from east to west, and about 600 km from north to south. It is surrounded by Georgia, Armenia, Azerbaijan and Iran in the east, Iraq, Syria and the Mediterranean Sea in the south, the Aegean Sea in the West, Greece and Bulgaria in the north west and the Black Sea in the north.

The terrain is characterized by the high central plateau (Anatolia), the narrow coastal plain and the several mountain ranges. The lowest point is the Mediterranean sea 0 m and the highest point is Mount Ararat 5,166 m. Turkey is typical for its temperate Mediterranean climate with hot, dry summers and mild and wet winters. The climate is anyhow harsher in the interior.

In terms of natural resources Turkey is markable with coal, iron ore, copper, chromium, antimony, mercury, gold, barite, borate, celestite (strontium), emery, feldspar, limestone, magnesite, marble, perlite, pumice, pyrites (sulfur), clay, arable land, hydropower.

Turkish is the official language in Turkey and spoken by a population of 77,69 million people. It is a republican parliamentary democracy country and its capital is Ankara.

Turkey's largely free-market economy is increasingly driven by its industry and service sectors, although its traditional agriculture sector still accounts for about 25% of employment. An aggressive privatization program has

reduced state involvement in basic industry, banking, transport, and communication, and an emerging cadre of middle-class entrepreneurs is adding dynamism to the economy and expanding production beyond the traditional textiles and clothing sectors. The automotive, petrochemical, and electronics industries are rising in importance and have surpassed textiles within Turkey's export mix. Its GDP is \$ 798.4 billion with an increase of 2.9%, and the inflation is 8,9%. Some 10,7% of the population in Turkey is unemployed.

Tobacco, cotton, grain, olives, sugar beets, hazelnuts, pulses, citrus; livestock are some of the most exported agricultural products, while its most productive industries are textiles, food processing, automobiles, electronics, mining (coal, chromate, copper, boron), steel, petroleum, construction, lumber, and paper. Turkish brands like Beko and Vestel are among the largest producers of consumer electronics and home appliances in Europe, and invest a substantial amount of funds for research and development in new technologies related to these fields.

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AGRICULTURAL PROFILE

Republic of Macedonia



Due to the huge potential, geographical and climate predispositions, R Macedonia has always been a land of agriculture, and the agriculture is a sector with added value. In 2014 the Government of R Macedonia introduced the National strategy for agriculture and rural development for the period 2014-2020. This document follows the national strategy for 2007-2013 which was a basis for re-inventing of serious and organized politics in the agriculture and rural development after their total cancellation during the 1990's. The objective with this strategy is improvement in the competitiveness of the agricultural sector on the open and changing market as well as development of the rural areas through the optimal usage of the natural resources.

On the following pages the reference will be on the production of the various agricultural cultures, import and export in agriculture as well as grants, employment and insurance in agriculture and rural migration. This data is obtained from the official documents in relation to agriculture, as well as the direct contact with the agricultural producers.

The first thing to note is that large part of the property in R Macedonia is unused, in particular in the rural areas. It remains as an idle capital and the poorer people (rural farmers) are not informed on how to use it. On the other side, if this property is made functional, the economy will improve. In this context, the Assembly of RM in 2007 promulgated the Law for agricultural land (published in Official Newspaper of RM 135/2007, 18/2011). Following this Law, the procedure for licenses for building new agricultural objects like stalls, coolers, dryers, barns and granaries should be facilitated. These steps are inevitably linked to the need of funds and financial means which are one of the primary issues the agricultural producers are dealing with. Namely, in order to make any kind of investment, they are forced to apply for a credit for which the bank requires them a payment guarantee and they usually need to put in pledge their houses, lands or other objects they have. Most of the agricultural producers are not in a position

to respond to this requirement because of the worth of their property and its insufficiency to be given as a mortgage.

These are two issues where the need of professional advice and assistance is needed, or in other words, agronomists, who are in a position to understand the case of the agricultural producers and to represent them. This issue was partly solved through the Project for financial support in agriculture (IFAD-2) when the technical advisers undertook the role of agronomists and a link among the agricultural producers and the institutions. The need for this staff is more than visible again. On average, 20% of the employment in R Macedonia falls on agriculture.

Table 4. Employees in agricultural enterprises and cooperatives (including administration employees)

Year	employees		Agricultural experts		veterinarians		Economists	
	total	Agricultural activity	University level and technical school	Secondary school of agriculture	University level	Secondary school of veterinary medicine	University level and technician school	Secondary school of economics
2010	3387	2743	396	342	14	31	94	92
2011	2957	2753	327	284	15	35	78	78
2012	2737	2382	293	416	21	44	88	103
2013	3629	3087	329	424	25	39	117	48
2014	3022	2900	261	356	19	49	121	95

The rural migration is another big issue reflecting upon the agriculture. The youth moves into towns because of the better opportunities for life, and larger part of arable land is left unused. In order to influence upon this trend, the Government of RM opened HEI in many rural areas, and promoted the subsidies in agriculture in order to encourage the young people to stay in their homes and to work in the agriculture. The subventions are presented as following:

A very important aspect in the agriculture is the insurance. The insurance contributes to the exact calculations for the production price and the final export price at the international market. It is a method through which the agricultural producers can protect themselves by insuring their arable land, because the agriculture itself is very dependent on incertitude and loss. The agricultural producer can insure the land, fruits and animals from fire, thunder-strikes and hails, but also from spring ice, flood and storm. The

insurance companies do not provide only for drought. The insurance of animals is in terms of perishing, accident, and quarantine. The agricultural producers are still not well (or not at all) informed about the opportunities from insurance and they rarely insure their properties and staff.

In order to support and secure the development of agriculture, the Government of republic of Macedonia leads agricultural politics which contribute to the development and higher competition of the Macedonian agriculture. Some of the measures in this context include: funds for the costs for fodder, new plants of crops and subsidies. A total of 670 million Euros were planned for the period 2011-2015 as subsidies in agriculture:

- 2011 - 115 million Euros
- 2012 - 130 million Euros;
- 2013 - 135 million Euros;
- 2014 - 140 million Euros; and
- 2015 - 150 million Euros.

These subsidies are in context of the recognition of the Macedonian production in Europe and in the world.

Agricultural production

In terms of the agricultural production in R Macedonia, in all the 8 regions the growing of cereal is noted. Part of Pelagonija and the South-Eastern part are planted with industrial cultures, whereas Polog, South-Western and South-Eastern region are planted with fodder. The garden-stuff is mostly managed in the South-Eastern and region of Skopje, and the regions of Vardar and Pelagonija are good for almost all agricultural products.



Figure 6. Statistical Regions of R Macedonia

About two-thirds of the agricultural land in Macedonia falls on pastures, the rest is arable land. 40% of this arable land falls on cereals, and one-third of it is under irrigation system.

Table 5. Agricultural area by categories of use (in '000 hectares)

Year	Agricultural area	total	Cultivated land					
			Arable land and gardens	orchards	vineyards	meadows	pastures	Ponds, red beds and fishponds
2010	1121	509	415	14	21	59	611	1
2011	1120	511	415	14	21	61	608	1
2012	1268	510	414	15	21	60	757	1
2013	1261	509	413	15	22	59	751	1
2014	1263	511	413	15	23	60	751	1

Table 6. Arable land by categories of use (in '000 hectares)

Year	Arable land and gardens	total	Sown area					
			cereals	Industrial crops	Vegetable crops	Fodder crops	Plant nurseries	Fallow and uncultivated arable land
2010	415	277	163	27	51	36	1	137
2011	415	277	163	28	51	35	1	137
2012	414	276	163	27	51	35	1	137
2013	413	281	168	25	51	36	1	132
2014	413	278	163	26	53	36	1	134

In Republic of Macedonia the largest part of agricultural production goes on garden-stuff and most of it is also exported. A fall in the production is noted at the melon bed,

and an increase in the production of pepper and onion. Among the industrial cultures the most planted are: sugar-beet, poppy, cotton, tobacco and sunflower. During the 1980s the production of these cultures noted ups and downs, but it was still higher than today. The largest fall is seen at the sugar-beet, whereas the poppy is very rarely planted and mostly for the needs of the pharmacy. The cotton production is also much decreased which is a big pity since the textile industry is one of the leading branches in R Macedonia. The sunflower production is also marking falls in the production, whereas the tobacco is still well planted mainly due to the subsidies the government gives for this culture.

Table 7. Area and production of industrial crops

Year	Area, in hectares		Production		Area in hectares		Production	
	sown	harvested	Total in tonnes	Kg,per hectare	sown	harvested	Total in tonnes	Kg,per hectare
Sugar beet				Tobacco				
2010	-	-	-	-	20300	20300	30280	1492
2011	-	-	-	-	19693	19679	26537	1348
2012	-	-	-	-	19656	19639	27333	1392
2013	-	-	-	-	19178	19178	27859	1453
2014	-	-	-	-	17757	17756	27758	1553
sunflower				Poppy seed				
2010	4061	4029	7592	1884	413	413	297	719
2011	5715	5688	8497	1494	284	284	233	819
2012	3752	3752	4765	1270	187	180	91	506
2013	2481	2458	3832	1559	108	103	63	616
2014	5122	5112	9268	1813	88	88	75	849

Fruit production is quite good in RM and very sufficient for the needs on the market but also for export. Macedonia is producing apples, grapes, cherries, plums, figs, peaches and melons. There are some noted changes in the production of apricots, but this is due to the climate changes that occurred in the recent years.

Table 8. Area and production of vegetables

Year	Area, in hectares		Production		Area in hectares		Production	
	sown	harvested	Total in tonnes	Kg,per hectare	sown	harvested	Total in tonnes	Kg,per hectare
potatoes				Beans-single maincrop				
2010	13044	13037	200125	15351	4615	4612	5447	1181
2011	13539	13454	192675	14321	4581	4557	5705	1252
2012	13224	13204	168859	12788	4748	4726	5128	1085
2013	13477	13474	189590	14071	4608	4607	5127	1113
2014	13178	13174	198943	15101	4834	4833	6232	1289

cabbage				Late cabbage			
2010	3707	3706	106769	28810	989	989	42388
2011	3767	3766	107159	28454	865	865	35511
2012	3734	3734	94234	25237	1070	1070	34337
2013	4491	4482	119662	26698	1288	1288	37754
2014	4367	4366	115486	26451	1504	1504	48502
tomatoes				peppers			
2010	5676	5665	168010	29658	8475	8474	168150
2011	5632	5632	165642	29411	8475	8465	153842
2012	5640	5614	145818	25974	8626	8626	166247
2013	5478	5457	130960	23999	8511	8501	152153
2014	5746	5720	160530	28065	8528	8522	175867
garlic				onion			
2010	1011	996	5015	5035	3559	3554	47432
2011	949	947	4150	4382	3491	3488	44540
2012	936	936	4081	4360	3527	3527	43732
2013	928	920	4134	4493	3499	3490	50787
2014	956	930	4326	4652	3588	3587	59974
Melons and watermelons				lentils			
2010	5743	5732	134855	23532	72	72	90
2011	5812	5800	127449	21974	68	68	72
2012	5692	5691	127593	22420	74	74	77
2013	5598	5586	128417	22989	82	82	77
2014	5740	5685	136730	24051	80	80	98
Potatoes-interfield				Beans-interfield			
2010	361	361	2200	6093	8673	8673	6623
2011	232	232	1183	5099	8994	8994	7285
2012	206	206	1117	5422	9080	9080	5850
2013	213	213	1288	6048	8895	8895	6246
2014	192	192	708	3688	8781	8781	7185

Table 9. Fruit-bearing trees and production of fruit

	Trees in '000		production		Trees in '000		production		Trees in '000		production	
Year	total	Fruit-bearing	Total, in tonnes	Kg.per tree	total	Fruit-bearing	Total, in tonnes	Kg.per tree	total	Fruit-bearing	Total, in tonnes	Kg.per tree
apples				pears				quinces				
2010	4491	4313	121383	28	384	366	7586	21	57	54	1426	26
2011	4357	4281	124552	29	378	361	7460	21	56	54	1424	26
2012	4456	4373	127171	29	385	368	6937	19	57	55	1237	22
2013	4467	4385	112929	26	387	372	7265	20	54	52	1257	24
2014	4038	3776	95684	25	426	394	6195	16	54	52	1130	22
plums				cherries				sour cherries				
2010	1601	1438	38431	27	192	182	5701	31	696	494	5207	11
2011	1643	1489	35448	24	201	186	6019	32	770	606	6514	11
2012	1657	1527	35444	23	218	191	5539	29	808	682	8127	12
2013	1679	1539	38902	25	220	195	6037	31	859	724	8867	12
2014	1689	1549	33101	21	198	184	6324	34	816	696	8042	12
apricots				peaches				walnuts				
2010	150	134	2996	22	505	452	10211	23	181	168	5769	34
2011	154	140	3747	27	437	413	9039	22	183	162	5480	34
2012	160	151	4503	30	463	429	8987	21	179	162	4952	31
2013	167	158	3968	25	490	456	11034	24	185	167	5467	33
2014	182	162	4619	28	560	544	11558	21	193	169	4649	28

The production of cereal is keeping its trend, and Pelagonija is the region where most of the wheat is produced. There is an increase in the production of fodder in particular at the alfalfa. The natural conditions for production of fodder are very good in RM but due to the high cost for this type of production it is not much popular among the agricultural producers. Still, the largest part of fodder is imported.

Table 10. Area and production of cereals

Year	Area, in hectares		Production		Area in hectares		Production	
	sown	harvested	Total in tonnes	Kg,per hectare	sown	harvested	Total in tonnes	Kg,per hectare
	wheat					rye		
2010	79946	79865	243137	3044	3590	3590	8850	2465
2011	78588	76545	256103	3346	3527	3510	8297	2364
2012	79750	79745	214963	2696	3767	3767	7288	1935
2013	81756	80980	258960	3198	3760	3758	8898	2368
2014	76861	76686	287954	3755	4380	4167	11402	2736
	barley					oats		
2010	42959	42802	126315	2951	2763	2729	5479	2088
2011	42475	41096	129509	3151	2514	2443	4596	1881
2012	41123	41057	90384	2201	2632	2618	3898	1489
2013	42234	41944	125565	2994	2789	2781	5215	1875
2014	41202	41157	153055	3719	2878	2873	6033	2100
	maize					rice		
2010	28644	28623	129045	4508	4126	4125	25700	6230
2011	29390	29369	126096	4294	4500	4500	26964	5992
2012	29198	29180	115928	3973	4656	4656	24361	5232
2013	31032	31028	131043	4223	4865	4660	27921	5992
2014	30493	30461	136930	4495	5174	5174	30500	5895

The statistical data shows that during the last 20 years there is no notable change in the number of head of cows and pigs and the bee-hives. A fall is noted in the number of head of sheep (from 2.320.000 in 1985 to 778.000 in 2010), and also chicken.

Table 11. Livestock, poultry and beehives

Year	cattle		pigs		sheep		horses	poultry	beehives
	total	Cows and heifers in calf	total	Sows and first farrow sows	total	Ewes for breeding			
2010	259887	135004	190552	28279	778404	568301	26658	1994852	76052
2011	265299	164537	196570	24180	766631	545214	25415	1944260	65277
2012	251240	161012	176920	23534	732338	520767	21676	1776297	52897
2013	238333	154487	167492	23581	731828	530760	20682	2201550	68294
2014	241607	155432	165054	20990	740457	531160	19371	1939879	73869

R Macedonia is a country which besides the natural pre-conditions, still depends on the import of food. There is a notable decrease in the arable agricultural areas, insufficient plan of income, non-functional lots, old mechanization and a rely on the old tradition and scarce opportunities for learning, modernization and improvement in the agriculture. In this context R Macedonia exports tomatoes, peppers, cabbage, apple, grape and melon, but imports exotic fruit, coffee, sea-fruit, frozen meat, fish, cocoa, eggs, spices, wheat and fodder.

Table 12. Value of total purchases of agricultural products (in 000 denars)

	2010	2011	2012	2013	2014
Total	8504928	13070598	13307534	14069724	13780573
Cereals	1179386	1991645	1808691	1847010	1956253
Wheat	980068	1647732	1320295	1423344	1680369
Rye	732	-	-	-	513
Barley	72307	117311	112598	77438	107310
Brewer's grits	1082	38947	1646	1185	1201
Oats	3406	1854	5140	3555	867
Maize, in grains	59210	45777	62722	32912	36220
Rice	47578	113023	145861	149527	69838
Paddy	10030	17594	121979	142781	47928
Wheat seeds	4910	4346	18615	13757	7363
Maize seeds	-	765	-	480	-
Seeds of other cereals	47	835	19599	1509	4524
Other cereals	16	3462	236	523	120
Livestock	852752	570036	1277253	1080576	854568
Pigs for pork	600883	374200	471984	448411	289506
Fatty and half-fatty pigs	79820	72679	608251	307176	359397
Porklings for slaughter	24722	11706	32345	66514	3740
Fattened cattle	2652	24045	31541	20165	19618
Other cattle for slaughter	9020	6710	7745	4202	3088
Bullocks	10142	14323	18405	69996	47619
Fattened bullocks	18781	8317	6356	4901	13291
Calves	35476	5979	8994	59033	34785
Sheep	725	5769	3273	35074	905
Lambs	22510	46308	88359	64956	82526
Other livestock	48021	-	-	148	92
Poultry and eggs	454309	330836	314403	379292	335967
Fattened poultry	95	-	-	-	-
Poultry	410	363	284	843	517
Eggs	410782	330473	314119	375609	335450
Eggs for	43022	-	-	2840	-

hatching and one-day poultry					
Milk and dairy products	1565789	2216384	2369203	2761345	3321302
Fresh cow's milk	1426372	1930492	2076314	2362653	2775787
Fresh sheep's milk	68343	152578	108310	210391	268007
Yellow cheese, Trappist	18010	41447	2346	3138	2802
Other cheese	45123	55038	167840	177573	251167
Other dairy products	7941	36829	14393	7591	23538
Vegetables	770750	816601	748211	1127297	993303
Potatoes	824	4488	1336	9501	12581
Peas, shelled	9	105	13	-	3
Onions	3794	1618	2988	3200	6820
Carrots	6	48264	786	624	453
Cabbage, fresh	7256	33145	15270	93841	73962
Garlic	28	8	156	-	-
Tomatoes	454206	311461	338873	523245	470753
Fresh peppers	54559	140354	162505	184205	150496
Cucumbers	210337	223557	141297	203053	193074
Watermelons and melons	20654	19987	43349	66360	12530
Other fresh vegetables	19077	33615	41639	43268	72000
Fodder crops	10029	2327	5766	5347	4459
Alfalfa hay	9635	1572	1044	4223	3508
Clover hay	-	-	432	-	-
Meadow hay	-	-	-	140	14
Other fooder crops	394	755	4290	983	937
Fruits	478290	618502	586258	1102491	1039646
Edible apples	11379	14590	16433	34090	11275
Apples for processing	3741	1918	3010	7012	2624
Table grapes	51312	140916	83384	112090	108186
Grapes for processing	352053	419579	393938	784397	822431
Plums fresh	2080	3994	6260	6019	3446
Cherries	-	3	18294	-	5
Sour cherries	14792	19819	25001	15853	17297
Apricots	-	70	189	205	50
Peaches	2882	9440	28223	61848	65706
Strawberries	-	440	-	119	409
Pears	49	176	-	68	-
Walnuts in shell	1	232	73	1	-
Other fruit	40001	7325	11452	80789	8216
Alcoholic beverages	1207024	1236856	1600406	2087242	1862571
Wine	1109546	1054135	1434751	1859536	1668357

Mild brandy	-	82808	830	27524	812
Grape brandy	97478	98315	157484	200182	156756
Other alcoholic beverages	-	1598	7341	-	16647
Industrial plants	1887666	5210137	4550216	3529636	3215734
Sunflower	123814	74281	161141	44200	131173
Tobacco (dry leaf)	1759525	5115863	4294470	3357776	2931544
Soya	8	-	27	109	339
Medicinal herbs	3655	14968	16589	61973	39753
Other industrial plants	664	5025	77989	65577	112925
Hides and wool	151	444	193	249	34
Cow and calf hides	2	-	-	-	34
Pig hides	-	13	-	-	-
Raw wool	149	431	193	249	-
Fresh fish	56179	34199	18824	50163	53826
Carp	3191	9362	2415	12089	4180
River and lake fish	52988	24837	16410	38074	49646
Wood	157	151	-	-	-
Firewood and pulpwood	157	151	-	-	-
Other products	42446	42481	28109	99077	142911
Honey	115	130	68	2777	5485
Other	42331	42351	28041	96300	137426

Republic of Macedonia invests a lot in the agriculture in order to improve it and make it a competitive branch on the market. Recently, there was a legalization of the property for a better functioning and use of the land. A very notable fact is the need of agronomists who will be of service for the agricultural producers and assist them in improvement and investment in their property by providing information and professional advice for:

- applying for subsidies;
- legalization of the property;
- new trends in agricultural production (sorts, use of modern equipment, stimulate the growing of products with added value, usage of certified seeds);

- and insurance.

On this way they will make them more competitive on the market and will overcome the unfair competition. This is one of the main reasons that the science must not be excluded from the agriculture, but promoted and implemented.

Bosnia and Herzegovina



Agricultural areas in Bosnia and Herzegovina occupies about half of the total area of this country and the amounts of 2,523,000 hectares, of which 1,589,000 1,020,000 of arable land and plowed fields.

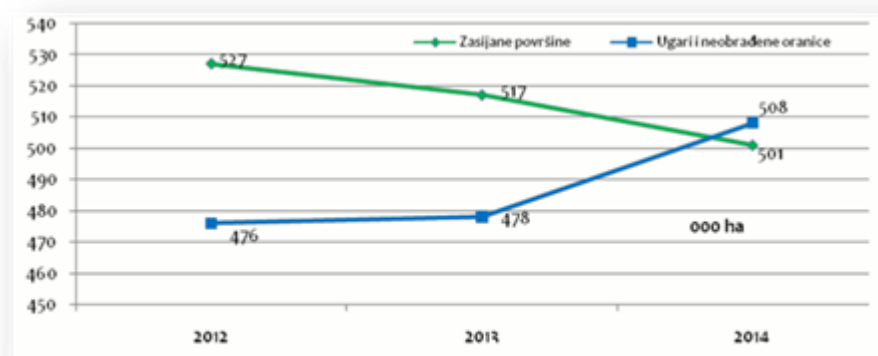


Figure 7. Relationship between sown areas and uncultivated arable land in Bosnia and Herzegovina during the last three years (2012/2014)

Quantitative indicators about the scale of this resource show that in Bosnia and Herzegovina there are 0.36 ha of arable land per one inhabitant, which classifies it as the lower threshold countries that belong to the group average in this rich natural resource.

The main agricultural products of Bosnia and Herzegovina are: corn (maize), and various kinds of fruits and vegetables.

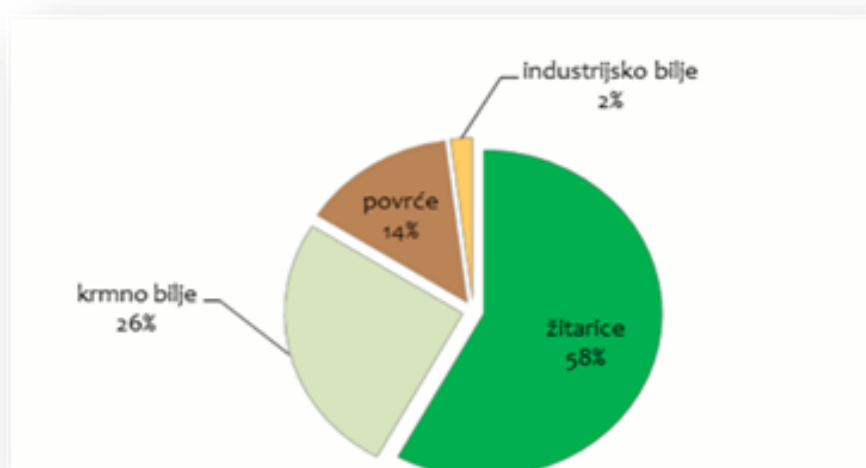


Figure 8. Arable land sown in the vernal and autumn sowing in Bosnia and Herzegovina (2013/2014)

The Posavina of Bosnian and Semberija are granary across the country, while Herzegovina region is suitable for growing grapes.

The appearance of the crop, the amount of yield and quality of manufactured products in agricultural production in Bosnia and Herzegovina in the last few years are highly dependent of the weather conditions. The extremely unfavorable conditions recorded in 2010, 2012 and 2014 are directly affected by the decline in agricultural production, in volume, and quality, which negatively affected the primary agricultural production, food processing and export of agricultural and food products.

In the structure of sown areas, the share of areas under cereals were stagnant for the past decade and is now around 58% of the total sown area. It is evident that the area sown to cereals in 2014 amounted to 290,000 hectares, which is 5% less than the previous year when it planted 304,000 hectares. When it comes to the production of cereals, maize dominates with a share of 62% and wheat (22%), while the share of other cereals 16%.

Total cereal production in 2014 was 1,081,389 tons, which is 11.7% less compared to production in 2013.

On an area of 129,000 hectares in 2014 the production of forage was made, and its total production was 915,875 tons, which is 15% more than in the previous year.

Areas sown to vegetables in 2014 amounted to 73,000 hectares, and were up 3% compared to the previous year, to the production of 230,265 tons.

When it comes to industrial crops, among them dominates the production of soybean (70%), canola (16%) and tobacco (14%), and in 2014 it achieved higher production by 10% compared to 2013.

According to data from 2014, due to unfavorable weather conditions, fruit production have recorded the greatest damage. Although positive trends are recorded when it comes to increasing bearing trees from 23.7 to 24.2 million at 2014 year, lower yields meant that the total fruit production by as much as 58% lower compared with the production from the previous year.

Animal husbandry and animal production, primarily meat production in Bosnia and Herzegovina, as well as milk, burdened with numerous problems in the previous few years. The analysis of the market and the volume of domestic production of meat, shows that there is a drop of production and reducing the supply of all types of meat. The market is clearly noticeable imbalanced of demand and supply, ie. supply of domestic meat production and market demand for both fresh consumption and for industrial processing. The livestock has significantly reduced the number of, primarily, breeding cattle and beef throat which caused the decrease in the number of slaughtered animals in slaughter houses.

One of the most important livestock production in Bosnia and Herzegovina is the production of raw fresh milk. The fact that indicates the importance of this production is the number of manufacturers. And that between 13,000 and 14,000, and the value of subsidies allocated from the budget and which account for about 54% of the total funds intended for farmers. In 2014, total production of raw milk amounted to 689.005 million liters, which is slightly less than the total production of raw milk from the previous year. The dominant position in the production of raw milk is a cow's milk, with a share of 97% in the total production, followed by raw sheep's milk, with a share of 2% and raw goat's milk, with a share of about 1%.

The share of agriculture, forestry and fisheries in the total Gross Domestic Product (GDP) in Bosnia and Herzegovina for the year 2013 amounted to 6.97%, an increase of 0.73% compared to the previous year. When it comes to the creation of GDP, the agricultural sector has an important place joje in 2013 amounted to 8.4%. Agriculture GDP in 2013, compared with 2012, higher by 0.73% or 0.11% compared to the year 2011.

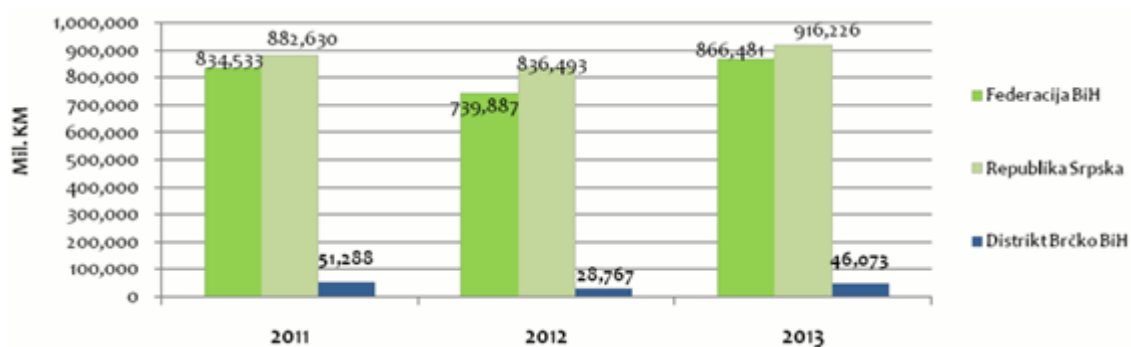


Figure 9. Chart 3. GDP of agriculture in the Federation of Bosnia and Herzegovina, Republic of Srpska and the Brcko District (2011/2013)

Observing the share of agriculture in total GDP and GDP Entities and Brcko District, it is evident that in the Republic of Srpska the share of agriculture in GDP is about 10% and its GDP accounts for more than 12%. As for the Federation of Bosnia and Herzegovina, the share of agriculture in total GDP in 2013 was 5.1%, and in its overall GDP is 2%, which is about 50% less than in the Republic of Srpska. When it comes to Brcko District, agriculture has a significant share of the economy, due to the participation in the total GDP of 7.5% of GDP and achieving a share of 10.4% in 2013.

"In the area of agriculture and rural development policy, sectoral analyses on the forestry and aquaculture sectors were completed in January. The Entities' policy framework was improved by adoption of the Federation's Medium-term Development Strategy of the Agricultural Sector for 2015–2019 in June and of the Strategic plan for development of agricultural and rural areas of Republika Srpska for 2016-2020 in May. Progress is needed in establishing the necessary institutional structures that would allow the use of the Instrument for Pre-accession Assistance for Rural Development

(IPARD). Bosnia and Herzegovina has not yet drawn up a State-level strategic plan for rural development. A revised harmonisation programme for agriculture, food and rural development has yet to be adopted, as has State-level legislation on wine and organic production. The administrative capacities and coordination structures within the agriculture and rural development sector including support measures, still need to be strengthened.

Improvements in productivity and competitiveness remain hampered by the lack of an efficient administration and effective rural credit schemes. Adoption of a national agricultural information strategy is still pending. The agricultural census has not taken place yet as the legal framework has not been agreed. Agricultural statistics and the agricultural information system still need to be improved. The land registration systems need to be harmonised country-wide, and land management needs to be strengthened".

Italy



Table 13. Evolution of population and labour force composition

	Share [%]				Annual growth rate [%]		
	2000	2005	2010	2015	2000-2005	2005-2010	2010-2015
Rural population [% of total population]	32.78	32.41	31.78	30.88	-0.23	-0.39	-0.57
Labour force in agriculture [% of total labour force]	5.31	4.16	3.25	2.54	-4.76	-4.82	-4.81
Females (% of labour force in agriculture)	40.88	42.83	45.38	47.39	0.94	1.16	0.87

Table 14. Arable land and land under permanent crops availability (ratio per person)

	Ratio [ha]			
	1997	2002	2007	2012
Total population	0.19	0.19	0.16	0.16
Population economically active in agriculture	7.76	9.42	10.18	12.38
Population dependent on agriculture	n.a.	n.a.	n.a.	n.a.

Table 15. Evolution of crop production value per ha

	Value [2004-2006 Int\$]				Annual growth rate [%]		
	1997	2002	2007	2012	1997-2002	2002-2007	2007-2012
Crop production per ha of land in use	1874	1869	2120	1925	-0.05	2.55	-1.91

Table 16. Evolution of population and labour force size

	Size [Millions]				Annual growth rate [%]		
	2000	2005	2010	2015	2000-2005	2005-2010	2010-2015
Total population	56.99	58.67	60.51	61.14	0.58	0.62	0.21
Total labour force	23.53	24.64	25.94	26.45	0.93	1.03	0.39
Labour force in agriculture	1.25	1.02	0.84	0.67	-3.99	-3.81	-4.42
Agricultural population	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Soil and climatic characteristics/ weather conditions/ resources

Italy is essentially a very long piece of rock and the types of soil that can be found up and down the length and breadth of this rocky peninsula vary immensely. Soils range from friable acidic sand in the Dolomite mountains in the North, almost unworkable clay loams around Bologna and in Tuscany to poor, dry calcareous crusts along Italy's coastline. Therefore, if we are to attempt to generalise 'typical Italian soil' it would be rather like trying to settle upon the 'typical' pasta dish in Italy, as the soil in Italy is as localised and diverse as Italian cuisine is. Clearly, Italy's plants have evolved for thousands of years to cope with the soil conditions in Italy and one now finds a range of flora from wild azaleas that appreciate an acid soil in the Dolomites to chalk-loving Mediterranean plants like Rosemary, by the sea. In Italy most of the clay soils present are generally more likely to be of an alkaline (chalky) nature and can often be even thicker than a standard clay soil. These heavy clay/alkaline soils tend to waterlog easily and, subsequently drain badly, remaining wet and cold during the winter. These cold/damp winter conditions will rot the roots of most Mediterranean plants. Instead, during the summer this kind of clay soil generally becomes set like cement under the hot Italian sun, creating problems for root growth.

From climatic point of view it is also favored by the large body of water of the inland seas that surround almost every side. These seas are especially the Peninsula (except for the Greek, Iberian and Anatolian) a beneficial reservoir of heat and humidity. Determine in fact, part of the temperate zone, a temperate Mediterranean climate particular said. In the Alps winters are very cold and snowy and lots of people choose to go skiing there. Further south, summers are hot, sunny and dry.

The region between the 47th and the 36th parallel north, is located almost in the middle of the temperate zone of the northern hemisphere.

The main natural resources of Italy are represented by water, also used for the production of electricity, and the wood from the forests which, although they are endangered by human activity, cover part of the national territory. Because much of the land is unsuitable for farming, Italy is an importer of food. There are important deposits

of iron, coal, or oil. Mineral resources and the energy is not abundant and why Italy has largely import them from other countries. The extraction of natural gas, primarily in the Po valley and off the Adriatic Sea, has recently increased and is the main mineral resource of the country. Most of the natural resources necessary for the industry and more than 80% of the electricity the country are imported. A key resource for our country is represented by a coastline that increase important economic activity as tourism.

Italy is a major producer of industrial minerals such as cement, marble, feldspar, lime, clay, pumice, but also iron ore, non-ferrous ores, limestone, gypsum, chalk, slate, gravel, sand, peat, salt , natural bitumen and minerals for the chemical industry and for the production of fertilizers. In Italy there are important deposits of iron estimated at 40 to 100 million tons, with coal reserves of 500 million tons and oil with about 1.4 billion barrels (Basilicata there is the oil field on the mainland Europe's largest , which with its 104,000 barrels per day covers about 7% of the national total). Although it has the largest deposits of titanium in Europe with over 400 million tons of rutile. The extraction of natural gas, especially in the Po Valley and off the Adriatic Sea, although it is the main mining resource of the country is in constant and relentless decline for both the depletion of existing fields, as well as for environmental regulations that restrict exploitation deposits of more sensitive.

Plant production (fruit/vegetable/crop)- in which area, yield, production (export-import)

The Italian agricultural area amounts to 17.8 million hectares, of which 12.7 used. The cultivated land is mainly concentrated in the South (45.7%). Note that 10% of the agricultural workforce is foreign.

The total value of agricultural production amounted to about 50 billion euro. As for crop production, which accounts for 25.1 billion, the largest products in terms of value were the wine (1.803 billion euro), maize (1434), oil (1398) and tomatoes (910). For quantities produced, however, the main products of Italian agriculture are corn (84 million tons), tomatoes (66), durum wheat (38) and wine grapes (35).

Currently agricultural production, despite the diversity of agricultural products, only covers 75% of the requirements, then Italy has to import food commodities from other countries to meet domestic needs. The only agricultural products that exceed domestic needs concerning wine, rice and fruit and vegetables; all other products have to be imported, such as citrus fruits (Italian production covers 98% of domestic consumption), durum wheat (65%), wheat (38%), corn (81%), olive oil and pomace (74%), barley (56%), potatoes (80%) [9], etc ...

Most of the agricultural land is intended for Italian cereals; however productivity achieves good levels only in the North. Italy is among the leading European producers of wheat, the region that is in first place as the quantity produced is Emilia-Romagna, while Puglia is the region with the largest area devoted to agriculture its cultivation. Regarding the yields ranging from 58 quintals per hectare of Lombardy, Emilia-Romagna and Veneto at about 20 quintals of Calabria and Sicily. From the South it comes however most of the valuable "wheat", very important for the manufacture of pasta.

Our country is on the leading positions on a continental scale for corn, also insufficient to requests and intended largely to feed livestock; almost it comes only from the North, and mainly from the Veneto and Lombardy. Among the major cereals, however Italy is in first place in Europe for rice, that indeed some exports, and for which the region with greater production is the Piedmont, followed by Lombardy.

Considerable importance has in recent decades soybeans, a culture alien to the Italian tradition, now widely used both for food and for the pet, and for which occupies the first place the Veneto. The development of the agri-food sector has also increased the areas for the sugar beet, which is provided for one third from Emilia-Romagna, followed by Veneto.

Other profitable crops, and for which there is an ongoing process of rationalization through intensive production and selected, they include vegetables, especially the fruits and the traditional woody crops, such as grapes and olives. For the last two crop values are truly excellent: Italy vies with France the world leader in the production of wine and is the second largest olive oil producer.

Among the vegetables, which are grown a little 'everywhere, the areas of election are those of southern Italy. The region as a whole is the biggest producer is Puglia, which provides over 10% of national agricultural production and holds numerous records in the field of horticulture (tomatoes, lettuce, fennel, peppers, cauliflower, celery), as well as for the screw and the olive tree: with regard to oil production even provides nearly half of the national total. Two other regions have a highly developed viticulture: Sicily and the Veneto. Campania, meanwhile, holds the record for the potatoes. Among the main crops of fruit trees, from Trentino-Alto Adige comes more than half of production of apples, Sicily (followed by Calabria) has the record for the citrus, the Emilia-Romagna for pears and peaches, Campania for apricots and figs, Puglia for cherries.

Animal breeding and production

With the usual exceptions involving some areas of the North, and in particular the lower Po Valley, also the livestock activity is conducted with techniques not always profitable. Three regions, Lombardy, Veneto and Piedmont, have more than half of heads of cattle. Lombardy and Emilia-Romagna focus pig farming, with an overall national presence of about 9.2 million heads, a value that is even lower than that of the small Denmark; However, these regions boast a production of very high quality sausages (sausages and hams especially). As mentioned, domestic production of beef, pork and veal are both, it is insufficient for domestic consumption. On the other hand the breeding of sheep and goats widespread in the South and in Lazio, makes up for the demands of the market.

With regard to fishing, the Italian production is quite modest with fish, crustaceans and molluscs, the growing production of inland waters, the so-called "aquaculture". The seas on which overlooks our country are just full of fish (the relatively richer is the Adriatic, with a prevalence of "blue fish": anchovies, sardines, mackerel), as well as severely polluted. A third of the catch comes from Sicily, followed at a great distance from the Puglia and Marche, but the Italian fishing fleet includes boats properly equipped to undertake their activities in distant seas. The fishery policy is implemented through the Directorate General for Fisheries and Aquaculture of the Italian Ministry of Agriculture,

Food and Forestry Policies (MIPAAF) and by the Directorate for Fisheries of the regional administrations, with the support of services provided by decentralized offices (Marine Coastal Guard).

Number of cooperatives and registered farmers (rural area farmers)

The Italian economy is one of the largest in the world by size; in 2012 it was the eighth to tenth and nominal gross domestic product at constant purchasing power. Italy is also a country strongly oriented to foreign trade, being the tenth in the world by value of exports and the twelfth to the value of imports.

The Italian industry is dominated by small and medium-sized enterprises (SMEs), mostly type manufacturing, while large enterprises are few. This is called dualism industry. Recently, SMEs have been put under pressure from growing competition from emerging economies, especially those of East Asia (China, Vietnam, Thailand), that right on the manufacturing sector have pointed to their development, thanks to low labor costs. Italian companies have reacted in part by outsourcing production, in part by focusing on quality production. Moreover, since the late 90s Italy began to introduce rules to deregulate the labor market, making it particularly flexible.

The Italian economy is also characterized by some peculiarities: the high public debt in proportion to GDP (127% in 2012), the high tax burden, the presence of a large informal economy partly due to political corruption and organized crime.

In 2013 the average per capita income, net amounted to € 1,445 (Confcommercio) while the net average salary per capita has exceeded € 1900 (Istat).

Italy also in 2014 according to the data of the central banks revealed by Credit Suisse Global Wealth Report Data-book October 2014 holds approximately 5% of the total net wealth and ranks seventh in slightly detached from France, Germany and Britain who plus population with 12:58 trillion \$. For average net wealth per capita is the thirteenth in the world and as the median third.

Mechanical industries (cars, motorcycles, machine tools, household appliances), defense (helicopters, defense systems, small arms, armored vehicles), chemicals (oil -Enichem, rubber-SNIA, pharmaceuticals), electronic, fashion, textile, leather, furniture, shipbuilding, metallurgy and food are the most important for the Italian economy. Historically, a substantial weight, in the Italian economy, has the construction industry and related processes (mining, cement, engineering, etc.). The major industrial production are located in the regions of Lombardy, Piedmont, Veneto and Emilia-Romagna. Foreign multinationals operating in the chemical sector in Italy: Procter & Gamble, Solvay, 3M, Bayer, Dow, DuPont, Saipo, BASF, Henkel South, Exxon Chemical Mediterranean, BBR Holding.

The North, and in particular the North-West, have traditionally formed the core of Italian industry. Key benefits include the ease of trade with the rest of Europe, the production of hydroelectric power thanks to the presence of the Alps, and a large flat land. For example, one of the largest Italian companies, Fiat, is located in Turin.

Currently the Italian industry is strongly committed to the automotive sector (cars, motorcycles, spare parts and accessories), shipbuilding (with companies such as Fincantieri (a world leader in its category), IsottaFraschiniMotori, CRDA), chemical, rubber (Pirelli), metallurgical (Riva, TenarisDalmine, Terni steelworks), pharmaceuticals (Menarini, Artsana, Angelini ACRAF), energy (Enel, Terna, Sorgenia), defense (Finmeccanica, AgustaWestland, MBDA, OTO Melara, Fabbricad'ArmiPietro Beretta) and agribusiness. Also important is the petrochemical industry, dominated by ENI.

Italy is one of the leading countries in the production and design of cars and mopeds with automotive companies such as Fiat Group, which includes Alfa Romeo, Lancia, Fiat, Ferrari, Maserati and Iveco, the latter one of the world leaders in the production of trucks and trucks. The Fiat group also controls companies CNH Global, Zastava, Tofaş, Sevel and Abarth. Do not forget groups like Lamborghini (owned by Volkswagen). The Italian industry also produces motorcycles and scooters, thanks to companies like Piaggio, Aprilia, Ducati, Italjet, Cagiva, Garelli. No less important is the household appliance sector, with large international groups such as Candy and Indesit Company, and other small and medium-sized businesses (Argoclima, Bompani, Glem Gas, Polti,

Smeg). The country is a world leader in the production of machine tools and industrial buildings, built mostly by small and medium-sized companies.

The electronics industry is represented by STMicroelectronics (French-Italian, produces semiconductors) and some small computer manufacturers (Olidata, Olivetti) and consumer electronics (Hantarex, Mivar, Sèleco, Videocolor, Brondi).

Italy is renowned worldwide for its luxury products in fashion. The most famous brands are Gucci, Prada, D & G, Armani, Versace for clothing; Ferragamo, Cesare Paciotti, Tod's shoes; Luxottica, Safilo for eyewear, but production is also rich in the fields of jewelry and fashion accessories.

Exports are mainly addressed to EU countries, including Germany (12.8%), France (11.2%), Spain (6.6%) and the UK (5.3%). The share of exports to the United States is 6.3%. The main Italian exports concern machinery and equipment (19.425% of Italian exports in 2009), textiles, clothing, leather and accessories (11.66%), basic metals and fabricated metal products (11.36%), transportation (10.42%) and food, beverages and tobacco (7.05%).

There are many famous Italian products in the world, forming what is commonly referred to as Made in Italy. In the food sector, the country excels for wines, pizza, cheese and cold cuts. Many of these quality products in which Italy has specialized are often classified as DOC. This certificate DOC, which is awarded by the European Union, provides that the place of the entire production process is recognized.

Imports relate in particular to transport (12.24%), chemicals and chemical products (8.98%), basic metals and metal products (8.65%), crude oil (8.50%), and computer, electronic and optical equipment (7.89%). There are also significant imports in the textile sector (7.65%) and food (7.88%). 16% of imports come from Germany, followed by France (8.6%), China (6.2%), the Netherlands (5.3%), Libya (4.6%) and Russia (4.3%), the latter two as a result of imports of gas and oil, of which Italy is almost entirely lacking.

Spain



Within the framework of the EU Common Agricultural Policy (CAP) and Common Fisheries Policy (CFP), Spanish agricultural policy sets a range of specific and priority targets regarding agriculture, livestock farming and fisheries: to consolidate and increase safe, high-quality, market-orientated and sustainable production.

Agriculture in Spain is a strategic sector of great social, territorial, environmental and economic importance. This assertion rests upon the following facts:

Half of all land in Spain is used for agricultural or livestock activities (33% as farmland and 16% as meadows or pasture land) and the agri-food sector is one of the most dynamic sectors of the Spanish economy.

Spain's agricultural output offers wide diversity and high quality, owing to the special conditions of climate and genetic resources in the country, the sophistication of Spanish plant and animal health protection systems, and the high technological development of Spanish crop and livestock farms.

In 2013, the value of Spain's agricultural output amounted to 44.19 billion euros, up 5.3% on 2012 - accounting for 12.8% of EU-15 production and employing 736,575 people.

According to the most recent industrial survey of businesses by the National Statistical Institute (INE), the Spanish agri-food industry is the country's leading industrial sector, with an employment rate in 2013 of 451,150 people and net product sales of 92.42 billion euros in 2013, representing 20.8% of industry as a whole. Considering agricultural and agro-industrial activity as a whole, employees in this area account for almost 7% of all jobs in Spain.

The agricultural area of Spain is 23.752.688 ha with 989,796 farms, being the main crops wheat, barley, sugar beet, corn, potatoes, rye, oats, rice, tomatoes and onion. The

climatic and topographical conditions make rainfed agriculture is mandatory in most land of Spain. The provinces of the Mediterranean coast have high technology irrigation systems, and this coastal belt that previously was barren has become one of the most productive areas of Spain, where it is common to find crops under plastic.

In 2014 fruit and vegetable production was 26.8 million tons. Spain is the second largest producer of fruits in the European Union and the sixth worldwide, yielding more than 80 different products. In 2015, the annual grain production was 16 million tons; of which 3.8 million tons were wheat, 8.3 million tons of barley, 4 million tons of corn and 126,100 tons of rye. The annual production of other important products was 6.7 million tons of sugar beet, 2.6 million tons potatoes, 5.9 million tons grapes, 3.9 million tons tomatoes, 3 million tons oranges, and 1 million tons onions.

The country has extensive vineyards and citrus orchards and olive groves. Spain, which has an area of growing olives over 2.5 million hectares, is the largest producer and exporter of olive oil and table olives in the world, accounting for approximately 44% and 24% of the world production respectively. The output value of olive oil accounted for 10.2% of the value of crop production (2014-2015), producing 841,535 ton. Table olives, like olive oil has a clear export-oriented with a clearly positive trade balance, its production in the 2014/2015 campaign has been 542,200 tons. It is intended by more than 65% for export. 41% of the outputs are directed to EU countries and the remaining 59% to third countries.

Spain is the country with most surface of vines in the world for wine making and the third largest producer of wine. The vineyard area in Spain represents 7% of total arable land being planted area (2015) of 958,697 ha (53% are plots with red grapes, 44% are planted with white varieties and 3% are plots varietal blends). The production of wine and grape in Spain in the 2014/2015 season, was 41 million hectoliters.

The production of the agricultural sector was 42,600 million euros in 2014, accounting for 12.25% of total production in the EU-15, and 10.25% of the total production of EU-28, employing 824,300 people (5% of the total active population). The value of crop production in 2014 reached 24,521 million euros, representing 57.6% of agricultural

production. It highlights the fruit and vegetables, followed in importance by cereals, olive oil and forage.

Spain is the leading exporter of fruit and vegetables from the European Union and one of the top three world exporters with China and the US. The sector has a clear exporting vocation since 47% of the production (average 2008-2012) is exported, reaching 70% on some products, and is the first subsector within the total exports of the food industry. The European Union (Germany, France and the UK in particular) is the main destination of our exports, absorbing 92% of its value. The trade balance in 2014 had a positive balance of 8.848 million euros.

Exports have a growing trend in recent years in both volume and value, having reached 12.1 million tons and 10.829 million euros in 2012. The main products exported are the greenhouse (tomato, pepper, cucumber), citrus and peach and nectarine.

Republic of Serbia



In Serbia the share of agriculture, forestry and fishing in GDP in 2012 was 7.5% (9.7% of GVA). According to the 2012 Agriculture Census, the total number of holdings in Serbia is 631,552, and the area of utilized agricultural land (UAA) 3,437,000 hectares. The highest share in the total number of holdings (48.1%) marks with small farms (up to 2 ha of land, which are using only 8% of the area). The holdings of less than 5 ha are 77.4% of the total number of farms and they occupy about 25% of UAA. In contrast, the largest farms, over 50 ha, account only up to 1% of the total number of farms, and cultivate about one third of UAA. One of the reasons for low agricultural productivity in Serbia is the poor level of relevant occupational skills, especially regarding farm management. According to the 2012 Agriculture Census of Serbia, only a small proportion of the rural workforce obtains some form of education, whilst most farm managers acquire their knowledge of agriculture only by means of practice. One of the main reasons is the unfavourable age structure of farm households, which stems from a traditional model of property inheritance, whereby the holding is transferred to the eldest child of the deceased. As a result, younger siblings simply made up the household workforce or left to find jobs elsewhere, regardless of their level of education and skills. In spite of the fact that the Government introduced measures to facilitate the transfer of households to younger siblings, the situation remains largely unchanged. Consequently, less than 5% of farm managers have completed secondary agricultural school, higher agricultural education or agricultural college; although the province of Vojvodina proves the exception.

Two thirds of agriculture production value comes from plant production. Maize is the most important product, constituting about 25% of the total value of agricultural production. The remaining one-third of agricultural production derives from livestock products, of which cattle breeding is the most common form with share of 13 to 17%. These levels have remained relatively constant throughout the last decade. Production of

fruit and vegetables accounts for approximately 20% of the agriculture production value and it has recorded positive trends in recent years. In contrast, the economic transformation process affected the livestock sector more significantly than the crop sector. However, livestock sector has a great potential in Serbia, because of the very favourable conditions for production of animal feed and fodder. Around 1.5 million hectares are natural sources of feed and fodder (meadows and pastures) which at this present situation are not sufficiently used for animal feeding.

The agricultural sector is characterized by a dual structure:

1. Enterprises (total 3,000) in the possession of legal entities (2,521) and entrepreneurs (479), comprising about 18% of the UAA⁴ ;
2. Family farms comprising 82% of the UAA. They can be sub-divided into two categories: commercial farms and small private farms. Privately owned commercial farms, averaging about 2-20 ha, account for 48.0 per cent of the UAA. Only 8.3% producers cultivate more than 10 ha. Therefore, 569,858 households (90.1% of agricultural holdings - excluding those households without land) cultivates less than 10 ha of UAA. The majority of households under 5 ha often consists of several fragmented parcels of land, which produce agricultural products primarily for their own use and they depend heavily on non-farm income

The food industry plays an important role in the Serbian economy and labour market. It contributed 3.4 % (4.1% in GVA) of GDP in 2012, and together with the production of beverages and tobacco products, it was about 4.3 % (5.3% in GVA) on average during the period 2004-2012. The food industry employed approximately 88,000 workers in 2012, which is 3.9% of the total workforce. This equates to 23% of employment in the manufacturing industry. One of the basic characteristics of agro-industry is the large number of SMEs, and small number of large, modern enterprises. The majority of companies in the agroindustry are micro and small enterprises. 75% of all businesses employ less than 10 people, while 90% of companies have less than 50 employees and/or less than 10 million euro turnover. Industries, in particular with small capacities, did not receive considerable investments in technological innovations, and most of the

facilities and equipment are below the required standards for export, especially to the EU market.

The main limiting factors for efficient participation in the international market are:

- Insufficient assortment of food products;
- Lack of market and product research for the better utilization of existing capacities by introducing production lines and products;
- Lack of standards or non-compliance with existing standards;
- Slow adaptation to market business criteria; 5 C11 according to the classification of activities from 2010, NSO 6 C12 according to the classification of activities from 2010, NSO 21
- Absence of long-term firm contracts between the food industry and raw material producers (farms, cooperatives, agribusiness companies).

The main potential of the food industry lies in the production of safe, high quality food, which is highly sought after on foreign markets. This requires the implementation of new standards (ISO 9000 and ISO 14000), as well as implementing the HACCP quality system, ISO 22000; GLOBALG.A.P, Halal, Kosher, etc.). Comparing to EU food safety requirements and related standards, Serbia lacks quality assurance systems and therefore concrete data on deficits is missing. This is the main factor hampering development of the food industry.

According to Serbian European integration Office analysis on IPARD II use, the following identification of training topics needed for the sector was presented for farmers – producer groups:

- book-keeping and management, undertaking a new, market-oriented approach,
- application of new livestock production technologies,
- improvement of production quality and hygiene and food safety,
- environmental protection and animal welfare,

- dissemination of principles of good agricultural practice

Furthermore, the poor education structure, lack of professional experience, the low level of additional knowledge and skills and an insufficient coverage of active employment measures by the National Employment Service, all hinder labour market opportunities for the rural population and its competitiveness, in particular with regard to women and youth. Knowledge and new technology transfer in the area of food production takes place as part of the activities of the agricultural extension services, national Rural Development Support Network, private advisers, trade companies and agricultural suppliers. Other continuing educational programmes are rarely accessible to the rural population

Serbia intends to introduce agro-environmental measures in the later stage of the programme in line with preparedness of the institutions and potential recipients. Nevertheless also the investment measures are also destined to create a considerable impact to improve the environmental situation. Serbia has not yet defined GAEC standards at the national level.

As regards organic production farming in Serbia is regulated by the new Law on Organic Production ("Official Gazette" No. 30/2010), which came into force on 1 January 2011. MAEP adopted the Rulebook on the Control and Certification of Organic Production and Organic Production Methods ("Official Gazette" No. 48/11) in July 2011. Both documents have been prepared in accordance with Council Regulation No.834/07 as well as the Commission Regulation No.889/08 and Commission Regulation (EC) No 710/2009.

Kosovo



In 2014 the Ministry of Agriculture, Forestry and Rural Development of Kosovo has done the Agricultural registration in Kosovo. The agricultural registration has been focused on some specific criteria. In this registration are included only agricultural economies that fill one of the below mentioned criteria :

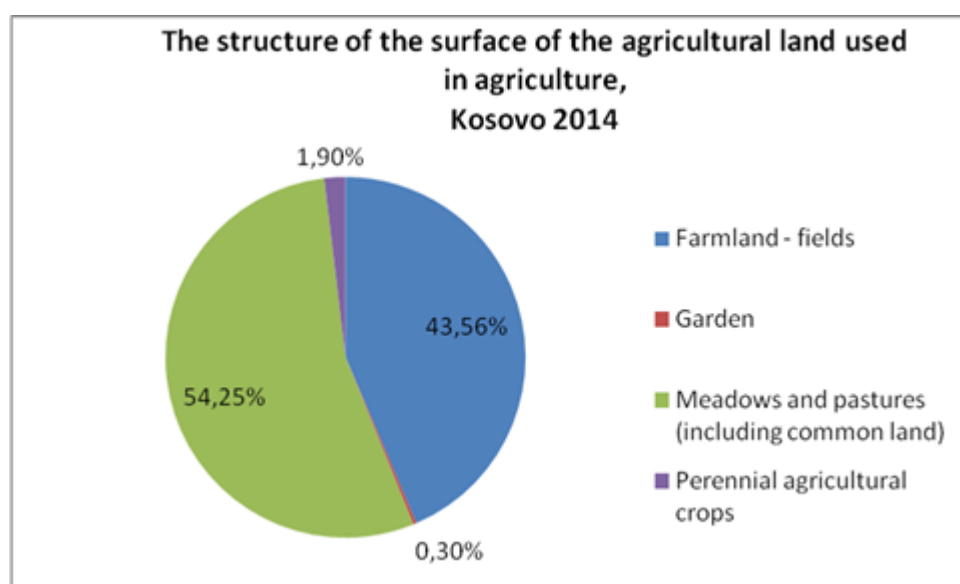
- The Economy is working and covering at least 1 000 m², that can be used for development of different agricultural products.
- The Economy is producing vegetables, flowers of other agricultural products in plantations for selling purposes
- The economy holds one or more specimen, of horses.
- The economy holds at least 3 grown pigs
- The economy holds at least 50 poultry and female rabbits
- The Economy holds at least 20 bee hive.
- The economy produces mushrooms for selling purposes.

During this process the Kosovo government has achieved to collect specific data for all the agricultural cultures that are produced in Kosovo, data for the land used for agricultural purposes, methods and production way and technology, for the forestry surfaces and for the labour power in the agricultural sector.

Table 17: The Agricultural Economies by land ownership¹

	Number of the Economical Entities in Agriculture	Area (ha)
The land area - Total	130,662	512,000.29
Owned Land	130,439	310,691.05
Leased Land	20,679	60,032.43
Rented Land	3,904	6,310.75
Used are of common land	24,808	147,587.56
Total area of utilized agricultural land	129,884	413,635.16
Used area of agricultural land leased	20,605	55,372.08

Based on these resulted we can see the Agricultural Economies in Kosovo are using in total 512 000 ha of the land area (owned and rented). This means that they are using approximately 3.9 ha land per each Economy.



¹ Ministry of Agriculture, Forestry and Rural Development in Kosovo - "Agricultural Registration in Republic of Kosovo 2014 – Final Results, pg. 57

Figure 10. The structure of the surface of the agricultural land used in agriculture, Kosovo 2014

From the Graph number one we can see that from the total area of agricultural land used, most of the land is used for meadows and pastures (54.3%), which are followed by farmland - fields (43.6%), perennial crops (1.9%), and gardens (0.3%).

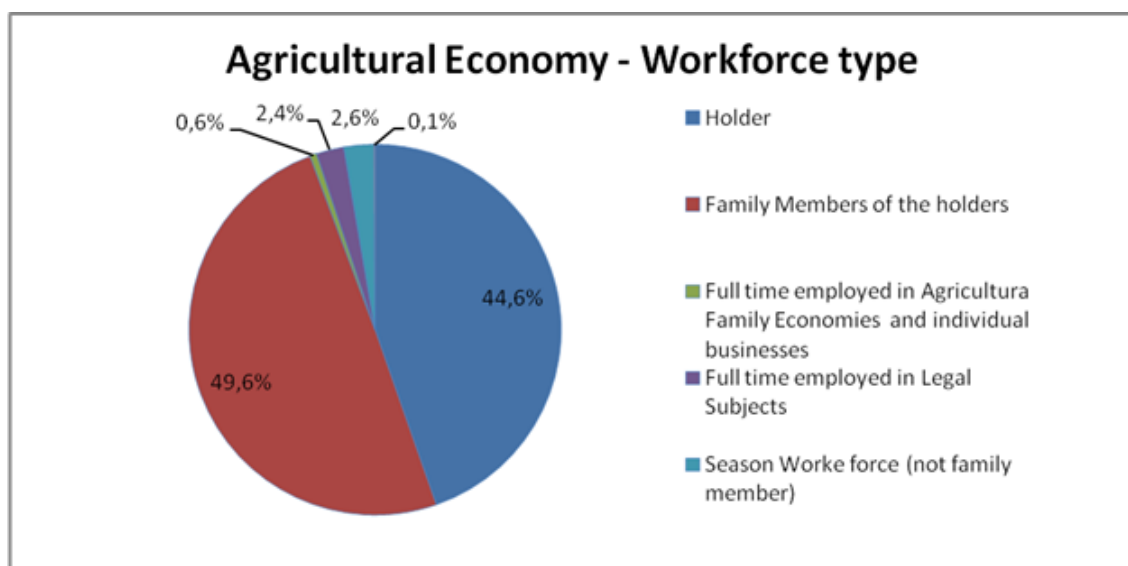


Figure 11. Type of the workforce in the Kosovo Agricultural Economy

As represented in the graphic number two, we can see that the agriculture work at the agricultural Economic families is done by the family work force. The holders (they are mainly also the managers) finish 44.6% of the total work, while the other family members do the other part or 49.6%.

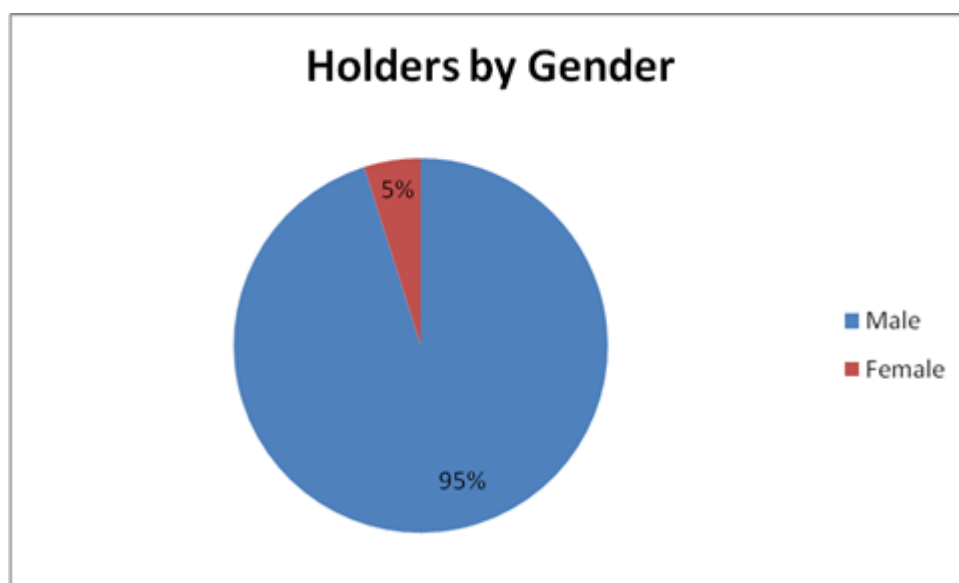


Figure 12. Holders by Gender

As represented in the graph number three, the majority of the holders in the Kosovo agricultural Economy are males with 95% of the total agricultural work. On the other hand in the graph number four we will see that in the Agricultural Family Economies and Individual businesses, females represent 58.2% of the total family members that work in Agricultural Family Economies.

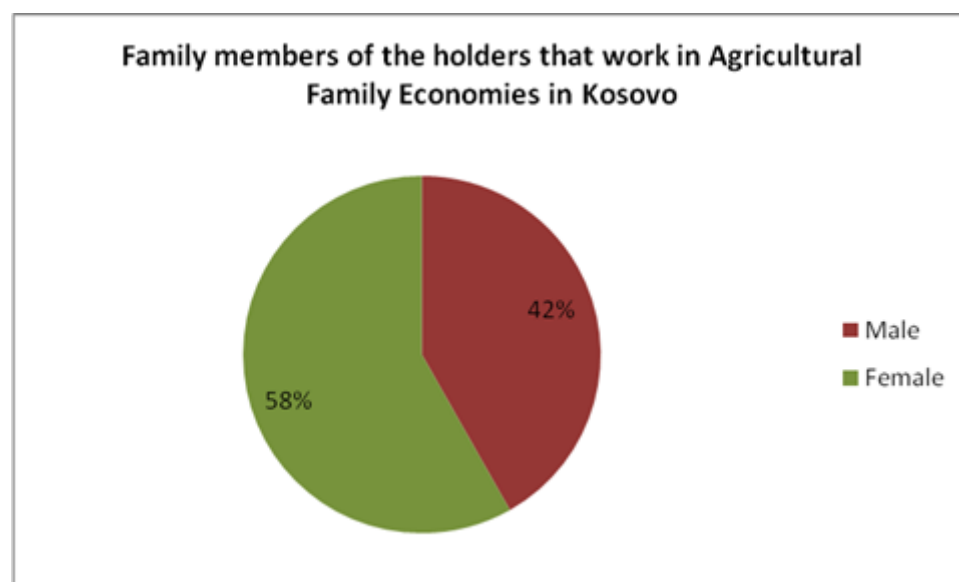


Figure 13. Family members of the holders that work in Agricultural Family Economies

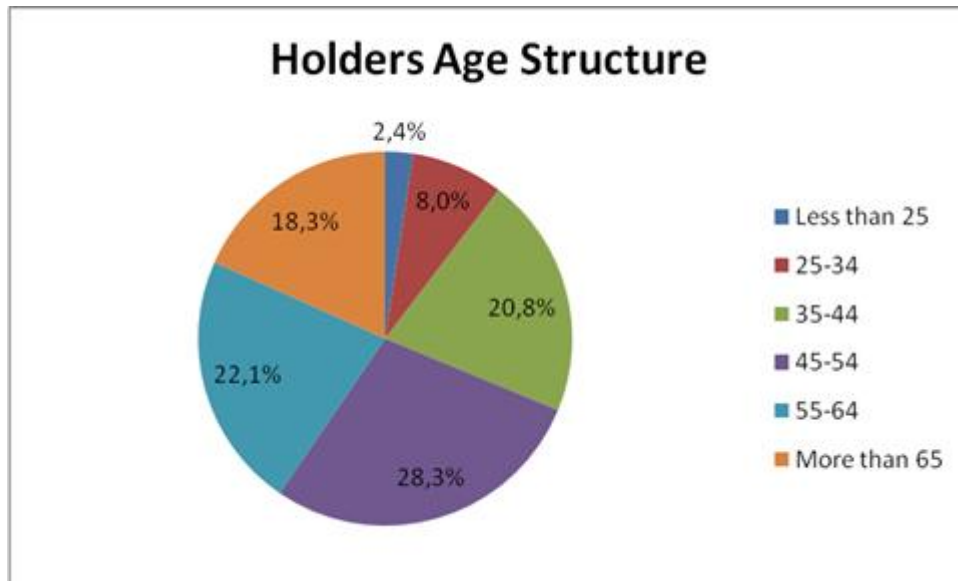


Figure 14. Age Structure of Family members that work in Agricultural Family Economies

The graph u number five, is giving a clear view of the agricultural holders in Kosovo for the year 2014. We can see that people at age 45-54 present the highest percentage of the total holders with 28.4%. In the second place remain the holders at ate 55-64 with 22.1%, in the third place there are holders at age 35-44 and in the fourth place are people ate age more than 65 years old with percentage of 18.3%. People younger than 25 years old represent only 2.4% percent of the total holders.

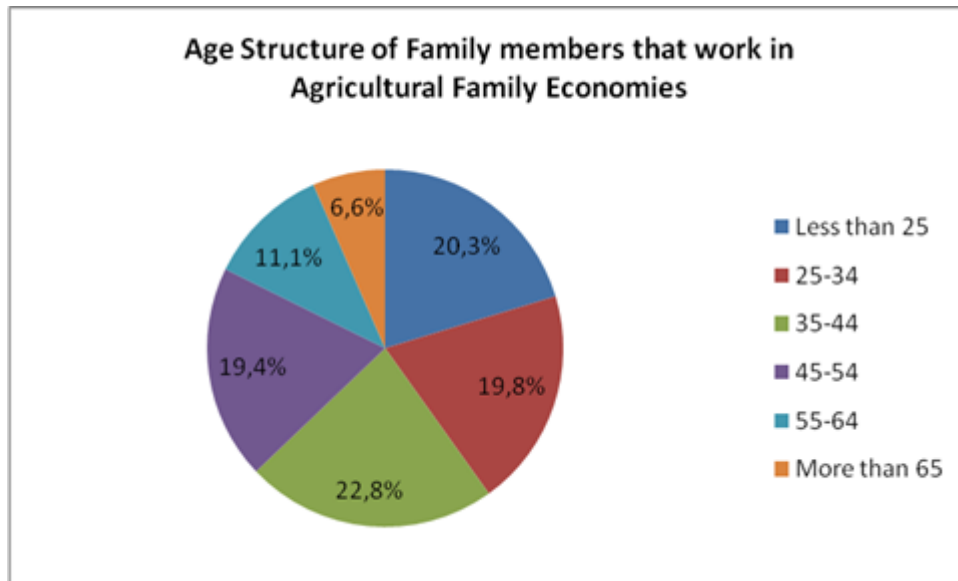


Figure 15. Age Structure of Family members that work in Agricultural Family Economies

Based on the Graphic number 6 we can see that people at age 35-44 represent the highest percentage of the total family members of the holders that work in the Agricultural Family Economies. While the people younger than 25 years old represent the lowest percentage of the holders, in the graph six we can see that this group of people represent 20.3% of the family members that work in the Agricultural Family Economies, while the lowest percentage cover people older than 65 years old.

Romania



One of the most important aspects concerning agriculture may be traced down from the perspective of the occupied population. During 2005-2009, the total of the occupied population slightly increased in absolute terms at the level of the whole country, from 9.147 thousand people to 9243 thousand people. Against this increase the agricultural sector registered until 2008 a decline in terms of the occupied population at country level; however, the next year it registered an increase in percentage, although a slight one, from 28.7 % to 29.1 %.

Table 18. Total of occupied population and percentage in agriculture in Romania 2005-2009

Administrative-territorial unit	Category	CAENRev.1				CAENRev.2	
		2005	2006	2007	2008	2008	2009
Romania	Total –thousand people:	9.147	9.313	9.353	9.369	9.369	9.243
	Agriculture(%)	32,2	30,5	29,5	28,8	28,7	29,1

Source: Statistical Yearbook of Romania, different years

The peculiar territorial structure, presented in Table 1 is characteristic to the regions including capitals, the territorial-administrative unit, i.e. Ilfov County, associated to the metropolis, usually with the role of main supplier of agricultural products for Bucharest.

As concerns the cultivated area at the level of the whole country, while in 2006 it registered a decrease, in the next years it recorded a stabilization in terms of the total cultivated around the figures 92& -93%.

Table 19. Total cultivated area by category, evolution between 2005-2009 at national level

Category	Romania				
	2005	2006	2007	2008	2009
Total cultivated area	100%	93%	92%	92%	93%
Cereal grain	100%	87%	87%	89%	90%
Wheat	100%	81%	80%	85%	87%
Rye	100%	83%	59%	63%	75%
Barley	100%	68%	75%	81%	107%
Corn	100%	96%	96%	93%	89%
Potatoes - total	100%	98%	94%	90%	90%
Sugar beet	100%	158%	114%	81%	85%
Oil plants	100%	108%	111%	103%	104%
Sun flower	100%	102%	86%	84%	79%
Vegetables	100%	105%	95%	101%	100%

Source: data on the basis of statistical Yearbook of Romania

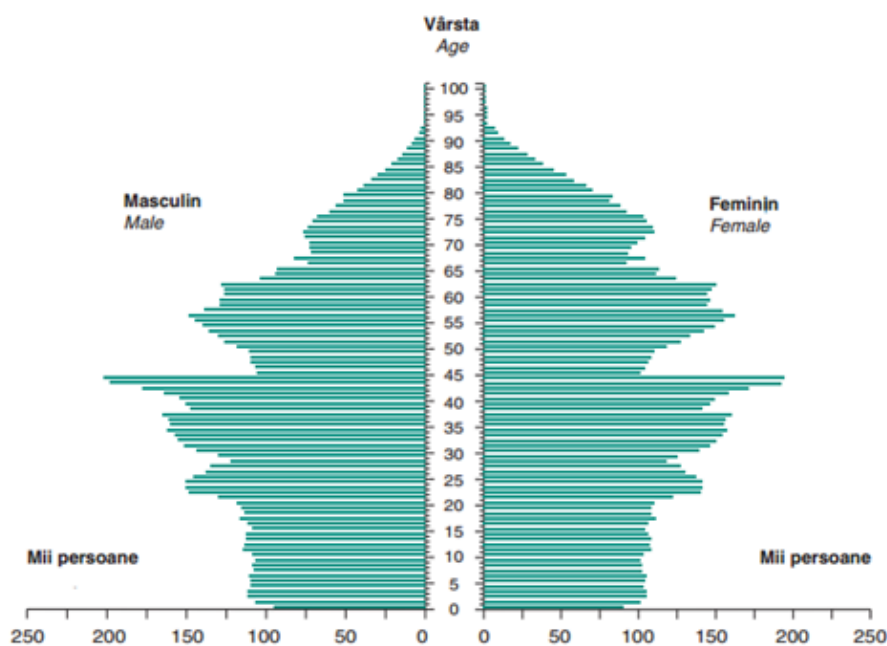
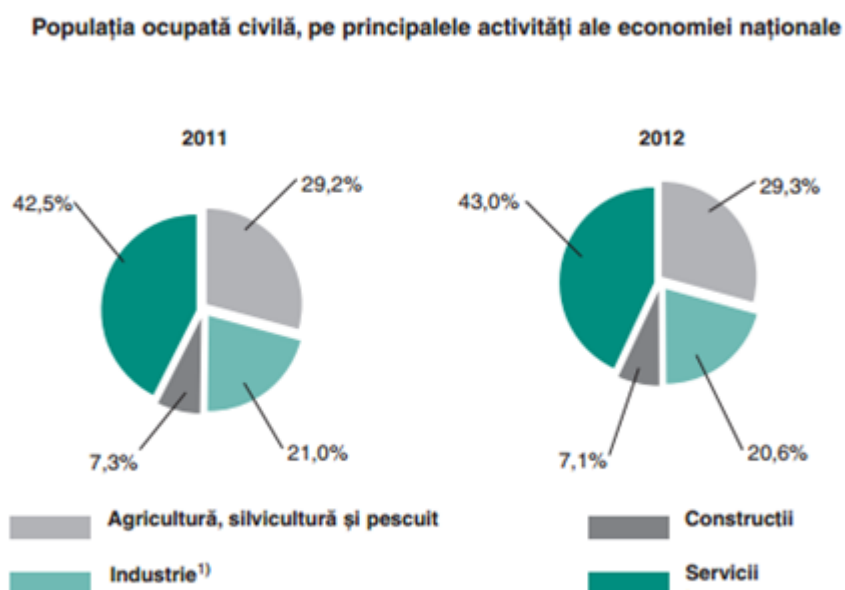
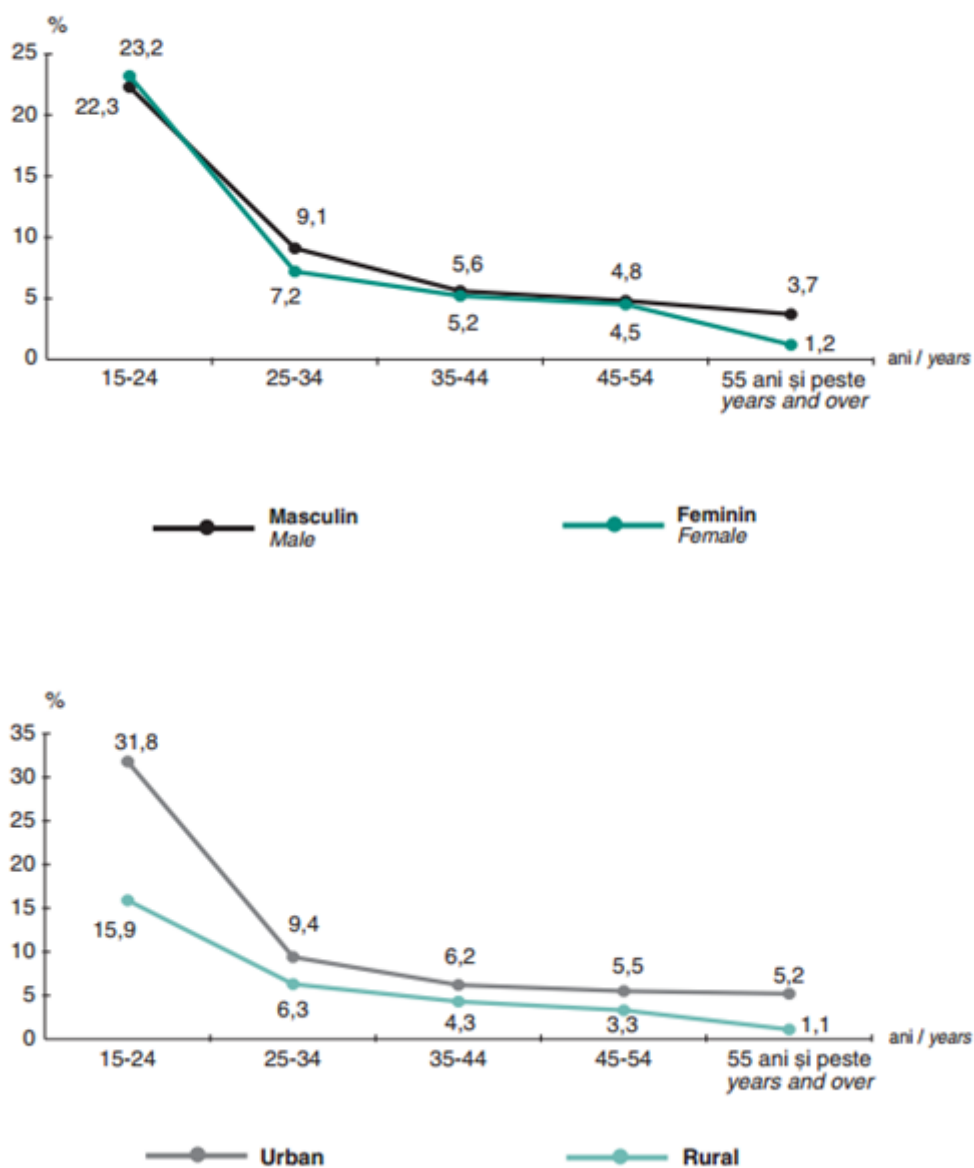


Figure 16. Resident population, by age and sex, (as of 1 January 2012)

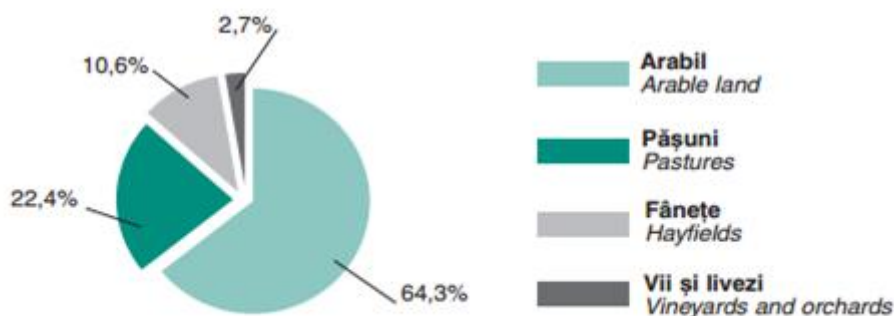
Number of inhabitants at 1 January 2012: Total 20.095.996 Male: 9.777.107 (48,7%) Female:10.318.889 (51,3%). Distributed by urban-rural areas: Urban 10853728 (54,0%) Rural 9242268 (46,0%)



Rata¹⁾ șomajului²⁾, pe grupe de vârstă, sexe și medii, în anul 2012
 Unemployment²⁾ rate¹⁾, by age group, sex and area, in 2012



Suprafața agricolă, după modul de folosință, în anul 2012
(la sfârșitul anului)
Agricultural area, by use, in 2012
(end of year)



- Out of the cadastral data, it is revealed that the land reserve of Romania is 23.839.071 ha
- Out of which agricultural land 14.797.546 ha
- (Arable, pastures, hayfields, vineyards, orchards)
- Out of which the arable land occupies 9. 338. 026 ha
- Non-agricultural land 9.041.525
- (forests, streams, ponds, roads, construction yards, non-productive)
- Class 1. High quality lands, free from restrictions or degradation phenomena, slopes below 5%;
- Class 2. Good quality lands, surfaces on which degradation phenomena are weak or slopes between 5-10%;
- Class 3. Middle quality land on which the degradation phenomena have a medium action or are located on 10-15% slopes;
- Class IV. Low quality lands, on which the degradation phenomena are strongly manifested or are situated on 15-25% slopes.
- Class V. Very low quality lands, on which the degradation phenomena are very strongly manifested or are situated on slopes above 25%.
- Class VI. Land from the agricultural reserve which has become unproductive, such as cliffs, ravines, Terenuri din fondul agricol care au devenit neproductive,

cum sunt râpele, ravenele, alunecările fără vegetație, depozitele de steril, straturi de pietriș depus de torenți.

- Din analizele efectuate de ICPA a rezultat că terenul agricol este afectat de procesele de degradare:
- Arable land in proportion of 50%
- Pastures and hayfields 66%
- Orchards and vineyards 50-70%
- The surface of 390 000 ha unproductive land can only be reconverted to a very small extent.

Suprafața agricolă, după modul de folosință, în anul 2012 (la sfârșitul anului)
Agricultural area, by use, in 2012 (end of year)

	Suprafața agricolă (mii ha) Agricultural area (thou ha)		Structura / Structure (%)		
	Total	din care: proprietate privată ¹⁾ of which: private ownership ¹⁾	Total	din care: proprietate privată ¹⁾ of which: private ownership ¹⁾	
Total	14615,1	13712,9	100,0	100,0	Total
Arabil	9392,3	8956,2	64,3	65,3	Arable
Pășuni	3270,6	2862,0	22,4	20,9	Pastures
Fânețe	1544,9	1505,3	10,6	10,9	Hayfields
Vii și pepiniere viticole	210,5	202,6	1,4	1,5	Vineyards and vine nurseries
Livezi și pepiniere pomicele	196,8	186,8	1,3	1,4	Orchards and tree nurseries
Suprafața agricolă irigată ²⁾	165,4	161,3	100,0	100,0	Agricultural area irrigated ²⁾
din care: Arabilă	164,5	160,5	99,5	99,5	of which: Arable

¹⁾ Conține: proprietatea privată a statului, a unităților administrativ-teritoriale, a persoanelor juridice și a persoanelor fizice. / Includes: private ownership of state, of administrative-territorial units, of legal persons and of natural persons.

²⁾ Suprafața agricolă irigată din sistemele administrate de Agenția Națională de Îmbunătățiri Funciare, în anul 2012.
Agricultural area irrigated from systems managed by the National Agency for Land Arrangements, in 2012.

Romania distinguishes itself by a still very high share of the population employed in agriculture (25.4%), which places it first in the EU-28,

The agri-food trade balance of Romania recorded a surplus of 28.9 million in the first two months of 2015, down by 72% as compared to 104.1 million euros, the amount reported for the same period in 2014

In the first months of 2015 Romania exported food products worth a total of 825.5 million euros, by 11.3 million euros (+ 1.4%) more than the same period in 2014.

Regarding imports, in the first two months of the year they totaled 796.6 million euros, 86 million euros (+ 12.2%) more than the value recorded in the same period in 2014.

The decrease in the trade surplus was due to a 32.6% debt increase in imports from third countries, against weaker exports by 8.5% towards the same area, according to representatives of the Ministry of Agriculture.

At the same time, exports of wheat (112 million euro) and sunflower seeds (36 million euros) registered substantial declines compared with the same period in 2014. Another situation less favorable to Romania was recorded in the case of live animals exports, especially sheep and goats, which registered a decrease (-21 million euros).

The Ministry of Agriculture says that the losses were offset by revenue from increased exports of cigarettes (60 million euros this year), and because supplies of corn (25.9 million euros). Other increases in exports were recorded in the case of barley and rapeseed.

In terms of import volumes, Romania recorded increases in the first two months of this year for products such as pork, raw tobacco, sunflower seeds, chocolate, sugar and coffee. Also, in the first months of 2015 we recorded a decrease in the imports of live animals, i.e. swine (-5 million), cheese (-2.4 million) and dairy products (-1 7 million).

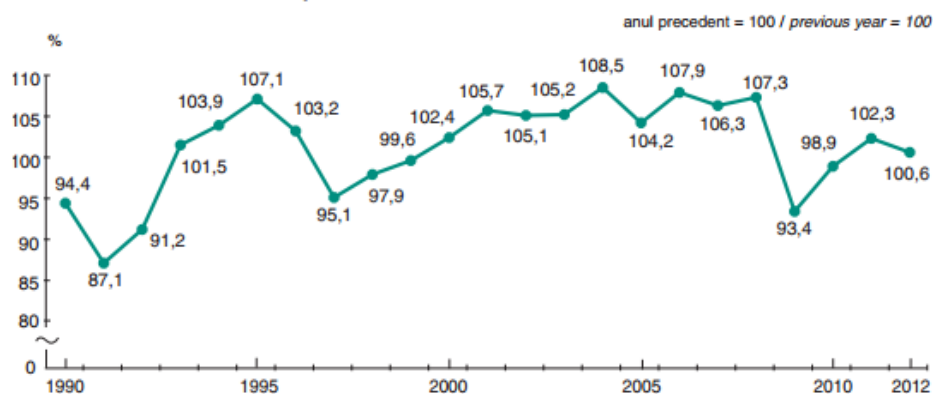
In 2014 Romania exported food products worth a total of 5.409 billion euros, by 311.5 million more than the previous year. Imports totaled 4.895 billion euros.

Exporturile (FOB) și importurile (CIF), pe secțiuni conform CSCI, Rev.4¹⁾
Exports (FOB) and imports (CIF), by section according to SITC, Rev. 4¹⁾

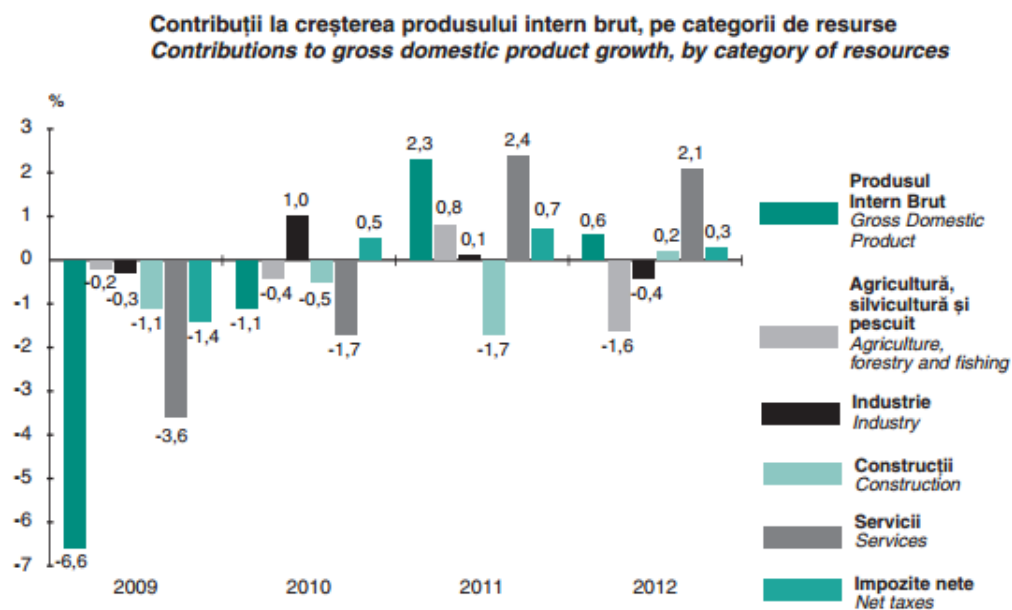
milioane euro / euro million

Cod CSCI Code SITC REV.4	Export FOB			Import CIF		
	2010	2011	2012	2010	2011	2012
Total	37360	45292	45070	46869	54952	54704
0 Alimente și animale vii Food and live animals	1899	2380	2795	3004	3343	3661
00 Animale vii <i>Live animals</i>	196	234	304	96	107	140
01 Carne și preparate din carne <i>Meat and meat preparations</i>	181	288	344	536	486	517
02 Produse lactate și ouă de păsări <i>Dairy products and eggs</i>	48	54	87	239	269	270
03 Pește, crustacee, moluște <i>Fish, crustaceans, molluscs</i>	10	15	18	130	125	145
04 Cereale și preparate pe bază de cereale <i>Cereals and cereal preparations</i>	960	1178	1429	449	592	653
05 Legume și fructe <i>Vegetables and fruit</i>	160	160	169	462	482	543
06 Zaharuri, preparate pe bază de zahăr și miere <i>Sugar, sugar preparations and honey</i>	137	170	138	273	372	368
07 Cafea, ceai, cacao, condimente și preparate ale acestora <i>Coffee, tea, cocoa, spices and preparations</i>	48	58	69	286	343	365
08 Hrană destinată animalelor (exclusiv cereale nemăcinată) <i>Feeding stuff for animals (not including unmilled cereals)</i>	72	104	123	273	286	358
09 Produse și preparate alimentare diverse <i>Miscellaneous edible products and preparations</i>	89	118	115	259	281	301

Evoluția produsului intern brut
Gross domestic product evolution



Notă: Datele pentru anul 2012 sunt semidefinitive.
 Note: The data for 2012 are semi-final.



Estonia



The production of agricultural goods and food preparations has historically been one of the most important industries in Estonia. After the country became re-independent in 1991 agricultural scene went through significant restructuring. With the introduction of private agriculture, Soviet era collective farms began to disintegrate. Instead of the approximately 300

large-scale farms by the beginning of the year 2000 there had emerged 680 agricultural co-operatives and 51081 farmsteads. At the beginning of nineties the average size of a farm was only 20.8 hectares. Agricultural usage of land has since then been steadily decreasing: instead of the 1.1 billion hectares used in 1990, about a quarter of the cultivable land is not used for farming.

During the period of 2003-2010 the number of farms in Estonia has almost halved, but the economic size of the farms in Estonia has grown. By the year 2010, the number of agricultural households had decreased to 19600.

Since 2001, the upheaval in agricultural development can be associated with the implementation effects of programmes preceding EU accession. The opening of the EU market has increased trade in all sectors of the economy. The growth of exports increased the demand for domestic raw materials, which had positive effects on producer prices and sales volume. However, the rising cost of agricultural raw materials and means of production has resulted in increased production costs.

Present day of Estonian agricultural production

According to the Statistical Office of Estonia in year 2014 the total land used for agricultural production was 974 thousand hectares. 648,1 hectares of that was arable land. 332.9 thousand hectares of the cultivated land was used for cereals. 102.8 ha were

used for winter crops (rye, wheat, barley, triticale) and 230.1 for spring crops (wheat, barley, oats, mixed grain, buckwheat), see figure 17.

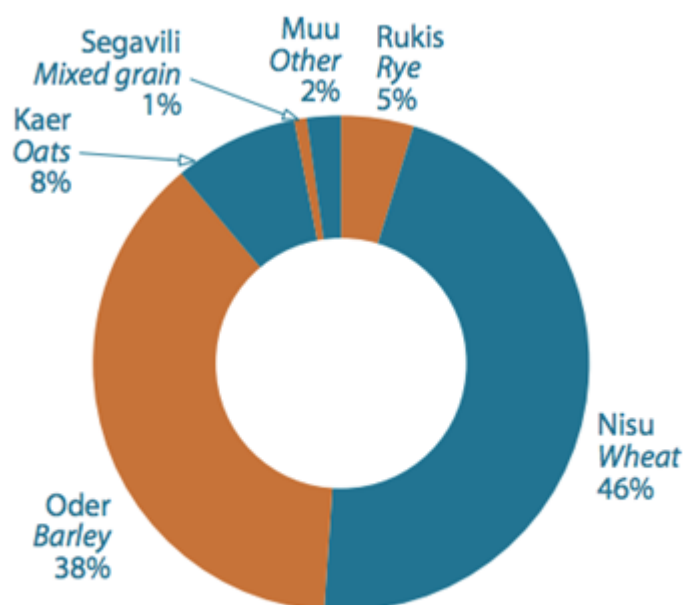


Figure 17. The sown area of cereals in Estonia (2014)

Forage crops were grown on 166.1 ha. In recent years the area of cereals has slightly increased and the amount of industrial crops such as oil flax, rape and turnip rape has decreased (Table 20).

Table 20. Sown area of field crops in years 2010-2014 (thousand hectares)

	2010	2011	2012	2013	2014
Cereals	275.3	297	290.5	311.1	332.9
<i>Winter crops</i>	68.2	70.9	86.3	59.7	102.8
<i>Spring crops</i>	207.1	226.1	204.2	251.4	230.1
Legumes	7.3	8.5	11	13.6	19.1
Industrial crops	99.3	90	87.9	87.2	81
Open-field vegetables	2.8	3	2.9	2.8	2.9
Potatoes	9.4	9.2	7.6	6.6	6.4
Forage crops	207.9	177.6	168.9	168.9	166.1
TOTAL	602	585.3	568.3	568.8	608.4

The increased area for the cultivation of cereal boosted the production of cereal in 2014 significantly higher than in recent years (1221.6 thousand tonnes). The production of other field crops in recent years has generally remained at the same level (Table 21).

Table 21. Total production of field crops in years 2010-2014, thousand tonnes

	2010	2011	2012	2013	2014
Cereals	678.4	771.6	991.2	975.5	1221.6
Winter crops	184.6	204.3	379.1	168.8	423.2
Spring crops	493.8	567.3	612.1	806.7	798.4
Legumes	12.6	15.5	12.9	31.4	39.5
Oil flax	0.2	0.1	0	0.1	0
Rape and turnip rape	131	144.2	157.8	174	166.2
Vegetables and greens	73.9	88.1	66.1	78.9	66.4
Potatoes	163.4	164.7	138.9	127.7	117.3
Fodder roots	0.3	0.5	0.2	0.2	0.3
Green fodder from annual and multiannual forage crops	2338.5	2152	2600.9	2245.4	2202.1

The production of fruits and berries in Estonia is usually relatively small with the total production remaining around 6.5-7 tonnes. In year 2014 the production of this category was dominated by berries (2.7 tonnes) followed by apples and pears (2.3 tonnes) and further complemented by cherries and plums. The relative shares of these groups can be seen on figure 18.

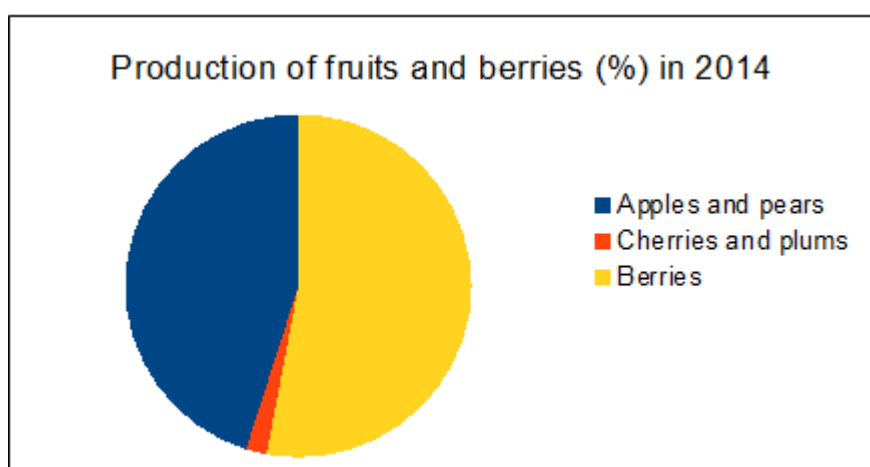


Figure 18. The production (%) of fruits and berries by categories in Estonia in year 2014

The total livestock production in recent years has been at the same level – around 80.7 thousand tonnes of meat (slaughter weight) (Table 5). About half of the meat production is made up by pork. The milk production has slightly increased during recent years from 676 thousand tonnes in 2010 to 805.2 tonnes in 2004 exceeding the milk production level of year 1994 (Fig 19). Estonia also produces eggs, wool and honey (Table 22).

Table 22. Livestock production, 2010-2014.

	2010	2011	2012	2013	2014
Meat (slaughter weight) thousand tonnes	75.4	80.6	78.4	79.8	80.7
<i>Beef</i>	12.9	12.2	12.3	11.5	11.9
<i>Pork</i>	45.8	50.2	48.8	49.5	48.7
<i>lamb and goat meat</i>	0.7	0.6	0.7	0.7	0.6
<i>poultry meat</i>	16	17.5	16.5	18.1	19.5
<i>rabbit and coypu meat</i>	0	0.1	0.1	0	0
Milk, thousand tonnes	676	693	721.2	772	805.2
Eggs, million pieces	181.9	183.8	179.5	189.9	199.4
Wool, tonnes	154	126	138	167	134
Honey, tonnes	682	694	957	979	1155

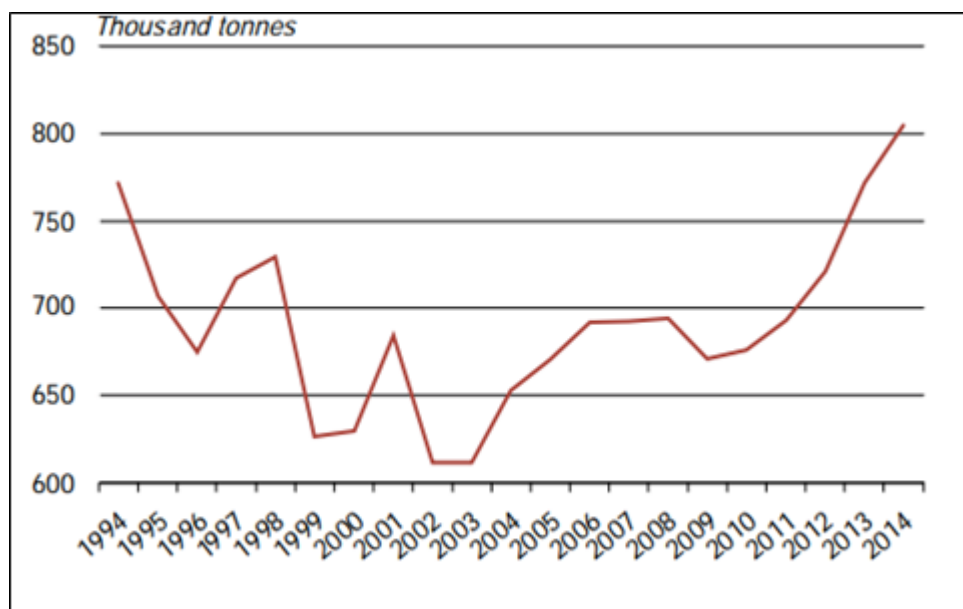


Figure 19. Production of milk in Estonia in years 1994-2014.

The agricultural production per inhabitant in year 2014 was biggest in case of cereals (929 tonnes) and milk (613 tonnes) and lowest in case of fruits and berries (4 tonnes). The production of cereals per inhabitant has increased the most in recent years (Table 23).

Table 23. Agricultural production per inhabitant, 2010–2014 (kg)

	2010	2011	2012	2013	2014
Cereals	509	581	749	749	929
Potatoes	123	124	105	97	89
Vegetables	55	66	50	60	50
Fruits and berries	4	4	4	6	4
Meat	57	61	59	61	61
Eggs, pieces	137	138	136	144	152

One of the main issues of Estonia's current agricultural situation concerns the competitiveness on the global markets. For example the export of Estonian cereals is highly competitive – in recent years, new export markets have been added in Iraq, Norway and Saudi Arabia. The majority of Estonia's agricultural products and food preparations are exported by the manufacturers of food products and economic units operating in wholesale trade. The largest share of exporters operates in Harju, Tartu and Pärnu counties.

Over the period 2005-2013, total European Union CAP spending in Estonia was 1.4 billion euros. Estonian farmers received nearly 500 million euro in direct aids and market measures to support farm income and almost 900 million euro was spent modernising agriculture, making it more sustainable and developing rural areas.

Bulgaria



Until 1989, the agricultural sector was a part of the state-planned economy. It was large scale, modernised and organised in to huge agricultural collective organisations, called Agro-Industrial Complexes - AICs (established in the 1968).

The goal of these Complexes was to produce a small number of very large, horizontally integrated agricultural production units and to link these units vertically with enterprises in food processing industries (Boyd 1989).

AICs were quite an important source of integration, knowledge creation, transfer and innovation. They were state funded and governed integrators into Bulgarian agricultural sectors (cereal production, animal husbandry, fruit and vegetable production, etc.) working with many enterprises and covering hundreds of thousands of hectares of farmland (Dimanova, 2014). After 1989, the process of restoring agricultural land to private owners was started and by 2004 around 98 percent of the workforce and output of Bulgaria's agricultural sector was private.

Today the agricultural sector in Bulgaria is characterised by one of the highest proportions of many small-scale farmers with plots under 2 ha, around 83% of total agricultural holdings, who cultivate 4% of farmland in the country and small number of large-scale farmers with over 50 ha - around 2%, who cultivate over 80% of total farmland. The average age of young farmers is around 7%, between 35 and 64 years is 56%, and over 65 years old is 37%. Cattle, go at and sheepered ominant in the livestock sector and increase during 2011 and 2012, with crops occupying around 29% of the farmed area (Dimanova, 2014).

The main agricultural production in Bulgaria includes:

Plant products:

- Cereals - wheat, barley, rye, oats, corn, rice, beans, lentils, alfalfa and others

- Technical crops – oil seed rose, lavender, sunflower, raps, canola, soybeans, peanuts, pumpkin seeds, cotton, fennel, parsley, hops, coriander and tobacco
- Vegetables - tomatoes, sweetpeppers, hotpeppers, cucumbers, potatoes, squash, zucchini, cabbage, onion, pigeon, garlic, eggplant, carrots, etc.
- Fruits - apples, pears, apricots, peaches, plums, prunes, cherries, sourcherries, quinces, watermelons, melons, walnuts, hazelnuts, strawberries, raspberries, blueberries, blackberries, rosehips and others.
- Viticulture – dessert and winegrape varieties, red and white.
- Herbs – sighting and collecting various herbs,
- Mushrooms – growing edible mushrooms
- Beekeeping - extraction of honey.

Livestock products – in Bulgaria grown cattle, buffalo, sheep, goats, pigs, chickens, turkeys, ducks, geese and other. Yield total of approximately 250,000 tons of milk, 211 thousand tons of meat and 1.2 million eggs.

Fisheries – practiced catch of sea and fresh water fish and fish farming in ponds. Bred and hunted aquatic organisms such as seasnails, clams and shrimp.

Forestry – In recent years, the total area of forest in the country is steadily increasing at the end of 2013 it amounted to 4,180,121 hectares, or 37.7 percent of the country. From 1990 to 2013 the total area of forest in the country has increased by 407 628 ha or 10.8%. The largest share of forest area in Bulgaria occupy forests resulting from natural regeneration - 70.4%, while the share of forest crops is 20.9%, while natural forests - 8.7%. Bulgarian forests are characterized by extremely rich biodiversity of coniferous and deciduous tree species.

Hunting and game breeding in Bulgaria. The game breeding in Bulgaria includes officially permitted for hunting animals and birds in the country, living freely in the wild. It includes big and small game and predators. Hunting in national parks and protected areas in Bulgaria is prohibited. Game in Bulgaria - big game deer, deer,

fallowdeer, roedeer, wildboar, deer, chamois, bears and capercaillie. Small game - rabbit, pheasant, partridge, Thracianpartridge, quailand Polishnutria. Predators - wolf, jackal, fox, wildcat, marten, badger, polecat, raccoondog, wanderingwilddogs, roamingwildcats, magpie, hoodieRookdawandothers.

The percentage of rural areas in Bulgaria is 81% of the whole territory. In 2011, agricultural land in the rural area was 46.87 % of land area (World Bank, 2011). The agricultural sector is one of the main sectors in the country, where 73% of the total arable land is privately owned, 22% is owned by municipalities and 5% is state property (Rural Development Programme - RDP, 2007).

In Bulgaria the land used for agricultural purposes was 5 486 572 hain 2011, accounting for around 50% of the territory of the country (Ministry of Agriculture and Forestry - MAF, 2013).

The Utilized Agricultural Area (UAA) is composed of arable land, perennial crops, permanent grass land, family gardens and greenhouse area. In 2011, it was 5 087 948 haor 45.8% of the territory of the country. Arable land, for the same year was 3 227 237 haor 63.4% of the UAA and around 29% of total territory of the country. The total number of agricultural holdings is 357 074, which cultivates 3 616 965 hawith an average UAA per holding of around 10.1 ha (Dimanova, 2014).

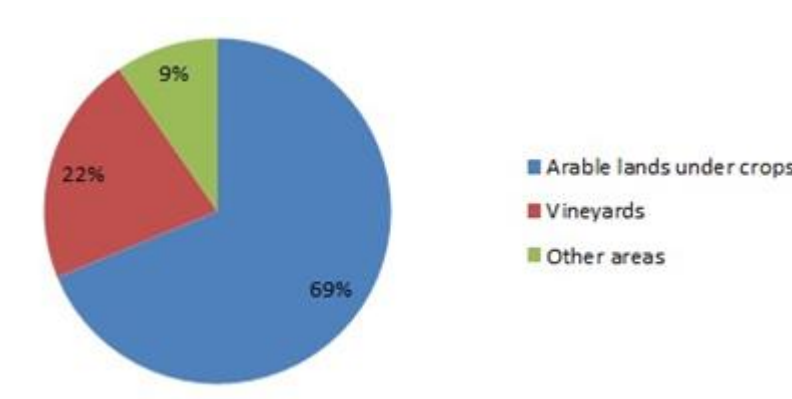


Figure 20. Structure of the agricultural land

(Source: Agrarian report 2014, Ministry of agriculture and food)

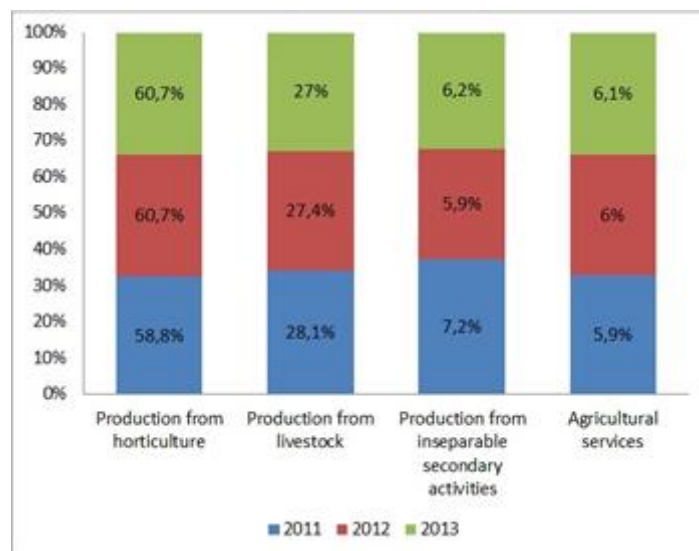


Figure 21. Structure of the gross value output in the sector "agriculture"

(Source: Agrarian report 2014, Ministry of agriculture and food)

The share of agriculture is 5.27 % of Bulgarian GDP (2014, World Bank).

The share of Food exports is 16.13% of merchandise exports of Bulgaria. Food comprises the commodities in SITC sections 0 (food and live animals), 1 (beverages and tobacco), and 4 (animal and vegetable oils and fats) and SITC division 22 (oil seeds, oil nuts, and oil kernels). Agricultural raw materials exports was 1.43 % of merchandise exports of Bulgaria (2014, World Bank). Agricultural raw materials comprise SITC section 2 (crude materials except fuels) excluding divisions 22, 27 (crude fertilizers and minerals excluding coal, petroleum, and precious stones), and 28 (metal waste and scrap).

Organic farming. About 90% of the land in Bulgaria is suitable for organic farming

Number of certified registered organic holdings for 2010 in Bulgaria was 170 (0.05% of the total number of holdings) on the certified organic area of 4 010 ha (0.09% of the total UAA).

Rural population in Bulgaria is 1 905 862 (26.37 % of total population) (2014, World Bank).

Employment in agriculture in Bulgaria is 6.4% of total employment (2012, World Bank). Concentration of sub-sectors:

North-West Region of Bulgaria:

- People employed in the sector: 7 202
- 3.5% of all people employed for the region
- 9.9% of people employed in the sector
- Number of companies: 483 (11.0%)

South-West region of Bulgaria:

- People employed in the sector: 23 724
- 2.3 % of all people employed for the region
- 29.5% of people employed in the sector
- Number of companies: 1 091 (24.0%)

North-Central region of Bulgaria:

- People employed in the sector: 11 383
- 4.4% of all people employed for the region
- 14.1% of people employed in the sector
- Number of companies: 589 (13.0%)

South Central Region of Bulgaria:

- People employed in the sector: 16,649
- 3.8 % of all people employed for the region
- 20.7% of people employed in the sector
- Number of companies: 969 (22.0%)

North-Eastregion of Bulgaria:

- People employed in the sector: 10 229
- 3.3% of all people employed for the region
- 12.7% of people employed in the sector
- Number of companies: 549 (12.0%)

South-Eastregion of Bulgaria:

- People employed in the sector: 11 360
- 3.4% of all people employed for the region
- 14.1% of people employed in the sector
- Number of companies: 695 (15.9%)

Turkey



With its favorable geographical conditions and climate, Turkey is considered to be one of the leading countries in the world in the field of food and agriculture. Turkey has a large and growing food and agriculture industry that corresponds to 9 percent of the overall gross value-added (GVA) and a quarter of the employment levels in the country.

Turkey is the world leader in the production of dried figs, hazelnuts, sultanas/raisins and dried apricots. It has the largest milk and dairy production in its region. In addition, Turkey has an estimated total of 11,000 plant species, whereas the total number of species in Europe is 11,500. This potential positions Turkey to be among the top options for being the regional headquarters and supply center of top global players. In its region, Turkey has a strong dominance in production and exportation of many agricultural products such as hazelnuts, dried apricots, sultanas and dried figs. In addition, Turkey's food industry is much better developed than that of neighboring countries. Given these factors, the country is one of the largest exporters of agricultural products in the Eastern Europe, Middle East and North Africa (EMEA) region, while its trade balance is significantly positive. With growing exports, the Turkish agrofood industry has recorded USD 5.6 billion of trade surplus in 2014.

The strengths of the industry include the size of the market in relation to the country's young population, a dynamic private sector economy, substantial tourism income and a favorable climate.

Turkey has a larger share of arable land in comparison to some major European countries (Figure 22). The Table below provides information on agricultural land use of Turkey according to Statistical Classification of Products By Activity in European Economic Community (CPA). Turkey is in a better position in terms of fresh water resources compared to some major European countries (Figure 23). Total renewable water resources is 213.6 cu km. Agriculture at present uses 74 % of available

resources while domestic supply and industry account for 15% and 11% respectively. Turkey appears to have an average water footprint of 1615 m³/cap/yr

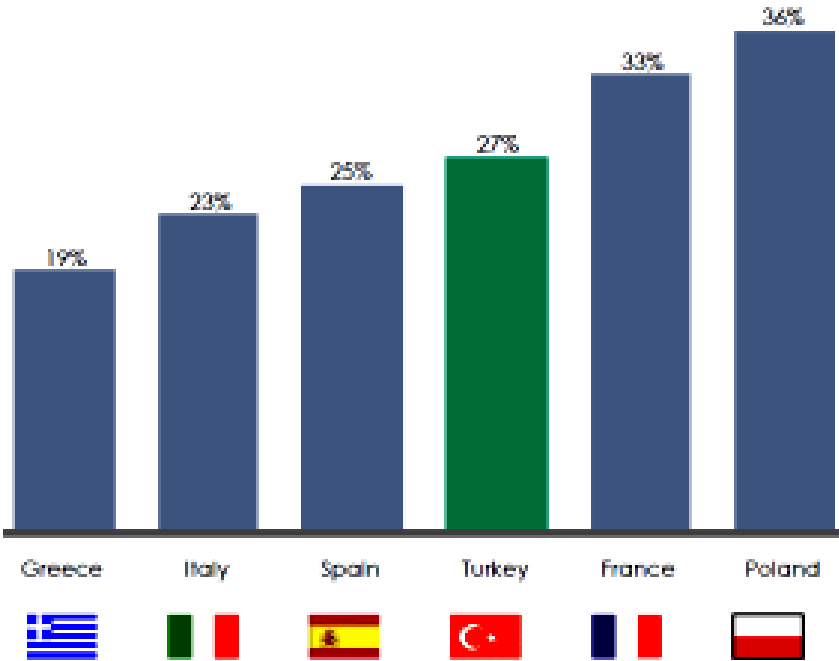


Figure 22. Arable land ratio of some EU countries

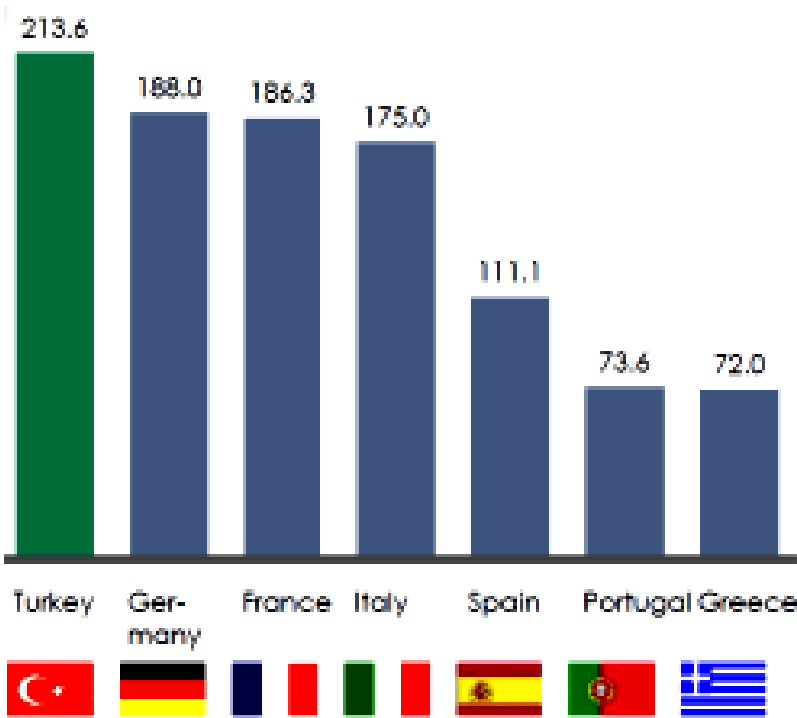


Figure 23. Breakdown of world's fresh water resources (cu km) (Includes vegetables and land under cultivation).

Conditions in Turkey are favourable for animal husbandry. Traditionally most farmers raise a few cattle, some small ruminants and poultry to meet their domestic needs. Pasture is still the main source of feed; traditionally pasture areas belong to the state and are open for common use.

Table 24. Agriculture area 2015 (SIS)

Agricultural Land	(000) ha	%
Area of cereals and other crop products	15.789	65,9
Fallow land	4.108	17,1
Vegetables gardens	804	3,4
Fruits, beverage and spice crops	3.238	13,5
Ornamental plants	5	0,02
Total Arable Land	23.944	100
Land under permanent meadows and pastures	14.617	-
Total utilized agricultural land	38.560	-

Farm size is a limiting factor for agricultural productivity. Over 85 percent of enterprises are under 10 hectares. This corresponds to 42 percent of the total cultivated land. Land fragmentation is a serious drawback to mechanized agriculture and to increasing production.

Agriculture is a major source of employment in Turkey. Agricultural employment in Turkey realized as 5 million 473 thousand persons and non-agricultural employment realized as 21 million 382 thousand persons in 2015. Of those who were employed in this period; 20,4% was employed in agriculture, 20% was employed in industry, 7.6% was employed in construction and 52% was employed in services. Table 25. shows the employment by economic activities according to NACE classification.

Table 25. Employment by economic activity, NACE Rev.2 (TURKSTAT, Labour Force Statistics, 2015 October).

Population	Employment by sectors- Thousand person				
	Total	Agriculture	Industry	Construction	Services

77695904	26 856	5 473	5 363	2 049	13 970
-	100,0	20,4	20,0	7,6	52,0

Turkey's agriculture industry corresponds to 9% of the overall GVA. Turkey has positive net trade from agribusiness. Turkey exports 1.663 kind of agricultural products to 188 countries. Share of agriculture in export with data of 2015 is 15 billion €. Turkey has taken place in the top five with 30 products in the world agricultural production and with 20 products in exports. Table 26 presents GDP shares of agriculture.

Table 26. Gross Domestic Product by Agricultural Activity in Current Prices 2014. TÜİK

Value (billion €)	Sector Share%
3,96	8,8

**FORMAL EDUCATION SYSTEM IN AGRICULTURE WITH FOCUS ON
ADULT EDUCATION AND TRAINING**

Republic of Macedonia



The education system in Republic of Macedonia is managed on a national level by the Ministry for education and science. Its vision is to develop the education system, the science and scientific achievements through the principles of quality, citizen's responsibility and linkage with the labor market.

The three rough separations of educational system in RM are: primary education, secondary education, and higher education. The field of agricultural is presented within the secondary and high (university education). There are total 115 regular secondary schools in RM out of which 10 are agricultural-veterinary, 1 agricultural and 1 veterinary.

The higher education is held on the five public universities and five private universities. Studies (faculties/departments) of agriculture are available only at the following public higher educational institutions:

- Ss Cyril and Methodius, Skopje (www.ukim.edu.mk) within its frames is the Institute of Agriculture
- St. Climent Ohridski, Bitola (www.uklo.edu.mk) within its frames is the Institute for tobacco
- Goce Delcev University in Stip (www.ugd.edu.mk)
- State University of Tetovo (www.unite.edu.mk)

The programs that these universities offer are accredited by the Ministry for education and science of RM and are according to the ECTS Bologna system. The studies encompass the three levels of university studies, Bachelor, Master and Doctoral studies.

On the other side, the adult education in RM is regulated with Law for adult education, published in “Official Newspaper of RM” No. 7/2008, 17/2011, 51/2011, 74/2012, 41/2014 and 144/2014. Within this law, the organization, structure, finances and management of the adult education are regulated.

According to the Law, the adult education is defined as part of the education system which provides education, improvement, qualification and learning for adults. Adult education is conducted through institution for adult education which could be school, higher educational institution, or specialized institution for adult education. Within this education there are publicly accredited programs approved by the authorized body. After completion of each program a Diploma or Certificate are issued as a proof for the realization of a certain program. The programs for adult education are conducted through regular teaching, consulting- instructive teaching, open teaching, on-line or multimedia or other type of teaching.

The adult education encompasses the formal, non-formal and informal learning, i.e.:

- Formal learning conducted at various educational institutions which result with an acknowledged diploma and qualifications;
- non-formal learning which is conducted independently of the official education system and does not require official certificates. This type of learning could be conducted at the working position or through activities of various companies and associations. Additionally, this type of education could be obtained through organizations which serve as a complement to the formal education system, like music schools, sport clubs, private training etc;
- informal learning is a natural phenomenon, and despite formal and non-formal learning it could be unconscious to the learner as one cannot recognize it as a fact for improvement in certain skills and capacities.

The objective of the adult education is to provide an opportunity for acquiring an educational level for everybody and all adult groups by allowing them to obtain

qualifications according to the trends on the labor market. In brief, it is directed towards:

- completion of at least compulsory education;
- employment qualifications for the adults without first level of professional qualifications;
- acquiring basic skills and competences for lifelong learning.

Adult education is under authorization of the Ministry for education and Ministry for labor. Besides, the Government of Republic of Macedonia creates a Council for adult education in capacity of an advising body which deals with strategic issues in the sphere of the developmental policy of adult education. The Council is in charge with:

- suggests a Strategy for development of the adult education in context of the lifelong learning to the ministry;
- suggests annual action plans for implementation of the Strategy for adult education;
- monitors the realization of the annual action plans of the Strategy for adult education;
- suggests national qualifications and occupational standards to the ministry;
- suggests financing of the programs for adult education for which there is envisioned means in the budget of RM;
- in cooperation with the municipalities makes a developmental plan for the network of institutions for adult education.

Another authorized body is the Center for adult education which is a legal entity established by the Government of RM.

The lifelong learning on the other side is not specifically defines, expect that it encompasses all learning forms, formal, non-formal and informal in all phases and spheres of the life of people starting from the early childhood to old age.

Bosnia and Herzegovina



Formal education system in agriculture

Institutional image of the education sector in Bosnia and Herzegovina is a reflection of the state, defined by the Constitution of BiH, constitutions of entities and cantons, and the Brcko District and on the basis of which the legally defined competences in the field of education.

Full and undivided jurisdiction over education have the Serbian Republic, the ten cantons in the Federation of BiH and Brcko District of BiH.

According to the Law on ministries and other administrative bodies of BiH, the Ministry of Civil Affairs is responsible for carrying out tasks and discharging duties which are within the competence of BiH and relate to defining basic principles of coordination of activities, harmonization of plans of the Entity authorities and defining a strategy at the international level, among others, in the field of education.

The Ministry of Civil Affairs of BiH is responsible for carrying out activities and tasks within the jurisdiction of BiH related to defining basic principles of coordination of activities, harmonization of plans of entity bodies and defining strategy at the international level, including, among others, education.

The Agency for Higher Education and Quality Assurance, Center for Information and Recognition of Qualifications in Higher Education and the Agency for Preschool, Primary and Secondary Education have been established at the BiH level. The bodies for the coordination of the education sector have also been formed including the Conference of Ministers of Education in BiH and the Council for General Education in BiH. The Rectors' Conference of Bosnia and Herzegovina has also been established and it defines and represents the common interests of universities in Bosnia and Herzegovina, cooperates with education institutions in Bosnia and Herzegovina and acts as an advisory body for the implementation of the reform of higher education.

Preschool education and care is intended for children from 6 months old until they start with primary education. It comprises three levels: nursery (for children from 6 months to 3 years old), kindergarten (for children from 3 years to 6 years old) and preschool preparatory programme. One year long preschool preparatory programme is the first part of compulsory education and accepts children between 5 ½ and 6 ½ years old.

Primary education is compulsory and it lasts 9 years, divided into three cycles/triad (Triad 1: 1st to 3rd grade; Triad 2: 4th to 6th grade and Triad 3: 7th to 9th grade). Public primary education is free and the only admission criterion is the age – all children have to be enrolled in primary school between 6 ½ and 7 ½ years old.

Secondary education is available in forms of general secondary education schools (grammar schools), vocational secondary education schools, art schools and other, less frequent types. General secondary education lasts 4 years and vocational secondary education lasts 3 or 4 years. Students are usually 15 years old when they enter secondary education and they are admitted to schools on the basis of primary school achievements and final exam results.

So far in Bosnia and Herzegovina there are no vocational studies (only in the new law on higher education in BiH there are vocational studies, this law is still pending in the Republic of Srpska).

Higher education in BiH is organized in three cycles.

The first cycle leads to the academic title of completed undergraduate studies [the degree of Bachelor] or equivalent, obtained after a minimum of three and a maximum of four years of full time study after obtaining certificate of completion of secondary education, and it is evaluated with at least 180 or 240 ECTS credits. Exceptions are integrated studies of medical science group in the first cycle, which are valued up to 360 ECTS credits.

Youth and adult education can be formal, non-formal and informal learning. Legal provisions that entitle to continuing adult education define this area as part of a unified education system.

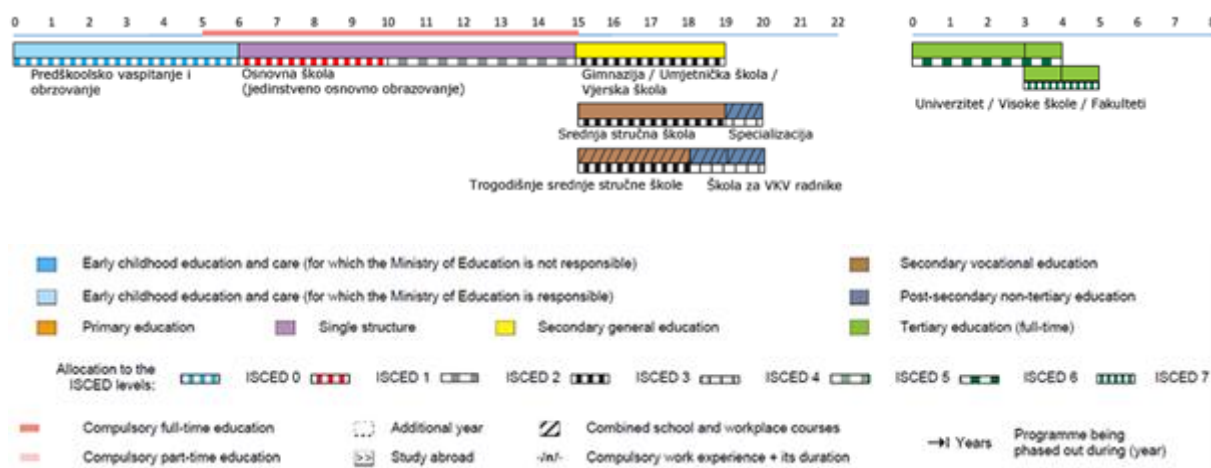


Figure 23. Education in Bosnia and Herzegovina

There are eight public universities in Bosnia and Herzegovina and around 25 faculties. At seven public universities and at one private faculty there are courses in agriculture.

1. Faculty of agriculture and food technology, University of Sarajevo. The focus of the Faculty of agriculture and food technology is directed towards primary agricultural production (plant and animals), rural issues, efficiency in quality management, environment and food safety, analyses on national and international agriculture and food industry. The Faculty of agriculture and food technology offers attractive study programs based on combined theoretical knowledge with practical skills. The teaching is according to the ECTS Bologna (3+2+3):

-I cycle of studies (3 years) – Bachelor studies in agriculture or Bachelor studies in food technology depending on the program

-II cycle of studies (2 years) – Master studies in agriculture or Master studies in food technology depending on the program

-III cycle of studies (3 years) – PhD studies in agriculture science or PhD studies in food technology.

The teaching on the first cycle of studies is conducted on four departments through six study programs:

1. Department PLAN PRODUCTION

Study program CROPS-VEGETABLE

Study program FRUIT- VITICULTURE

2. Department ZOO-TECHNIQUES

Study program ANIMAL PRODUCTION

Study program AQUACULTURE

3. Department AGRICULTURAL ECONOMY AND FOOD TECHNOLOGY

Study program AGROINDUSTRIAL ECONOMY

4. Department FOOD TECHNOLOGY

Study program FOOD TECHNOLOGY

During the academic 2014/15 the third generation of PhD students was enrolled on two scientific fields: agricultural science and food technology. The PhD studies are organized as a three-year studies and within their realization, besides the professors from the Faculty of agriculture and food technology, actively participates other academic staff from the other faculties at the University in Sarajevo. So far, the faculty produced 230 PhD students, 375 master students and 5.272 graduated engineers in agriculture and agricultural technology, while diplomas according to the reformed processed acquired 562 bachelor and 307 master students. <http://www.ppf.unsa.ba/>

2. The Faculty of agronomy and food technology is a higher educational institution within the University in Mostar which educates and trains staff for the needs of the

agricultural and food industry. The teaching is organized through Bachelor, Master and PhD studies. <http://www.apfmo.org/>

3. The Agromediterranean Faculty Djemal Bjedic Mostar. The start of the work of the Agromediterranean Faculty comes as a regional need for young specialists who will develop a specific fruit- viticulture and vegetable- horticulture production in the submediterranean part of BH.

The faculty provides for a grading teaching, so that there are two-year studies after which the diploma for graduated engineer in agriculture is obtained, and four-year studies with a diploma of graduated engineer in agriculture. There are two sections at the faculty: fruit- viticulture and vegetable- horticulture. The teaching plan is the same for the first year of studies at both sections, and special courses are introduced in the continuation of the studies. During the first three years there are theoretical and practical parts, whereas the fourth year is only practice and preparation of the diploma paper. After the completion of the studies the students are qualified with theoretical and practical knowledge and enabled for further studies and work. <http://www.af.unmo.ba/>

4. The Biotechnical Faculty is a higher educational public institution of Unsko-Sanski Canton, which performs the activity of higher education and scientific research activities. The teaching and scientific research is organized as a graduate program, and there is an ongoing organizing postgraduate studies for obtaining the scientific degree of Master of bio-technical sciences. Graduate program as an ongoing process activities of the Faculty is realized through various forms of teaching for all courses determined by the curriculum and teaching programs. Since the academic 2006/07. year, the Biotechnical Faculty started with the implementation of the Bologna Declaration and formed the existing departments of the following courses: Agricultural departments: Farming-vegetable, section livestock, section Organic Agriculture, section Pomology-Viticulture, section Forestry. Food section: Food Technology and environmental protection. Forestry Department: Forestry section. After successfully completing their studies, students receive a diploma Bachelor's in agriculture, and food industry.

<http://btf.unbi.ba/>

5. University of Banja Luka - Faculty of Agriculture. Since its establishment in 1999 at the Agricultural fakulty teaching was performed at general orientation classes after which they formed three new departments: arable, fruit and viticulture and cattle breeding. After six years three study programs are crettaed: animal production, crop production and logistics and production and rural development. Since the academic year 2006/2007 the faculty organizes teaching according to the Bologna process with three study programs and six sections. The faculty offers graduate studies, second cycle studies - Master and the third cycle - PhD studies in the accreditation process. The fakutet is fully equipped with academic staff and resources and independent for conducting the teaching process. <http://agrofabl.org/>

6. The University of East Sarajevo- Faculty of Agriculture in East Sarajevo organizes Bachelor, Master and PhD studies. The teaching on the Bachelor studies is realized thorough the study programs forestry and agriculture. The Bachelor studies last for four years, that is, eight semesters. The studies on II cycle at the Faculty of Agriculture last for one year, that is two semseters and are realized thorough the study program agriculture. The PhD studies are in a phase of accrediation. <http://www.pof.unssa.rs.ba/>

7. University of Tuzla - Faculty of Technology. At the Faculty of Technology in Tuzla the teaching in agriculture takes place on the study program Agronomy at Bachleor studies. After completion of studies the student receives the title Bachelor agricultural engineer. The aim of the study program in agronomy is education of the first cycle of students in line with the needs and development of the society and current trends in the field of agronomy. I cycle of studies lasts for four (4) years (8 semesters) and are valued with 240 credits. <http://www.untz.ba/index.php?page=studijski-prog-i-ciklusa>

8. Private University Bijeljina - Faculty of Agriculture. The Faculty of Agriculture, University of Bijeljina operates with two study programs, agricultural production and logistics and production in duration of four years or eight semesters. Within the development of agriculture the key role is on training of staff with university degrees. The Faculty of Agriculture in Bijeljina is an educational and scientific institution performing educational and scientific research in the field of agricultural economics and general agronomy. After completing the first cycle of studies the student receive the title Bachelor in engineer agro-economy. <http://www.ubn.rs.ba/poljoprivredni-fakultet>

Adult education system in agriculture in Bosnia and Herzegovina

The complex administrative and political organization of Bosnia and Herzegovina stipulates the specific activity of different areas, including education and adult education.

Bosnia and Herzegovina consists of two entities and the Brcko District. The Federation entity of Bosnia and Herzegovina consists of ten cantons. The Department of Education in general, together with the adult education is in the competence of its entities, the Brcko District, cantons and municipalities.

A comprehensive overview of the situation in the field of adult education in Bosnia and Herzegovina is given in the document "Strategic Platform for Adult Education in the Context of Lifelong Learning in BiH 2014-2020": Adult Education in BiH normatively positions itself mainly within the formal school system, which rather limits the availability of education, as well as the diversity of the educational offer for adults. A new approach to adult education, founded on common European principles and objectives and their own values and experience largely did not existed until 2009 in BiH. The first action in this regard occurred in the Republic of Srpska. It is clear that adults in BiH are big, but still insufficiently recognized and activated potential. Poor focus of various sectoral policies and negligible investment in the development of adults

through their appropriate education during the entire life indicates a serious lack of understanding of the importance and role of this transitional segment of the society of Bosnia and Herzegovina as a whole. Within the assessment of BiH's progress in the EU accession process in 2011, the European Commission notes in its report in a certain way and refers to the state of adult education. It notes that cooperation between the education sector and employers is still weak and information on human capital is still small. Overall, the lack of structural rigidities and the weak performance of the system of training and education, negatively affect the proper functioning of the labor market.

Formal adult education in the cantons / counties in Bosnia and Herzegovina is implemented in accordance with the laws and regulations in the field of education. Although the existing laws provided conditions for the organization of adult basic education in the regular school system, it deals with a small number of schools. General and Vocational Education is mainly acquired as part of regular high schools as so-called non-regular participants, and here the following programs are implemented: training, retraining, training, courses, specialization or training on adults. In the Republic of Srpska the adult education is organized and carried out in accordance with the Adult Education Act and other laws regulating the area of primary and secondary education. Adult education in the Brcko District is carried out in accordance with the laws and regulations of Brcko District. Despite the fact that higher education institutions in BiH perform regular formal education programs in three cycles, they do not offer more flexible organizational forms and programs that meet the needs of education, training and lifelong learning of adults, and particularly the employees who would like to educate or professionally train themselves while working.

Besides the regular programs in F BiH, the institutions of higher education also implement shorter programs for adults who have completed their higher education (eg. Additional pedagogical and psychological education as a requirement for teaching people who have not completed teacher training college). The formal programs of adult basic education in the cantons / counties in the FBiH and in BD, are mostly reduced versions of the program for regular students. Programs for adults in secondary education are carried out in accordance with current nomenclature of interest and, for the most part, involve identical content as the regular students.

In the Republic of Srpska, the formal adult education is carried out under the programs of primary and secondary vocational education tailored to the needs and abilities of adults, or their age, their previous education, knowledge, skills and competences. Upon completion of formal education programs in BiH, adults are issued publicly valid documents: certification of completion of the class graduation, diploma of graduation or final exam which prove the acquired academic or professional qualification or profession, and certificates of professional competence or training.

Non-formal adult education recently experienced an improvement. A large number of different institutions and organizations in the public, private and NGO sector offer various programs of informal education. The organizers of informal adult education may issue appropriate documents on completion of the program. These documents are not publicly recognized, but their value can be recognized by employers.

At the state level general laws are adopted which represent a legal framework for the operation of the entire education system in Bosnia and Herzegovina. The key legislations which covers the area of adult education community in Bosnia and Herzegovina are:

- Framework Law on preschool upbringing and education in Bosnia and Herzegovina
- Framework Law on Primary and Secondary Education in Bosnia and Herzegovina
- Framework Law on Secondary Vocational Education and Training in Bosnia and Herzegovina
- Framework Law on Higher Education in Bosnia and Herzegovina
- Law on Agency for Preschool, Primary and Secondary Education
- Development Strategy for Secondary Vocational Education and Training in Bosnia and Herzegovina 2007 - 2013.
- Strategy of Entrepreneurial Learning in Education Systems in Bosnia and Herzegovina 2012-2015 with Implementation Action Plan,

- Strategic Platform for Adult Education in the Context of Lifelong Learning in BiH 2014-2020
- Adult Education Principles and Standards in BiH

The document "Strategic Platform for Adult Education in the Context of Lifelong Learning in BiH 2014-2020" defines the mission, vision, and the strategic goals of the sub-goals:

MISSION adult education aims at providing adult citizens education and lifelong learning, thus contributing to their personal and professional development, better employment, social inclusion and preparation for active and responsible citizens.

VISION of Adult Education is establishing a flexible, democratic and compatible system which complies with the standards of the EU; in accordance to the variety of social changes and market needs for different education levels; aiming at satisfying the needs and interests of learners and employers; attracting the attention of individuals and enabling them for lifelong learning

The strategy contains four strategic priorities / objectives. Within each strategic objective the operational objectives are defined which further detail the future activities in this area in Bosnia and Herzegovina.

Strategic objectives with operational objectives:

1. Improvement of legislation for adult education in the context of lifelong learning and its alignment with the reference framework of the European Union with three Operational objectives: developing and implementing a strategy for the development of adult education; adopting / harmonizing the laws on adult education; creating conditions for the recognition of non-formal education and informal learning
2. Providing for efficient participation of relevant (representative) and other social partners in the process of adult education in the context of lifelong learning, with four operational objectives: improving the binding of the education sector with the labor market at all levels; signing a memorandum on cooperation between the relevant (representative) of the social partners on vocational adult education; using reports on

trends in the labor market to create educational enrollment policy; improving information on the selection of educational profiles in continuing education; providing information and assistance to individuals in understanding and interpreting the opportunities during continuing education and career development in the discovery of possibilities and needs of the labor market

3. Development of program and institutional capacity and improving access to adult education in the context of lifelong learning, with four operational objectives: establishing a network of institutions and centers for adult education and their information and career counseling; increasing the capacity for organizing adult education; improving the existing and developing new adult education programs and aligning them with the needs of the labor market; increasing the availability of adult education.

4. Ensuring and improving the quality of adult education in the context of lifelong learning with five operational objectives: creating better conditions for the implementation of adult education; identifying and adopting the principles and standards in the field; establishing and developing cooperation with international organizations in the field of adult education; increasing domestic investment and support for adult education; establishing a system for quality assurance and quality control program of adult education.

Institutional framework

Key institutions whose jurisdiction directly or indirectly includes adult education are at different levels of public administration.

The document called Adult education and B & H (Caritas, 2015) provides an overview of the competence of government institutions at different levels.

The department for education, within the Ministry of Civil Affairs of Bosnia and Herzegovina performs a number of tasks in the field of co-ordination with the EU programs, monitors the implementation of agreements and strategic documents in the field of education (formal and informal), as well as the implementation of European

conventions and declarations concerning education. The department of education pays great attention to the standards of education, professional training and lifelong learning and education.

Along Bosnia and Herzegovina the Agency for preschool, primary and secondary education, the Agency for Development of Higher Education and Quality Assurance, and the Center for Information and Recognition in Higher Education are established. Also units for coordinating the education sector are founded, namely: Conference of Ministers of Education in Bosnia and Herzegovina and the Council for General Education in Bosnia and Herzegovina. In Bosnia and Herzegovina there is no single agency, institution or similar institution which is responsible for adult education.

The Federal Ministry of Education and Science performs administrative, professional and other tasks stipulated by law, and relating to the coordination of planning and activities in the field of education. Since the education in the Federation of Bosnia and Herzegovina is under the jurisdiction of the counties, each county department performs administrative and professional activities regulated by the Constitution, laws and regulations, relating to the competencies of individual counties in the area of education. Within the ministries there are mainly educational and pedagogical institutes, which perform professional and other related administrative tasks stipulated by law and other regulations, which refer to the competencies of the counties in the area of pre-school, primary and secondary education.

The Ministry of Education and Culture of the Republic of Srpska performs administrative and other professional tasks in the field of education. The Pedagogical Institute is an administrative organization within the Ministry of Education and Culture and is responsible for the duties stipulated in Article 50 of the Law on Republic Administration, relating to professional and advisory activities in monitoring, improvement and development of education.

The sector of Adult Education at the Department of Adult Education, as the basic organizational unit, combines and coordinates the work in the field of adult education. At this sector highly specialized tasks from the core business of the Institute, and the field of adult education are conducted. The sector provides a synchronized

implementation of the plan of adult education with the program activities of supervision and control over the implementation of programs and exams, monitors and timely directs certain activities in order to avoid possible delays in the operation of the subsystem of adult education, as part of the education system of the Republic of Srpska.

The Department of Education in Brčko District Government carries out statutory activities in the field of education in the area of Brčko District, while educational institutions carry out professional activities in the field of education.

The portal Eurydice lists the following institutions as the institutions that provide education and training:

At the level of BiH: Agency for Pre-School, Primary and Secondary Education and Agency for Labour and Employment of Bosnia and Herzegovina

In the Republic of Srpska: Institute for Adult Education of the Republic of Srpska, Republic Pedagogic Institute of the Republic of Srpska and Public Institution of Employment Service of the Republic of Srpska

In the Federation of Bosnia and Herzegovina: Federal Employment Service of FBiH

Cantonal/county pedagogic institutes for education of the Federation of Bosnia and Herzegovina

Public Institution of Pedagogic Institute of Una-Sana Canton, Pedagogic Institute of Zenica, Pedagogic Institute of Tuzla Canton, Pedagogic Institute of Sarajevo, Pedagogic Institute of Goražde

Pedagogic Institute of Mostar, Education Institute of Mostar, Institutes and public services for employment and Public services for employment established in all ten cantons of the Federation of BiH

Brčko District of BiH: Pedagogical Institution of Department for Education of the Government of Brčko District of BiH and Employment Institute of Brčko District of BiH

In Bosnia and Herzegovina there is no single record of adult education. In late June 2013, the Agency for Labour and Employment of Bosnia and Herzegovina presented a web page as a base training providers in Bosnia and Herzegovina. The website www.obuke.ba was created within the project "Support to Adult Education", with the aim to point to the citizens of Bosnia and Herzegovina for the possibility that adult education offers and to promote the lifelong learning. However the records to this database are voluntary and can not represent an overview of the current status.

Within the web page that displays the providers for training of adults in the area of agriculture and food processing there are total of 10 providers. Among those providers there are both public and private institutions.

The part of the web page which shows all the training, encompasses a total of 15 training. It is noteworthy that this is the site that was created in the project and where there is only one part of the entire training in BiH.

In regards to agriculture, there is a very wide range of providers that provide various forms of education for adults.

Special forms of education and training of farmers are implemented by the agricultural advisory services. In Bosnia and Herzegovina they are organized at the entity and cantonal level and at the level of the Brcko District, within the relevant ministries responsible for agriculture. There are advisory activities in various forms at the municipal level with the great difference between the municipalities of different sizes and regions.

Through the work of local and international NGO sector special institutions with the mission of training of farmers are organized. An example of this type of institution is the regional agricultural advisory service for the region Birač (north - east part of BiH).

Private counseling services in the field of agriculture have not yet been developed in Bosnia and Herzegovina.

Agricultural Faculty at public and private universities offer regular, but also "ad hoc" activities which carried out with the aim to educate and train the various actors in the field of agriculture.

The legislation in the field of higher education state that higher education in BiH, among other things, is based on the concept of lifelong learning. The Law on Higher Education of the Republic of Srpska cites as one of the goals of higher education "providing opportunities for individuals, under the same conditions, to acquire higher education and to educate them during the whole life. This represents the basis for the activities of HEIs in the area of lifelong learning and adult education.

Key activities that could be identified as an action in the field of Adult education at HEI in Bosnia and Herzegovina in the agriculture and food processing are:

1. Developed multi-day courses in the field of agriculture and food processing in the context of the LLL system at HEI - these are structured and clearly defined courses.
2. Traditional one or many days of education and training for farmers within the HEI. These activities are carried out traditionally at some HEI in BiH to the public, as well as to private institutions. A good example of this type of activity are: the AGRO DAY which is organized by UES is intended to train the agricultural producers. The University of Bijeljina traditionally organizes the manifestation "CHALLENGES IN AGRICULTURAL PRODUCTION" which is actually a one-day training of agricultural producers in various fields of agriculture.
3. Several days of training for agricultural producers in cooperation of HEI and various public administrations (municipalities, ministries)
4. Education of agricultural advisory services employees by experts in the field of agriculture by HEIs
5. Special "ad hoc" education and training organized by HEI in the framework of various projects. Depending on the nature of the project, this type of training is aimed at different target groups (advisors, employees of government institutions, farmers)
6. Other aspects of the professional activities of HEI: different ways of daily work of professionals with HEI to target groups allow for the transfer of knowledge.

So far there are no developed systems of e-learning in the field of adult education in agriculture in BiH. On the Internet can be found sporadic parts of educational materials, which different actors can use for their needs. Agricultural producers, advisors and other interested parties, due to the absence of language barriers, are using educational materials from neighboring countries (Croatia and Serbia primarily), if they could be found on the Internet.

Italy



Formal education system in agriculture

Overview

In upper secondary education there are about 200 institutes for Agriculture (Istituti Tecnici e Professionali Agrari). The diploma curriculum generally grant access to the professional figure of “perito agrario” (Agriculture advisor), after a national examination and subscription to the professional register. Recently a National coordination of Agriculture Institutes (Re.N.Is.A. - Rete Nazionale degli Istituti Agrari) gathered 160 of those institute in an organized manner, and dedicated a web portal to the coordination activities (<http://www.agro-polis.it/>)

In the frame of Higher technical education, there 86 Higher technical specialization institutes in Italy (ITS), in which agriculture oriented courses are activated within the technological area n.4: “new technologies for the made in Italy“, specifically defined as “4.1 - Sistema agro-alimentare“. 12 ITS (in 10 out of 20 Italian regions) are operating in agriculture programmes with reference courses: 4.1.1 Specialized technician responsible for production and processin in agriculture and food industries; 4.1.2 Specialized technician for control, valorization and marketing of agriculture and food products; 4.1.3 Specialized technician for environment management in agro-food system.

About higher education system, Agriculture faculties and departments in the Italian academic system are well recognized since centuries and are nowadays represented in 25 universities of 19 out of 20 Italian Regions. In the Academic year 2013/14 about 7.900 students from secondary level, continued their studies in HE, joying Agriculture bachelor programs. The trend is a positive increase of +72% in 2014. Bachelor and Master degree can give access to the professional figure of the Agronomist or Food Technologist, on the basis of the different curriculum related to different Agricultural courses and following a national examination procedure.

Institutional framework (According to EQF) Eurydice

<i>EQF level</i>	<i>Typology of degree</i>	<i>Type of institution</i>	<i>Duration (age)</i>
1	Lower secondary school leaving diploma	Scuolaprimaria	6 (6-11)
2	Compulsory education certificate	Scuola secondaria di primo grado	3 (11-14)
3	Professional operator certificate	Istitutoprofessionale	3-4 (14-17/18)
4	Professional technician diploma		5 (14-19)
	Upper secondary education diploma (Licei, Technical schools and Vocational schools)	Liceo, istituto tecnico-professionale, istruzione e formazione professionale	5 (14-19)
	Higher technical specialization certificate		5 (14-19)
5	Higher technical education diploma	Istitutotecnico superiore	2
6	Bachelor's Degree	Università	3
7	Master's Degree (Laurea Magistrale)	Università	2
	I level University Master	Università	1
8	Research Doctorate - PhD (Dottorato di Ricerca)	Università	3-4
	II level University Master	Università	1-2

Higher Education institutions:

In Italy 25 Universities include study programs in Agriculture. In all cases both bachelor 3 year degree and master degree 2 years are activated. The majority of Agriculture departments activated PhD programs and at least 1 university master degree of I or II level.

- **University of Turin**, Department of Agriculture, Forestry and Food Sciences
<http://www.disafa.unito.it/do/home.pl> (Bd 4; Md 7; UmI 2; UmII 1; PhD 1)
- **University of Milan**, Faculty of Agricultural and Food sciences
<http://www.agraria.unimi.it/> (Bd 8; Md 9; PhD 2)
- **University of Verona**, Department of Biotechnology
<http://www.dbt.univr.it/?ent=cs&tcs=N> (Bd 1; Md 1)
- **Free University of Bolzano/Bozen**, Faculty of Science and Technology

- <http://www.unibz.it/it/sciencetechnology/welcome/default.html> (Bd 1; Md 2; PhD 1)
- **University of Padua**, School of Agriculture and Veterinary
<http://agrariamedicinaveterinaria.unipd.it/> (Bd 5; Md 5; UmI 2; PhD 2)
 - **University of Udine**, Department of Agri-food, Environmental and Animal Sciences
<http://www.uniud.it/it/didattica/corsi-offerta/offerta-formativa-area-scientifica/agraria> (Bd 5; Md 5; PhD 2)
 - **Catholic University of Piacenza and Cremona**
<http://piacenza.unicatt.it/corsi-di-laurea/scienze-e-tecnologie-agrarie-2015> (Bd 3; Md 4; UmI 3; UmII 1; PhD 1)
 - **University of Parma**, Department of Food Sciences
<http://www.foodscience.unipr.it/it> (Bd 2; Md 1; UmI 1; PhD 1)
 - **University of Modena and Reggio-Emilia**, Department of Life Sciences
<http://www.dsv.unimore.it/site/home.html> (1+1) dottorato 1
 - **University of Bologna**, School of Agriculture and Veterinary
<http://www.agrariaveterinaria.unibo.it/it> (Bd 8; Md 6; UmI 2; PhD 1)
 - **Polytechnic University of Marche**, Department of Agriculture, Food and Environmental Sciences <http://www.d3a.univpm.it/> (Bd 3; Md 2; PhD 1)
 - **University of Florence**, School of Agriculture
<http://www.agraria.unifi.it/> (Bd 6; Md 5; UmI 1; PhD 2)
 - **University of Pisa**, Department of Agricultural, Food and Environmental Sciences
<http://www.agr.unipi.it/> (Bd 4; Md 4; PhD 1)
 - **University of Perugia**, Department of Agricultural, Food and Environmental Sciences
<http://dsa3.unipg.it/> (Bd 4; Md 4; PhD 1)
 - **University of Tuscia (viterbo)**, Department for the Innovation of biological, Agri-food and Forestry systems <http://www.dibaf.unitus.it/web/index.asp> (Bd 4; Md 2; MuII 1; PhD 4)
 - **University of Naples**, Department of Agriculture
<http://www.dipartimentodiagraria.unina.it/> (Bd 5; Md 4; UmI 6; UmII 1; PhD 3)
 - **University of Molise**, Department of Agriculture, Environment and Food
<http://dipagricoltura.unimol.it/> (Bd 3; Md 3; PhD 1)
 - **University of Bari**
<http://www.uniba.it/> (Bd 5; Md 2; PhD 2)
 - **University of Foggia**, Department of Agricultural, Food and Environmental Sciences
<http://www.agraria.unifg.it/it> (Bd 4; Md 5; MuI 1; PhD 1)

- **Università della Basilicata** School of Agricultural, Forestry, Food and Environmental Sciences <http://agraria.unibas.it/site/home.html> (Bd 3; Md 4; PhD 1)
- **Università Mediterranea (Reggio Calabria)** Department of Agriculture
<http://www.agraria.unirc.it/> (Bd 3; Md 3; MuI 2; PhD 3)
- **University of Catania**, Department of Agriculture, Food and Environment
<http://www.di3a.unict.it/> (Bd 3; Md 4; PhD 1)
University of Palermo, Department of Agricultural and Forestry Sciences,
<http://www.unipa.it/dipartimenti/dipartimentoscienzeagrarieforestali> (Bd 4; Md 5; MuI 1; PhD 5)
- **University of Sassari**, Department of Agriculture
<http://agrariaweb.uniss.it/php/agraria.php> (Bd 4; Md 4; PhD 1)
**Legend: Bd= bachelor degree; Md= master degree, UmI-II= university master I and II level; PhD= research doctorate.*

Adult Education in Agriculture

The Italian situation is characterised by the existence of public and private adult education providers. According to the recent political evolution promoting the increase in competences of regional and local authorities, the responsibility for the adult education field has been gradually transferred to Regions.

An economic and social connotation is given to lifelong learning, as the most recent changes in the Italian social structure and composition show. The particularly diversified economic structure between northern and southern regions and the recent increase in the migration phenomenon during the last few decades has led the political authorities to focus lifelong learning on social inclusion (ISFOL, 2008)

Local public institutions offer a range of courses for adult learners which give priority to basic literacy and numeracy skills as well as foreign languages and Information Technology (IT) competences. The private sector provides different categories of courses promoting the enhancement of adults life skills, often regarding skills in

Agriculture such as pruning, greenhouse cultivation, etc. Private associations and organisations are financed by regional governments via public grants and competitions.

Politics and Law

In Italy, the first courses for adults were offered in 1947 with the creation of the so-called "social schools", with the purpose of promoting basic literacy and numeracy skills. After many social and economic changes, during the 1970s, the "150 hours" courses were introduced, as opportunities for workers to enhance their educational skills. In 1997 the "Centri Territoriali Permanenti" (CTP - Permanent Territorial Centres), whose purpose was to improve the legislation concerning adult education, were established.

The most recent development of legislation concerning adult education involves a number of legislative acts and agreements. The two Circolari Ministeriali 7809/1990 and 305/1997 promoted the development of evening classes and regulated their practical administrative organisation. Furthermore, the Ordinanza del Ministero della Pubblica Istruzione 455/1997 improved the right to education and vocational training. An agreement between the government, regions, provinces and Comunità Montane reorganised and empowered lifelong learning adult education (Conferenza Unificata del 2 marzo 2000). The agreement achieved was influenced by the results of the International Conference of Hamburg in 1997, where the member states convened to recognise the growing importance of permanent education. The Conferenza Unificata was followed by the Direttiva Ministeriale 22/2001, whose aim was to enforce the previous agreement.

The Circolare Ministeriale 26/2006 promoted the integration of foreign pupils, whereby the Legge 53/2003 (53/2003 Act) specifically encouraged lifelong learning and equal opportunities to develop high cultural levels and personal skills (INDIRE, 2015).

Moreover, the Decreto Ministeriale 25/10/2007 transformed the existing CTPs into Centri Provinciali per l'Istruzione degli Adulti (CPIA - Provincial Centres for Education of Adults), in order to reorganise their activity and management (which came into force from January 2009) (Gazzetta Ufficiale, 2008).

The adoption of these rules was also due to the influence of the European Institutions and policies. The Recommendation of the European Parliament and of the Council on the establishment of a European Credit System for Vocational Education and Training (ECVET) of 2006 played an active role in this field.

Institutional Framework

The current adult education system in Italy does not seem interested in a genuine lifelong learning strategy towards adult education in any field. It is absent from the Italian national legislative context, which is centred mainly around instruction (formal education) and is managed by the Ministry of Education, Universities and Research through Permanent Territorial Centres (CPT) or Provincial Adult Education Centres (CPIA) and evening schools. CTPs/CPIA and evening schools award the Primary School and I level Secondary School Diploma (these constitute what was once defined as obligatory schooling); the so-called non-formal field, (non-formal education) is run by Associations (non-profit), by Unions, NGOs and by the Church: Catholic and Protestant (the latter has a minor presence in Italy).

Women and immigrants are the key target group as, combined, they represent the majority of participants.

However, the Italian adult education system is currently being reformed, as the change that will transform the CTPs into CPIAs clearly shows. In fact, the Nota Prot. 1033 of April 2009 illustrates that these provisions have come into force in the scholastic year 2010/2011, and so are relatively new in implementation (Eurybase, 2009).

Institutions

National Agency for School Autonomy Development: Aims to support school autonomy and innovation at educational institutions (www.indire.it); the ANSAS is a research institute of the Ministry of Education;

Institute for Workers' Professional Training Development (ISFOL): Carries out and promotes study activity, research, assessment, information, consultancy and technical assistance for developing professional training, social policies and work (www.isfol.it); Isfol is a research Institute of the Ministry of Labour;

National Institute for Assessing the Educational System of Instruction and Training (INVALSI): Carries out research and assessment of the overall quality of training offered by educational institutions and professional training courses, even in the context of continuing education. In particular, it manages the National Assessment System (www.invalsi.it); the INVALSI is a research institute of the Ministry of Education;

Italian Adult Education Union (UNIEDA): The sector's promotional body made up of associations, foundations, Public and Third Age Universities, and other bodies involved in lifelong learning www.unieda.it;

National Anti-Illiteracy Union: The UNLA has a long history. It was founded by Francesco Saverio Nitti, who was its President from 1947 to 1952. Via its Culture Centres spread mainly across the regions of southern Italy (Campania, Calabria, Basilicata, Puglia, Sicily and Sardinia) and thanks to an agreement with the Ministry of Education, it is in charge of continuing education and functional literacy www.unla.it

Providers

‘Non-Formal’ Learning

- Permanent Territorial Centres (CPT)

CPTs and **evening schools** work in the field of both **formal and non-formal** education. The main purpose of CPTs is to promote **basic literacy**, develop and consolidate basic skills and specific knowledge, teach **foreign languages, Italian for foreign people** and provide courses to obtain a **high education diploma** (diploma di scuolasecondariainferiore). CPTs' courses can be attended by adults and young people over 16 who have not obtained the first 'cycle' of education, or by people who want to enhance their education. Courses are free of charges and mostly financed by the Ministry of Education. **Teachers are selected from schools**, and they do not need any additional qualification (although it is considered an asset). A single CPT is composed of a 5 staff team, divided in four main teaching areas (Italian, mathematics, foreign languages and technology).

- Evening Courses

Parallel to CPTs, evening courses also provide assistance for people over 16 to obtain a **secondary school degree** (diploma di scuolasecondariasuperior, which could include Agricultural secondary school degree). Furthermore, they promote the **cultural and professional development** of adults who want to improve their personal situation, including people who have already obtained the high education diploma (diploma di scuolasecondariainferiore), or who have considerable working experience in a particular field, such as agriculture. In the first case they can automatically attend the course; in the second a commission is asked to evaluate every application separately. A tuition fee is required for evening courses, but as in the case of CPTs, evening courses can be are financed by public funds (at a national or regional level) (EACEA, 2009).

Non-Governmental Organisations (NGOs)

NGOs working within the field of Adult Education include:

- Unieda, UnioneItaliana per l'Educazionedegliadulti . Italian Association for the Education of Adults
- Cnupi, ConfederazioneItalianadelleUniversità Popolari It alian Confederation of Folks Universities (Università Popolari)

A non-formal learning service is provided by the **Folks Universities** (Università Popolari), which are a series of private and public organisations whose specific aim is to promote the education of adults. They organise diverse typologies of activities, within which agricultural practices and information, mostly addressed to adults, but are also open to younger people. The first universities were opened at the beginning of the 20th century, **following the Danish and Swedish examples**. The biggest university is **Uptter**, based in Rome, which provides a wide range of courses (foreign languages, sport, Italian as a foreign language, etc).

- **Unitre**(National Association of Università per la Terza Età)

Another example of an NGO dealing with non -formal learning is the Università per la Terza Età , specifically dedicated to those over 50 years of age (**usually retired people**) who want to enhance their educational background . The association which coordinates these providers at a national and international level is called Unitre (National Association of Università per la Terza Età). Each Region provides different rules for the opening of these kinds of institutes, but several general requirements exist:

- They have to be recognised as regular associations,
- They must provide a minimum of 6 different courses of at least 100 hours each,
- Two thirds of the teachers must be graduates,
- They should be economically autonomous and have a regular administrative structure,
- They need to be a member of the national or international associations of Università per la Terza Età.

Vocational Institutions and career-related training

Vocational training is mainly provided through **Professional Training Courses**. Their main purpose is the integration of students into the world of work, but they also work to enhance the professionalism and qualifications of the student. Given the variability of the economic system, these courses are inherently flexible. There are a number of different types of courses:

First level. (Target group: young people between **14 and 18 years** who have completed their compulsory school attendance) The duration varies from two to three years. A certification is usually provided at the end of the course.

Second level. (Target group: young people between **18 and 25 years** who have completed their secondary education) The duration of these courses can vary between six hundred and twelve hundred hours. A diploma is provided at the end of the course.

Third level. Addressed to **young graduates or unemployed**, they are intended to provide a high level of **specialization**.

Professional qualifications. The purpose of these courses is to enhance professional experience of graduates. Organised on the initiative of **private associations**, they are usually co-financed by public institutions and are often subject to fees (Ministero del Lavoro, 2015).

The growing demand for training has enabled the development of a multitude of organisations who aim to exploit the potential deriving from the **European Social Fund (ESF)**, by providing free training courses, many of them related to agriculture and food sector. One of the objectives followed by these organisations is to decrease unemployment, and promote vocational training. Therefore the Ministry of Labour and Regions, via the ESF, provide a wide range of vocational training actions, enacted by private organisations, enterprises and public vocational training centres. Courses are free of charges and include different subjects, such as administration, trade, information technology, etc. At the end of each course a **certificate of attendance** is provided.

Universities

Universities offer highly professional courses to develop specific skills and abilities for the promotion of particular professions. To obtain the "Diploma of Specialisation", students must acquire a number of credits (between 300 and 360, depending on the course). Universities also promote collaboration with other public or private organisations and institutions. These courses are open to candidates who have already obtained a diploma or university degree.

e-learning

E-learning is currently **not extensively developed** in Italy. However, a research conducted by Assinform, the Ministry for Technology and Telecommunications and the Ministry of Education University and Research shows that during the last few years the field of e-learning education is gradually gaining importance in Italy. The study shows a diversified educational supply, focused on the private sector and orientated towards "**operative knowledge**". Nevertheless it is possible to underline the existence of courses offered by several e-learning providers. They usually concern **business planning, office automation, interpersonal communication**, etc. The first two courses are specifically addressed towards public companies, while the other concerns private learners (Assinform, 2015).

Associations and workers Unions may also provide e-learning courses for adult and practitioners. A first example concerns the association Agriregione Europa, which provided e-learning modules related to “entrepreneurship in agriculture” (http://agriregionieuropa.univpm.it/it/elearning/corso_legacoop/presentazione.php) and “Common Agricultural Policy” (<http://agriregionieuropa.univpm.it/it/epac.php>). A second, concerns a well structured organization for e-learning in Agriculture with a wide variety of courses (<http://formazione.confagricolturapadova.it>). Other examples may concern the a wider field such as environment and development(http://www.formazione.enea.it/index.php?option=com_content&view=article&id=15&Itemid=129).

Spain



Formal education system in agriculture

The teaching and learning of the agrarian activity in the nineteenth century was within the family through shared activity, but as was extended school education for the entire population and were increasing the contents of the agricultural science, agricultural education was also introduced as the content of compulsory education. And the “Ley de Instrucción Pública de 9 de septiembre de 1857 (Ley Moyano)” established between the contents of the Elementary Primary Education ' brief notions of agriculture, industry and commerce, "according to the localities, and the Superior Primary Education, beyond prudent expansion of this area, Natural History (Natural Sciences) " accommodated to the most common needs of life."

To facilitate these teachings the “Decreto del Ministerio de Fomento” of 13 October 1905, stated that, "in those municipalities of 750 inhabitants or more, a field agricultural demonstration of one hectare in order to improve agricultural knowledge be created by putting in front of them, in the towns where there were no agricultural experts, the schoolteacher. The “Orden del Ministerio de Instrucción Pública y Bellas Artes of 17 October 1921 which provided for the creation of farmland annexed to national schools, continued to consider the teaching of agriculture in primary education as an essential part of the general culture of both the inhabitants of rural and urban. The mission of the teacher was to draw attention of children to nature and show the fans to the habits and rural jobs. Agriculture books tailored to different degrees were published.

The “Ley de Enseñanza Primaria” of 18 July 1945 reiterated the need for the contents of the different subjects of Primary Education were adapted to the needs of each locality and further expanded on a voluntary basis, primary education with the initiation period professional, from 12 to 15 years, with three categories: agricultural, industrial and commercial, according to tradition and atmosphere of the town. Following the same law, the questionnaires of Primary Education of 1953 insisted that the teaching of

natural sciences should be given special attention to the teaching of agriculture, using the adjacent course to school.

Changes take place after the enlargement of schooling to 14 years in 1964. The Law of 21 December 1965, amending some articles of the Law on Primary Education of 1945 and it organized the Primary Education in eight courses, looking they are equivalent to the elementary school, and suppressed Professional Initiation, and in the questionnaires of Primary Education of July 8, 1965, any express reference to the teaching of Agriculture was abolished, as was the case later in the Education General Law Education 1970 and in the LOGSE of 1990 also extended the compulsory until age 16, unless the possibility in this, to establish it as an elective in the third or fourth of ESO.

This neglect of agricultural education in compulsory education could be because in those years was giving great impetus to the industrialization of Spain, and the reduction of the population employed in agriculture, together with the rural exodus and the growth of cities, which in turn led to a weakening and reduction of agricultural education in the family through shared activity, which also contributed to the education of students who remained in rural areas, in centers away from their place of residence.

All this combined with the globalization of trade and the development achieved by the industrial sector, services and construction, along with the falling birth rate has led not only has reduced the population engaged in agriculture, but that is aging with difficulties for generational change at the same time it has also decreased part-time farming and the use of leisure, free time.

The situation that has come necessitates special attention to his teaching in compulsory education, to be part of education for survival (food production, environmental conservation, to preserve resources and ensure the welfare of future) generations, and the formation of the core competence of the compulsory education knowledge and interaction with the physical environment "and, therefore, the full basic education; to constitute farming a very appropriate activity for leisure and to maintain the relationship with the natural environment and counteract the effects of virtual reality; because the landscape and farming products are part of the civic identity (wine, fruit and

vegetables) and finally by the need to create a mentality in favor of agriculture to contribute to solving the problems of it. The means for this are the adequacy of the curriculum, especially in the area of knowledge of the environment in primary education and the natural sciences in Secondary Education (ESO), as envisaged in the skills of educational administration and the centers; as well as activities organized by institutions related to agriculture for children, adolescents, and youth.

Regarding the Spanish education system, commenting that basic education in Spain is compulsory and free for all. It develops over 10 academic courses that correspond to the stage of 6 to 16 years. These courses are divided into two sections: primary education and compulsory secondary education.

Primary education: it will include six academic years, from six to twelve years old.

- First Cycle (6–9 years): 1º Primary, 2º Primary and 3º Primary.
- Second Cycle (9–12 years): 4º Primary, 5º Primary and 6º Primary.

Compulsory secondary education (E.S.O in Spanish system): it is the Spanish education system in secondary education from 1994-95 and aims to prepare students aged 12 to 16 years for their future studies and/or the workplace.

- First Cycle (12–14 years): 1º E.S.O. and 2º E.S.O.
- Segundo Ciclo (14–16 años): 3º E.S.O. and 4º E.S.O.

A noteworthy educational aspect is that in 2011 Spain issued Royal Decree 1027/2011 on Spanish Qualifications Framework for Higher Education (MECES).

MECEL NIVELS		
Nivel 1	Senior technician	It aims to obtain from the student a specialized training for qualified character development of various professions.
Nivel 2	Degree	It aims at acquisition by the student of a general function in one or more disciplines, aimed at preparing for the exercise of professional activities.
Nivel 3	Master	Its purpose is the acquisition of an advanced feature specialized or multidisciplinary character,

		aimed at academic or professional specialization or at promoting an introduction to research tasks.
Nivel 4	Doctor	It aims student advanced training in research techniques.

On the other hand, Spanish universities that provide education in the agricultural field are Almería, Burgos, Castilla-La Mancha, Córdoba, Extremadura, Girona, Huelva, Rioja, Leon, Lleida, Zamora, Salamanca, Santiago de Compostela, Seville, Valladolid, Zaragoza, Miguel Hernández de Elche, Technical University of Cartagena, Technical University of Catalonia, Technical University of Madrid, Technical University of Valencia and Technical University of Navarre. In these universities both grade levels are taught as Master and Doctor, the most important subjects taught in them those related to the field of Engineering and Technology in Rural, plant production, management of resources water, Agricultural and Food Industries and quality Management.

Another of the levels set out in Royal Decree 1027/2011 is that of Senior technician of professional training. According to the Ministry of Agriculture, Food and Environment for Agricultural Professional Family are attributed as follows:

1. Senior Technician in Forestry and Natural Environment: This candidate is active in the area of management of large, medium and small enterprises, public or private, both as an employee and on behalf of its own, dedicated to forest management, the hunting-fish, the forest nursery, to development of environmental education programs, information, communication, training, interpretation and support and guide activities in the socio-natural environment, control and surveillance of the environment and its resources. Also it is active in services putting out forest fires as an employee in the public administration. Also, it is able to organize, control and perform pesticide treatments according to the activity regulated by the current regulations. Study duration: 2000 hours

Studies for this qualification can be performed on the following: Autonomous Communities: Andalucía, Aragón, the Islas Canarias, Cantabria, Castilla-La Mancha,

Castilla-León, Cataluña, Valencia, Galicia, Extremadura, Madrid, Navarra and the Basque Country.

2. Training Course Intermediate - Forestry and Conservation of Natural Environment (Title LOGSE, Spanish system). These professionals are able to perform: the processes and work necessary for the production of forest products, exploiting rationally; the work / playback operations, propagation and production of nursery plants; processes and work necessary for the establishment of trees and shrubs in the bush, as well as maintenance, storage, inventory and protection of forests; the work of control and surveillance of the environment, as well as activities of public use of natural spaces.

3. Training Course Intermediate - Agroecological Production (Title LOE, Spanish system). These professionals can practice in both public and private companies, whether employees or self-employed, cultivated and / or organic livestock production. It is located within the agricultural sector in the following productive activities: fruit farms; horticultural and ecological arable crops; ecological livestock farms; companies producing plants for organic gardening; research institutions and experimental crops and organic livestock production; service companies for agriculture and organic farming; school gardens; Companies certification of organic products; farm schools and classrooms of nature.

4. Training Course Intermediate - Use and Conservation of the Environment (Title LOE). This candidate is active in large, medium and small, public and private companies, dedicated to reforestation work, hydrological restoration and forest management and logging as well as control and monitoring of the environment.

5. Higher Level Training Course - Organization and Management of Natural Resources and Landscape (Title LOGSE). This technical exercise their profession in the public and private agricultural sector, private sector companies or their own business. Program and controls the operations of restoration, maintenance, protection and management of forest resources, the work of installation and maintenance of parks and gardens, revegetation of the natural environment and landscape restoration.

6. Higher Level Training Course - Technician in Landscape and Rural Affairs (Title LOE). This candidate is active in the area of management in large, medium and small enterprises, public or private, both employed and self-employed, engaged in the installation, restoration and maintenance of parks and gardens, landscape restoration, agricultural production and conventional or organic seed production and nursery plants. Also, it is able to organize, control and perform pesticide treatments according to the activity regulated by the current regulations.

Some links of interest in higher education institutions are:

<http://www.uclm.es/ab/etsiam/>

<http://www.uclm.es/cr/agronomos/>

<http://www5.uva.es/etsiiaa/>

<http://www.etsia.upct.es>

<http://www.uco.es/etsiam/>

<http://www.unex.es/conoce-la-uex/centros/eia>

<http://www.upv.es/entidades/ETSIAMN/>

<http://www.unavarra.es/ets-agronomos/>

<http://www.agricolas.upm.es/portal/site/EUITAgricola>

<http://www.etsia.upm.es/portal/site/ETSIAgronomos>

<http://www.etsea.udl.es/>

<http://www.escuelas.ull.es/agraria>

<http://www.unex.es/conoce-la-uex/centros/eia>

<http://www.uclm.es/cr/agronomos/>

<http://www.uclm.es/ab/etsiam/>

<http://fcaa.usal.es/>

Adult education system in agriculture

Institutional framework

According with the institutional framework in Spain, adult education is organized institutionally in three different areas: (1) Technical and Vocational education and Training, within the Educational Administration, (2) the Occupational Training for the

unemployed, and (3) Continuing Education and Training for workers employed within the area Labor Administration.

With regard to Vocational Training under the responsibility of the authorities from the Ministry of Education and Science, institutions that offer this type of training are the Departments of Education of each Autonomous Community, through Secondary Schools (IES). Occupational training is managed by the authorities responsible for employment SPEE-INEM (Public State Employment Service - Employment Institute) most appropriate for the departments of employment for each Autonomous Community according with the objectives set out in the Plan of the Ministry of Labour and Social Affairs. This type of education is established through the centers of the public system, or through the corresponding program contract or agreement with the organizations within the Plan. Continuing Training for the working population is led by the Tripartite Foundation for Training in Employment, mainly through training programs.

Adult Education is included in section III of the Organic Law on General Education System LOGSE and the Autonomous Communities are responsible for their development. This type of education is aimed at all adults over 18 year old who wish to acquire an updated basic training and be able to access other educational and career opportunities. Administration for occupational training under the National Plan for Training and Integration Plan (FIP) is the responsibility of the Public Service and Employment-INEM or, in particular, of each Autonomous Community, once the management competences of FIP plan have been transferred. The aim of this plan is to train the unemployed to acquire appropriate skills according with both their needs and the financial needs to allow him to enter the labor market. Continuing Education is managed by the Tripartite Foundation for Training in Employment, through training plans. The commissions and labor authorities (Ministry of Labour and Social Affairs) share responsibilities for Continuing Education.

However, the Law on Vocational Training and Professional Qualifications 2002 aims to consolidate the three Education subsystems into one. The law states that the three Education subsystems includes all training activities which provide access to employment and active participation in social, cultural and economic life and allow workers to perform their jobs with the necessary skills. The text includes training at the

level of initial vocational training, measures for the integration and reintegration of the unemployed into the labor market and Lifelong Learning on the job, providing an opportunity for workers to continually update their professional skills.

Types of training and legislation

Adult education on issues related to agriculture in Spain, non-university, is structured differently depending on the ultimate objective of learning, and have been bundled into two groups, (1) courses made in a regulated manner, to obtain an Official Certificate, and (2) unofficial training courses. This training, begin from age 16 year old, when the compulsory basic education has been finished.

Regulated education non-university

Official training is teach from official or approved adult centers in the agricultural area. It is based on the National Catalogue of Professional Qualifications (CNCP), which is the instrument of the National System of Qualifications and Vocational Training (SNCFP) ordering professional qualifications which are susceptible for recognition and accreditation, identified in the production system based on appropriate skills for professional activities.

It comprises the most significant professional qualifications of the Spanish production system, organized in professional and family levels. It forms the basis for developing the training offer of certificates. The CNCP includes the content of vocational training associated with each qualification, according to a structure of training modules. The catalog is organized into professional families and levels. Thus, 26 professional families - according to criteria of affinity professional competence of occupations and work positions- and five skill levels, according to the degree of knowledge, initiative, autonomy and responsibility required to perform the labor activity have been defined. The Modular Catalogue of Vocational Training is the set of training modules associated with the various units of competency of professional qualifications. It provides a common reference for the integration of vocational training offers enabling the capitalization and promoting Lifelong Learning.

Modular Catalog of Vocational Training promotes a training offer of quality, updated and adapted contents to different audiences, according to their expectations of career advancement and personal development. Also addresses the training demands of the productive sectors, which seeks an increase in competitiveness by increasing the skills of the workers. Associated with the agricultural area there are 6 qualifications of Level 1, 23 associated with level 2 and 17 for the level 3, consulted on http://www.educacion.gob.es/educa/incual/ice_CualCatalogo_AGA.htm.

Therefore, regulated education non-university in Spain is divided according to:

1. The training aimed at obtaining certificates of professionalism, regulated by Royal Decree 34/2008 of January 18, which are the instrument of formal accreditation of professional qualifications in the National Catalogue of Professional Qualifications in the field of labor administration. These certificates prove the set of skills that enable the development of an identifiable employment activity in the productive system. They are official and valid throughout the national territory and are certificated by the SEPE and the Autonomous Communities. In the case of education in the agricultural area, they are regulated by Royal Decree 682/2011 of 13 May (https://sede.sepe.gob.es/es/portalttrabajo/resources/pdf/normativaCertificados/RD682_2011.pdf).
2. The Vocational Training, grouped in Professional Families and every family is organized in training cycles including Intermediate and High Degrees, according to their qualifications, and allow get the degree of Technical or Advanced Vocational Training, respectively. They are regulated by the Organic Law 2/2006 of 3 May, of Education (<https://www.boe.es/buscar/act.php?id=BOE-A-2006-7899>), as amended wording Organic Law 8/2013, of December 9 (https://www.boe.es/diario_boe/txt.php?id=BOE-A-2013-12886), and RD 1538/2006 of 15 December, which regulates vocational training studies, conducted in most cases to adults (http://www.boe.es/diario_boe/txt.php?id=BOE-A-2007-92). Each training cycle comprises a set of training modules of variable duration, consisting of areas of theoretical and practical knowledge that can be credited individually. All training cycles have a professional training module called Work Centre Training whose main characteristic is that it is done in a real production environment, the company.

3. Free examinations of vocational training modules, offering the public the opportunity to establish the training acquired through formal learning, non-formal or informal, so that their qualifications are recognized. Following established procedures for the evaluation and accreditation of skills acquired through work experience (Royal Decree 1224/2009 of 17 July). <https://www.boe.es/buscar/doc.php?id=BOE-A-2009-13781>, or informal training activities. It consists in carrying out theoretical and practical exams of each of the modules that make up a professional training cycle. If the student overcome all the modules that make up the curriculum of a training cycle, and gathering the necessary academic requirements, they can request the certificate of Technical or Advanced Vocational Training accordingly.

The following modules are offered in Spain in training cycles of intermediate degree within the Agricultural professional area:

- Extensive Agricultural
- Intensive Agricultural
- Livestock Farms
- Gardening
- Forestry and Conservation of Natural Environment
- Use and Conservation of the Natural Environment
- Gardening and florist
- Agroecological production
- Agricultural production

Food Industry related to agricultural production:

- Canning Vegetable, Meat and Fish
- Development of oils and juices
- Development of dairy product
- Development of wines and other beverages
- Slaughterhouse and Butcher-Delicatessen
- Milling and Cereal Industries

- Bakery Service
- Olive Oils and Wines
- Preparation of food product
- Bakery, pastry and confectionery

In high vocational training, we find, in the Agricultural professional area:

- Management and Organization of Agricultural companies
- Management and Organization of Natural Resources and Landscape
- Livestock and Animal Health Care
- Forestry and Natural Environment
- Landscaping and Rural

In the Food Industry:

- Food Industry
- Processes and Quality in Food Industry
- Viticulture

4. Vocational Training for Employment (FPE) is aimed at both employed persons and unemployed. Its main aim is to enhance their skills and the ability to insert people through learning different skills. Promotes professional development, improve employment and increase employee productivity.

There are different types of training for employment:

- Training scheduled by companies for their workers.
- Training offered by the government for employed workers.
- Training offered by the government for people unemployed.
- Other initiatives of vocational training for employment (individual training leave, training alternating with employment, training of civil servants, not publicly funded training developed for private schools and institutions, ...).

The courses are managed at the state level through the SEPE (Public State Employment Service) in collaboration with the Tripartite Foundation and the Autonomous Community. Vocational Training for Employment is funded through share vocational training of workers, state funds and the European Social Fund. Usually they held in integrated agricultural training centers. The issue being addressed is varied, always directed to specific topics of great interest to the sector (horticulture, animal production, viticulture and enology, sheep, organic farming, ecotourism, etc.). It is a formation that is characterized by being very practical and small groups.

The objectives pursued by vocational training for employment are:

1. To encourage the incorporation of young people to the primary sector.
2. Form and/or professionalize the current and future workers in the primary sector.

The qualifications obtained at the end is a certificate issued by the entity that provides the training, in some cases this may be official certificate. An example of this are the courses conducted by the Basque Government to farming (<http://fpe.hazi.es/comunicacion/default.asp?id=es>).

Each Autonomous Community structures its non-university education into the different types described, also varying according to the Centers, always looking the specialization of production areas.

Non-regulated education

This type of training is often basically grouped in three categories:

- the training of technicians in the agricultural field, including updating of knowledge by a change in legislation, or culture or environmental trends, etc. This group includes graduates or recent graduates who perform specialized courses.
- training of farmers with regard to crop management, new legislation, etc ..., less technical than the previous one,
- training aimed at adults, from a socio-cultural standpoint, also focusing on environmental aspect, etc.

The organization of these courses is promoted, usually from organizations or professional associations, farmers' unions, or private training centers. An example of this is in the training offered by the General Council of Associations of Agricultural Engineers (<http://agricolas.org/formaciones/fundacion-idea/>) the Spanish Network of Women Entrepreneurs in Rural Areas (http://mujerrural.com/imagenes/diptico_oportunidades2.pdf), agri-cooperatives (<http://www.cooperativesagroalimentariescv.com/formacion/>), research centers, such as the Valencian Institute of Agricultural research, IVIA (<http://www.ivia.gva.es/web/ivia/campus-ivia>). Although public administration such as municipalities offer generally also this type of training, especially if they are from rural villages, for example, from “Ejea de los Caballeros” (<http://www.ejea.es/noticias.php/abierta-la-matr%C3%ADcula-para-un-curso-de-agricultura-eco%C3%B3gica/3988>).

In the case of agricultural unions, most training is funded by the Community Development Institute established a number of aids to Rural Areas through the "Multi-Regional Training Program", which the Ministry of Agriculture, Food and Environment offers annually to social and labor agents in rural areas and, through them, to professionals in rural areas. On webpage of COAG union (Coordinator of Organizations of Farmers) we can see the training offered by 2016, <http://www.coag.org/index.php?s=1&n=c3b5f838e4ff93a3eca7064fd269b424>.

Private training centers have quite proliferated in recent years, mainly because they rely on the online or blended teaching. There are numerous platforms devoted to training, but exclusive of agriculture, we can find Infoagroor Agrodocentia (<http://www.infoagro.com/formacion/cursos.htm>, <http://agrodocentia.com/index.php/home>)

E-learning

To provide adults possibilities of vocational training and encourage Lifelong Learning, the official studies of vocational training in some communities, such as Andalusia, offer different modalities for its implementation and accreditation:

- Classroom Partial Offer of Vocational Training. It allows the registration of specific professional modules, without the need for the full training cycle, thus

favoring the development of more consistent training schedule to the needs of the productive sector.

- Online Partial Offer of Vocational Training. It allows take Vocational Training courses using the Internet tools.

Courses from private training centers and universities in their unofficial studies often offer online learning, or blended learning, in which certain hours, mostly practical hours are required in person. The use of ICT resources in order to present teaching by video conference in real time or streaming or prerecorded are also many of the resources used. Note that the student level using internet tools is also important in establishing the type of teaching according to the theme of the course (http://mujerrural.com/ver_noticia.asp?id=1443).

Universities

The Spanish official university studies related to agricultural sciences, are within the framework of Agricultural Engineering, either technical, short-cycle degree four courses, or longcycle or Master with two more courses, regulated by the following regulations, Order CIN / 323/2009 of February 9 (<http://www.boe.es/buscar/doc.php?id=BOE-A-2009-2803>) and Order CIN / 325 / 2009 of February 9 (<http://www.boe.es/buscar/doc.php?id=BOE-A-2009-2805>), respectively. There is now a catalog of 58 degrees on official university studies of agricultural field in Spain, verified by the National Agency for Quality Assessment (ANECA), 49 from public centers and 6 from private centers.

Many universities also have a training offer linked to the agricultural field, unofficial studies, or at least not with professional skills, and not regulated by the mentioned orders. 81 Spanish universities offer some course on the agricultural sector such as the Master Degree of Landscaping at the Polytechnic University of Catalonia.

Legal definition for adult education and life long learning

Adult education

In contrast to the relative homogeneity of contents and durations in the initial vocational training in Spain, the education within the framework of the Adult Education of the Ministry of Education, Culture and Sport, as well as having a collective adult recipient, integrates different training activities: a curricular option that allows all adults to receive training at all levels of the education system and programs; extracurricular option that includes a diverse range of training programs; and finally, a series of specific tests or extraordinary nature that allows adults to obtain academic and professional degrees, so they can access certain degree training programs. The age contemplated for adult education offered in Spain is from 16 year old, age at which compulsory education ends.

Lifelong learning

According to the Spanish law, lifelong learning must include the following principles:

1. Everyone should have the opportunity to train over life, inside and outside the education system, in order to acquire, update, complete and expand their skills, knowledge, abilities, and aptitudes for personal and professional development.
2. The Spanish education system has the fundamental principle to promote lifelong learning. It will prepare students to learn by themselves and will facilitate adults joining the different learning levels, favoring reconciliation of learning with other responsibilities and activities.
3. To ensure universal and permanent access to learning, the different public administrations identify new skills and training required to facilitate their acquisition.
4. Furthermore, it is responsibility of the public administration to promote, offers flexible learning to enable the acquisition of basic skills and, where appropriate, the corresponding qualifications, those youth and adults who left school system without no qualifications.

5. The education system should facilitate and public administrations should encourage everyone is able to achieve a post-compulsory secondary education or equivalent education.

6. It is responsibility of the public administration to facilitate access to information and guidance on lifelong learning and offers the possibility of access to them.

General strategic documentation for AE and LLL

In the Spanish National Institute of Statistics information on the Survey on Adult Population Involvement in Learning Activities (AES) can be found, being the introduction in Spain of the European project Adult Education Survey, coordinated by Eurostat.

The aim of the survey is to understand the training and learning undertaken by adults' lifelong learning. The survey provides national and autonomous communities results , including participation in learning activities, difficulties, finding information on learning opportunities, language and computer skills and cultural participation (http://www.ine.es/inebmenu/mnu_educa.htm).

As regards the strategic plans of the Spanish government, understanding that the formation process is unlimited in time and in degree to reach, the main goal of the educational authorities is increase training of citizens. To achieve this objective, it is necessary to adapt the training offers to the personal, social and employment needs of adults through:

- Improving the participation and quality of lifelong learning. In educational administrations and institutions of civil society, there are innovative and successful experiences of adult learning that it is necessary to disseminate and generalize.
- Comprehensive and integrated actions to allow more flexible access to training and to ensure successful stay in the education system of adults. These actions must be designed as a priority to people with low levels or no qualifications and the need to coordinate the efforts of all institutions involved.

- The qualifications of people so that they can be reintegrated into the labor market. This process of improving the skills have to be commensurate with the productive sectors that generate or can generate jobs, as there is a clear imbalance between the levels of qualification of the Spanish population and the needs of future jobs. Raising the level of education in the least prepared population will improve the employment prospects of these people and contribute to economic growth.

The final objective is to promote and ensure quality education for all citizens and through life, which promotes the acquisition of skills and qualifications necessary to facilitate comprehensive development, access and/or reintegration into the education system and continuous training.

Republic of Serbia



Formal education system in agriculture

Knowledge transfer in the field of agriculture is delivered through formal education at all levels (from secondary education to doctoral studies), through a variety of training organized by:

- educational and research institutions,
- agricultural expert extension services,
- private companies,
- project units,
- media, etc.

Educational and research institutions in agriculture include 25 secondary agricultural schools, whose establisher was the state.² Expert education in agriculture can be got also in some other secondary schools of technical, chemical or general type. As for faculties, according to data in the Ministry of Science and Technological Development, out of 118 accredited higher education institutions in the Republic of Serbia, 4 faculties of agriculture stand out (3 with excellent international reputation: Belgrade, Novi Sad, Čačak) and faculties of bio-farming, veterinary medicine and forestry:

- Faculty of Agriculture – Belgrade,
- Faculty of Agriculture
- Novi Sad, · Faculty of Agriculture
- Zubin Potok, · Agronomic Faculty - Čačak,
- Faculty for bio-farming in Sombor – within „Megatrend“ University – Belgrade

- Faculty of Veterinary Medicine in Belgrade,
- Faculty of Forestry – Belgrade

Great contribution to development of agro-economic science in Serbia gave the Institute of Agricultural Economics, Belgrade together with 9 other accredited institutes throughout Serbia .

Serbian Educational system in agriculture is also compiled of around 10 VET Colleges in Agriculture and Food Production.

The public agricultural extension services include 34 agricultural extension and professional branches (PSSS) - 22 in the area of Central Serbia that are working under MAEP and 12 PSSS and the Ecological station whose work is monitored by the Provincial Secretariat for Agriculture, Water and Forestry . The existing structures and systems of knowledge transfer are not efficient enough and fail to adequately fulfil the needs of dynamic technical and technological restructuring of the sector. There are no functional networks with specialized centres of knowledge. Additionally, knowledge is not systematically stored and it is difficult to access relevant information on local level. The quality of the equipment and the overall technical requirements for research lags behind the European average. However, the existing scientific and educational institutions have relatively good quality staff that has developed a number of results recognized and acknowledged internationally (new varieties, breeds and strains, scientific papers and technical solutions). The work of extension services encompass about 41,500 holdings, the majority of which are selected farms, which are intensively monitored four times a year (4,000 in Central Serbia and 2,500 in Vojvodina), while other holdings are included in the extension system in other ways, mainly through participation in group classes and the occasional farm visits/consultations. This type of education covers 25,000 households in Central Serbia and 10,000 in Vojvodina. Organized knowledge transfer through the extension services reaches a relatively small number of recipients.

Adult education system in agriculture

No systemic approach in the area of adult education in agriculture exists in Serbia. However, thanks to funding available from different donor sources and pre dominantly EU, this topic was put high on the agenda with the approval of ongoing Tempus project CASA coordinated by University of Belgrade, that will strengthen links between higher education and society by building capacity of all five Serbian Faculties of Agriculture (FA) to improve teachers' competences in pedagogic skills and in their ability to provide eLearning in-service vocational training courses for agricultural secondary school (AMS) teachers and experts in extension services (ES).

Networking of all stakeholders in agricultural education and project sustainability is foreseen by introduction of a National Repository for Agricultural Education (NaRA). Adult education courses in specific agricultural topics will be held at each FA in e-learning for university staff and for both university and AMS teachers in active teaching/learning (ATL), to be given by experts from Education Forum. ATL is important for both groups of teachers as they had no pedagogical training during their graduate courses. University teachers will develop and implement classical and online vocational courses targeting recent advances in agriculture for AMS teachers and agronomists in ES, in collaboration with Universities from Maribor and Foggia. NaRA should be formed with help from the Agricultural University, Timisoara. It is meant to be used as a repository for online courses and teaching resources developed during training of university and AMS teachers.

CaSA will also provide skills training to ES specialists for effective farmer communication in project proposals and impact by experts from Balkan Security Network and university teachers. Project deliverables will be stored and available in the NaRA for future users.

Sustainability of NaRA is seen to be ensured beyond the project by recognition of the Republic of Serbia Ministries of Education, Science and Technological Development, and Agriculture, with some courses being commercialized, and project databases, professional forums, and relevant information remaining updated and open access.

According to its content, objectives and organisational methods, adult education is considered as diversified and multifunctional, and could be formal and non formal,

general and vocational, initial and continuing, regular and irregular. Regarding operational, practical and organisational aspects adult education “involves all formal and non formal educational forms intended for adults over the age of 18 who do not have the status of a pupil or student.” (Strategic directions in adult education development, Ministry of Education and Sports, Republic of Serbia, Belgrade, 2002, page 314). Formal education is conducted in the school system, from primary school until postgraduate studies based on an approved curriculum, defined goals and outcomes which lead to a diploma (certificate), i.e. to the national accreditation of acquired qualifications, competences and educational levels financed by public funds. Non formal education refers to all educational programmes and activities outside the school system. Non formal as well as formal education is organised on an institutional level, but does not lead to the national accreditation of acquired qualifications and educational levels and is usually not financed from public funds. Initial education encompasses all educational programmes which are accomplished prior to entering the world of work in a first employment. Continuing-Lifelong education refers to educational programmes taking place upon completion of compulsory education or to some categories after initial education and training or after entering the world of work. This education aims at:

- (1) conveying knowledge, skills and competences, improvement
- (2) gaining new working competences or
- (3) further personal and professional development

According to national Strategic documents in Agriculture, rural development and education in general, some of the most important training topics and fields in adult education and LLL in Serbia include:

- Literacy and functional basic education;
- Professional education, training and retraining in different areas, professional development;
- Personal development and psycho-social support;
- HR development, leaders and management skills;
- IT literacy and foreign languages;
- "Soft" skills (communication and interpersonal skills, team work, etc.);
- Financial business, entrepreneurship, accountance;

- Project management;
- Nutrition, medical prevention, HIV and sexually transmitted diseases
- Family life education;
- Hobby activities, free time activities, sports and arts;
- Citizens, peace and intercultural education;
- Sustainable development, environment, tourism, agriculture.

The comprehensive character of adult education is typical: Adult education is usually understood as the field including ALL areas of adult learning (general, vocational, civic, leisure...other areas and sub-areas), BOTH formal and nonformal education and informal learning and ALL levels of adult education (from literacy till further education).

Adult education in Serbia is strongly marked by economic and political transition of the country since 2000 and by the extensive reforms in all areas of society, including education and adult education. It is also influenced by intensive international cooperation. Recent developments are marked by the influence of crises on adult education.

The main problem is formulated in the National Education Development Strategy in Serbia – to develop a comprehensive system of lifelong education, where adult education is an important part, where the system of adult education and lifelong learning is relevant, qualitative and efficient, open, flexible and available for all, regardless of their socio-economic, physical, intellectual, regional, national, linguistic, ethnic, religious and other characteristics. The implementation of newly adopted Law on Adult Education is the most important challenge, especially in the time of crises and cuts in many areas.

Main issues are related to the development of NQF and to quality assurance, especially for the providers.

Adult education strategy is a call for creating a learning culture, social economy and organisations based on knowledge and the improvement of adult skills and achievements. Adult Education Policy is an integrated part of the structural framework of the VET Reform in Serbia and it is supported by the following documents:

- M. Despotovic, I. Maksimovic, J. Dimov, R. Secibovic, M. Zugic, Strategy framework for vocational education development in Serbia, in: “The Reform of Secondary Vocational Education: From Discussion to Realisation”, MoES, Belgrade, 2000, p. 551-586;
- Concept of secondary vocational education in Serbia, Vocational Education and Training Reform Programme 2004;
- Policy and strategy for development of VET in Serbia, Vocational Education and Training Reform Programme 2005;
- Policy and strategy of accreditation and certification in the secondary vocational education and continuous education of adults in Serbia, Vocational Education and Training Reform Programme 2005; The implementation of the Adult Education Policy is based on:
 - National employment strategy for the period 2005 – 2010;
 - A Strategy for the Development of Small and Medium-sized Enterprises and Entrepreneurship in the Republic of Serbia 2003 – 2008, Republic of Serbia, The Government of Serbia, 2003
 - National strategy for reduction of poverty, 2003;
 - Serbian national strategy for Serbia and Montenegro EU accession, Serbian Government, The EU Integration Office, 2005.

Serbia will now emerge from the recent implementation (2010) of a National Action Plan on the Implementation of a Strategy for the Development of Adult Education in the Republic of Serbia. The Action Plan outlines the key policy criteria for the coming years, paying particular attention to literacy and levels of education, also with a view to improving unemployment levels. However, it was also fundamental within the Action Plan that adult education was seen as an instrument of personal and social development in more general terms. The Action Plan covers three priority areas:

1. further development of legal, conceptual, strategic, organisational and institutional foundations to establish more efficient participation for social partners in adult education
2. establishing organisational structures and personnel, and with distributing the responsibilities and authority across the relevant ministries in the adult education field
3. improvement of availability of adult education by developing standards for programs and institutions and working to include marginalised groups in adult education

The Government of the Republic of Serbia adopted the Strategy for the development of Adult Education in the Republic of Serbia in the end of 2006. It was adopted at the same time as the ‘Strategy for the Development of Vocational Education and Training’. This strategy was aligned with concepts of lifelong learning in the EU, and was designed in co-operation between the Ministry of Education and other relevant partners (ministries and other institutions dealing with employment). In this document is defined educational policy for the primary and secondary level education of adults, i.e. those who are outside formal education and haven’t gained any primary or vocational education that might lead them towards employment. There are different categories which are given priority, such as: illiterate people, those who have not finished elementary school, unemployed people, women, those in the rural population, those with special needs, and minority ethnic groups. The strategy also allows for different flexible types of education: regular primary education, part-time primary education, initial vocational education, labour market programmes, and continuous education programmes.

The future of Adult Education in Serbia could take many directions, however there are some emerging key concerns which will be crucial to its development over the coming decade. The first of which will be to increase the priority of adult education provision within the governmental system but also in the mind of society as a whole. As with all countries sustainability is also a key concern, however in Serbia this also relates to the emerging trend towards a greater collaboration and exchange between the countries in South-East Europe as a EAEA Country Report on Adult Education in Serbia: Helsinki,

2011 7 region. Another focus seems currently to be on the system of vocational education, which is occurring now across Europe during times of economic instability. However for Serbia specifically this will probably take the direction of a modernisation and harmonisation between the vocational system and the formal system of state education. There is also a call for more understanding of the needs of adult learners, and the requirements and training of teachers and providers to be researched and developed over the coming years.

In terms of service providers, aside from schools, other organisations, or even individuals, can organise and deliver special programmes in area of adult education if they fulfil the necessary standards for implementation of these programmes, and if they have Ministry's approval. This is seen as very important for the field of adult education as it has opened the opportunities for organisations to begin to implement programmes for adult education, but still aims to maintain criteria for quality control. Traditionally, fundamental institutions in the area of non-formal learning for Serbia are museums, libraries, reading rooms, theatres, cinemas and art galleries, which have not only been classed as venues for culture or entertainment but also for non-formal education. Generally common are mixed institutions, such as culture houses and cultural centres, where different courses, training and access to culture are combined within the same space.

Kosovo



Vocational Education and Training in Kosovo

Structure of the Education Sector in the Republic of Kosovo²

A number of institutions provide formal education ranging from pre-schools, centers of competences to universities and colleagues. The education system encompasses pre-school education (children aged 0-3 and 4-5) and pre-primary grade 0 for children ages 5-6, pre-university education comprises children aged 6-18 attending one of the three education levels: primary school (children aged 6-11 in grades 1-5), lower secondary school (aged 11-15 in grades 6-9) and upper secondary school (aged 15-18 in grades 10-12/13). Compulsory education extends from primary grade 1 to grade 12 in upper secondary or children aged between 6 and 18 years of age⁹. Meaning compulsory education extends from 9 to 13 years of education leading on to vocational and higher education. The VET in Kosovo is under the responsibility of the Ministry of Education, Science and Technology (MEST) of Kosovo. Based on the Kosovo Education and Strategic plan, several line ministries such as health and agriculture are also involved within the sector responsibility. In this regard this ministry.

Challenges³

Beside the substantial improvement in VET sub-sector over the last few years, there are still gaps to be filled and many challenges to deal with:

- **Increase the budget:** in order to cope with large numbers of young people and the poor quality of teaching across Republic of Kosovo;
- **Teaching in two shifts:** VET schools still have two teaching shifts, which hinder any attempt to develop a quality education system;

² Kosovo Education Strategic Plan, pg 25

³ Kosovo Education Strategy plan, pg. 86

- **Inadequate human capacities:** The central level and the municipalities have neither adequate budgets nor qualified staff to deal with the education activities developed for their level.

In addition, coordination between central, regional and municipal level is still inadequate;

- **Accreditation and equivalency:** The education and training system is still very narrow and there is a serious shortage of mechanisms and institutions for accreditation, setting standards of achievement, and overall quality assurance in the education sector;

- **Improve the quality and relevance of the curriculum:** The general part of the curriculum needs to be developed according to the professional standards. The professional part of the curriculum needs to be further developed in modularized form and credited with international standards with the intention to make possible the transfer of credits in-further education/training. The key competencies expected to be achieved by all learners of pre-university education need to be the objective of VET as well;

- **NQF** is developed in line with the European Qualifications Framework (EQF). The descriptors of levels need to be further clarified, interpreted in the Kosovo context;

- **National Qualifications Authority (NQA)** is a recently established institution and, therefore, requires capacity support to become fully operational. The implementation of the National Qualifications Framework of Republic of Kosovo has yet to include a listing of officially recognized qualifications. Work is underway to pilot test priority qualifications to pass through a validation process; challenges exist in securing experts to assist in validations and in securing experts to assist in accreditation of institutions;

- **Linkages with enterprises:** In the case of the secondary VET in Kosovo, the lack of close ties between the enterprises and the schools needs to be addressed.

- **Develop improved linkages and common responsibility for Centres of Competence** -The envisaged functions include responsibilities of MEST and MLSW, MEF and MoH. So far, there is little evidence of a common understanding between the responsible ministries for CoC;

The Higher Education System in Kosovo is providing different programs related to the education in the field of Agriculture. Below we are providing the programs in Bachelor and Master level, including the courses that are provided for specific faculties.

- 1. Agro Economy – Master Level**
- 2. Biotechnology in Animal Husbandry**
 - a) Business Management in Animal Husbandry
 - b) Science Application in Animal Husbandry
- 3. Ploughing – Vegetables**
 - a) Crop Production
 - b) PLANT SCIENCE IN FIELD CROPS
- 4. Plant Protection**
- 5. Orchards – Vineyards**
 - a) Horticulture, viticulture Arboriculture
- 6. veterinary medicine**

Romania



Formal education in agriculture

Comprises the following BA degree programmes and specialisations:

BA field: Agronomy, comprising the specialisations:

Agriculture, Mountain Science,

Operation of machinery and equipment for agriculture and food industry,

BA field: Engineering and management in agriculture and rural development comprises the following degrees:

Economic Engineering in agriculture

BA field: Food products engineering

Agricultural products processing technology

Consumer and environment protection

BA field: Biology

Biology

BA field: Horticulture

Horticulture

Landscaping

BA field: Environmental engineering

Environmental engineering

BA field: Zootechnology:

Zootechnology

Pisciculture and aquaculture

Engineering and management in agriculture and rural development

Engineering and management in eateries and agritourism

BA field: Food products engineering

- Food products control and expertise

BA field: Veterinary medicine

- Specialisation Veterinary medicine

Professional perspectives:

- Agricultural companies and associations in the food industry;
- Distribution companies for necessary agricultural production elements;
- Agricultural chambers, City Halls;
- Consumer protection offices;
- Phytosanitary border police;
- County laboratories for fodder quality control;
- Research institutes;
- Secondary and tertiary education;
- Agencies, offices or NGOs for rural development;
- Evaluation and certification of agricultural land and agricultural products;
- Companies for horticultural production and distribution of elements necessary for agricultural production;
- Agricultural chambers;
- Secondary and tertiary education;
- Agencies and offices for rural development;
- Certification and evaluation of land and horticultural products;
- Food control offices;
- Zonal offices and laboratories for soil science, agro-chemistry, plant protection, seed quality control;
- Land management and environmental protection, Bureaus for sustainable development programs;
- Research institutes;

- Customs inspectorates;
- Authorized activities for landscape planning and design;
- Production of arboretum and floricultural seed material, cultivation and exploitation of ornamental plants;
- Ecology and environmental protection;
- Companies and agricultural associations;
- Companies in the food industry;
- Distribution companies for agricultural production elements;
- Breeding and selection of animals;
- Agricultural Chambers;
- Border police;
- Offices for consumer protection;
- County laboratories for fodder quality control;
- Research institutes;
- Secondary and tertiary education;
- Agencies and offices for rural development;
- NGOs with the aim of rural development;
- City Halls;
- Evaluation and certification of livestock products;
- Zoological gardens.
- Sanitary-veterinary food control;
- The production and distribution of medicines, tools, fodder and fodder additives;
- Secondary and tertiary education;
- Research institutes in the field of veterinary medicine, animal husbandry and biology;
- Veterinary pharmacies;
- Sanitary-veterinary police;
- Customs;
- Specialized trade companies;
- Rural veterinary medicine;

- The pharmaceutical industry (research, marketing, technical or commercial).

University programme suppliers

- USAMV București
- USAMV Iași
- USAMV Timișoara
- University of Oradea
- Transilvania University Brașov
- University of Craiova
- Lucian Blaga University of Sibiu

Adult training

Training courses:

Course for apiculturists

The course is aimed at people who have completed primary education and wish to qualify or improve their knowledge in apiculture.

Course for crop workers

Farmers and skilled workers in plant cultivation plan and execute the works necessary for the maintenance and harvesting of field crops, planting fruit trees and other trees and shrubs, harvesting vegetables, cultivation of medicinal plants and grape-vine.

Farmers and skilled workers in field crops and vegetable farm carry out agricultural works for soil preparation, seeding, planting, cultivating and harvesting field crops: wheat, rice, beets, sugar cane, etc. or vegetables: potatoes, cabbage, etc., establish crop area and ensure the supply of seeds, fertilizers et al.

Course for vineyard specialists

Specific activities of this occupation entail the knowledge of biological peculiarities of different species, varieties and hybrids as well as the relations between plants and the environmental factors.

The occupation involves the knowledge of each individual variety requirements for temperature, light, water, food so as to intervene with appropriate measures.

The occupation involves supplying with materials and raw materials, as well as sale of produced goods, which requires qualities of a good manager.

Course for workers in agricultural mechanics

Professional qualification course

- artificial insemination in animals
- worker in agritourism household; apiculturist, pisciculturist, fruiter
- Routine maintenance and storage of equipment during the inactivity period;
- Setting up and managing specific documents;
- carrying out mechanized tillage;
- carrying out mechanized seeding;
- carrying out mechanized soil fertilization;
- carrying out mechanized crops maintenance;
- carrying out mechanized works against diseases and pests
- carrying out mechanized land release
- carrying out mechanized technological transport

Training programme suppliers:

Classes: agriculture

Școala Română de Afaceri (The Romanian Business School)

Nonprofit organization founded in 1992 together with the Chamber of Commerce and Industry, whose main activity is organizing training and qualification courses. Since 2004, the courses are authorised by the Ministry of Labour and the Ministry of Education.

Centrul de Asistență Rurală (The Centre for Rural Assistance)

One of the most important initiatives for the rural areas. Complex offer: business, communication, public relations, project management, fund-raising, business plan, etc.

Qualification classes in the field of constructions, tourist services, agriculture and information.

Camera de Comerț, Industrie și Agricultură / The Chamber of Commerce, Industry and Agriculture

Training programmes

Fundația FAER / FAER Foundation

Business start-up, Agricultural classes

PETRA

Business administrator. Micro-farms for plant and animal production.

The University of Agricultural Sciences and Veterinary Medicine

Distance learning classes (only in English)

CEFIDEC

Centrul de Formare și Inovatie pentru Dezvoltare în Carpați / The Centre for Training and Innovation for Development in the Carpathians has as activity objective the training of specialists in the fields of mountainous agriculture. It is a postgraduate school-type institution.

Centrul Universitar de Formare Continuă și Transfer Tehnologic / The University Centre for Continuous Training and Technological Transfer

Specialisation and advanced training classes

Estonia



Formal Education System in Agriculture

General Organisation

Since 2012/2013 academic year, higher education is free of charge in Estonia for those studying full-time and in Estonian.

New needs-based student support system was introduced at 2013/2014. Students from less privileged families can apply for study allowance (~ 75-220 EUR per month) when studying full-time and in Estonian.

Students who started their studies in 2012/2013 or earlier and study full-time, can also apply for study allowances (55.93 euros per month). PhD students who meet the requirements for obtaining a doctoral allowance, have the right to receive 383.47 euros per month. Students engaged in teacher training can apply for a special study allowance of 1,300 euros per year.

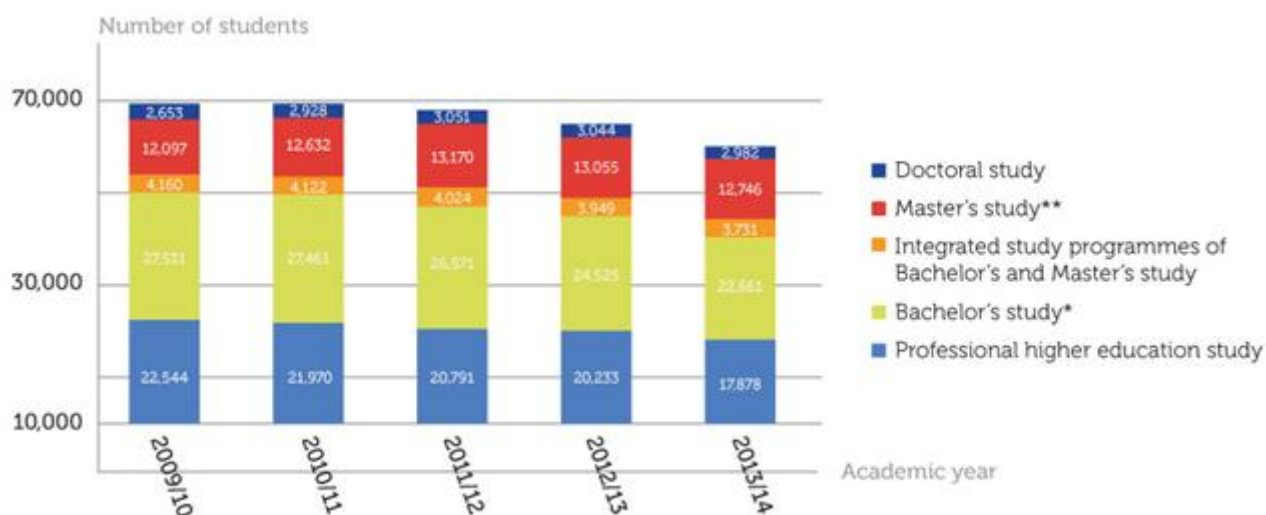
Students can apply for special study loans from banks. In 2012/2013, the amount for the loan per academic year was 1,917.35 euros.

In the 2013/2014 academic year, a total of 59,998 students studied in higher education study programmes, which is 7% less than the previous academic year.

In the 2013/2014 academic year, 33% of students continued to study in the field of social sciences, business and law.

Over the last few academic years, admission to the study programmes of higher education has decreased, primarily at the first level of higher education.

In addition to the demographic changes, the decrease in numbers is the result of the reduced number of students admitted to the places not financed from the state budget. The decrease has been especially noticeable in private educational institutions.



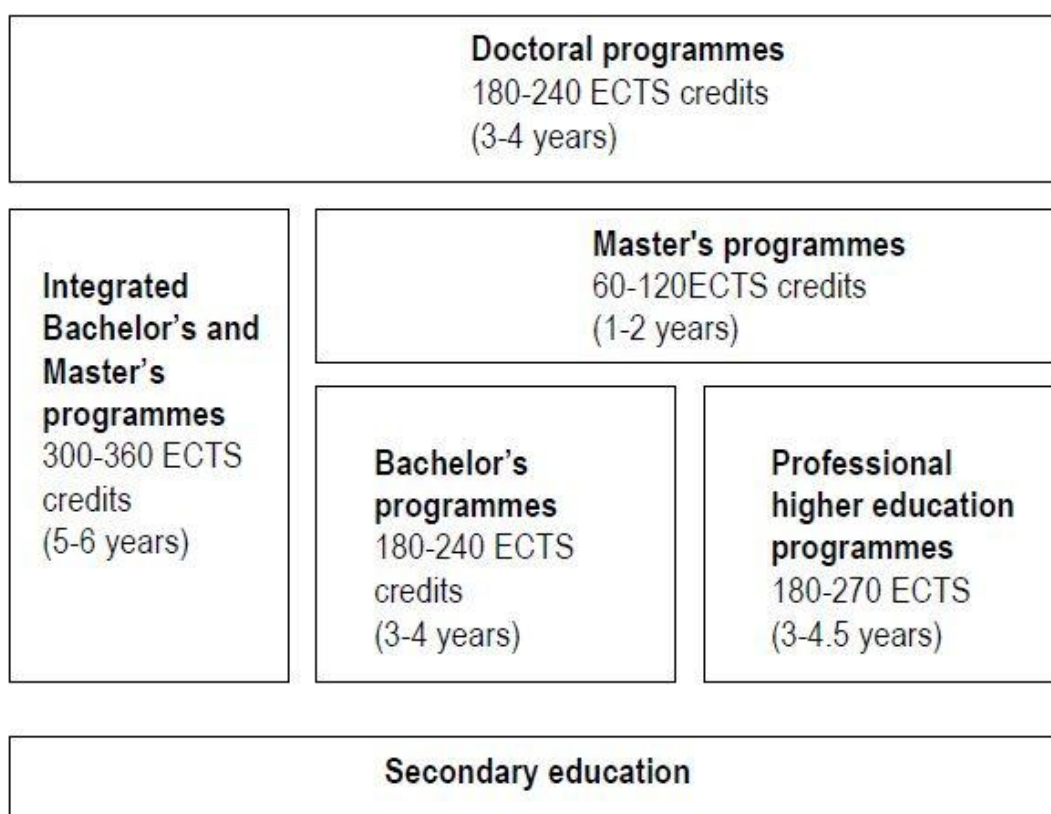
Description of The Estonian Higher Education System

Overall Organisation

Higher education in Estonia is regulated by the following legislation: the Republic of Estonia Education Act, the Universities Act, the Private Schools Act, the Institutions of Professional Higher Education Act, the Vocational Education Institutions Act, and the Standard of Higher Education.

As of academic year 2002/2003, the higher education system comprises three cycles, following the Bachelor-Master-PhD model of the European Higher Education Area.

Universities provide professional higher education, bachelor's, master's and doctoral programmes. Professional higher education institutions and some vocational education institutions provide professional higher education. A professional higher education institution may also provide master's programmes. In terms of ownership, institutions are divided into state, public and private institutions.



Recognition of Qualifications

As of 1 January 2012, higher education programmes may be provided only if the quality of the respective study programme group has been assessed and the Government of the Republic has granted a license to provide instruction in the respective group. Annex 3 to Regulation no. 178 of the Government of the Republic of 18 December 2008 “Standard of Higher Education” sets out the study programme groups and cycles of higher education where educational institutions have the right to provide instruction. The right to provide instruction involves the right to issue national diplomas.

Quality Assessment

Since 2009, higher education quality has been assessed by Eesti Kõrghariduse Kvaliteediagentuur (Estonian Higher Education Quality Agency), an independent agency.

Quality assessment of study programme groups

Since 2010, the quality of study programme groups has been assessed instead of the former assessment of study programmes. Quality assessment involves assessment of the compliance of study programmes, teaching and study-related development efforts based thereon with legislation, national and international standards and developments the study programme, study programme development, availability of resources, the study process, teaching staff and students are assessed).

Quality assessment takes place once every seven years, unless the Agency has established a term of up to three years based on the results of quality assessment. The result of quality assessment is a decision made by the Assessment Council of the Agency.

Institutional accreditation

Institutional accreditation focuses on the internal quality assurance system of the educational institution and the functionality thereof, incl. the fulfilment of the tasks, duties and functions of the educational institution, the compliance of the management system with the goals and development plan of the higher education institution.

Higher education institutions are required to undergo institutional accreditation once every seven years, but if the Agency has detected any defects in the previous accreditation, it may grant a term of up to three years and during the term the educational institution must undergo the institutional accreditation again. The decision on institutional accreditation will be made by the Assessment Council of the Agency.

Admission Requirements

The requirement for access to higher education is secondary education, certified by Gümnaasiumi lõputunnistus (Upper Secondary School Leaving Certificate), Lõputunnistus kutsekeskhariduse omandamise kohta (Certificate of Vocational Secondary Education) the corresponding qualifications of earlier education systems, and foreign qualifications giving access to higher education. The Gümnaasiumi lõputunnistus is issued after 12 years of schooling (9 years of basic education and 3 years of general upper secondary education). In order to complete general upper

secondary education it is necessary to take national examinations certified with the national examination certificate.

A higher education institution may introduce further admission requirements, such as entrance examinations, minimum scores of national examinations, interviews, etc.

Credit System

Student workload is measured in credits. As of academic year 2009/2010, the European Credit Transfer and Accumulation System (ECTS) has officially been in use. One ECTS credit corresponds to 26 hours of work by a student. The workload of one academic year is 1560 hours, which corresponds to 60 ECTS credits.

Higher Education Programmes and Qualifications

Professional Higher Education Programmes

Professional higher education is higher education of the first cycle, the purpose of which is to acquire the competencies necessary for working in a certain profession or for continuing studies at the master's level. The nominal duration of programmes is 3 to 4 years (180-240 ECTS credits). Midwifery studies and specialised nursing studies last 4.5 years (270 ECTS credits). The qualification awarded upon completion of the programme is rakenduskõrghariduse diplom (Diploma of Professional Higher Education) (a grayish-blue diploma form marked E). The qualification gives access to master's programmes.

Bachelor's Programmes

Bachelor's programmes are first-cycle higher education programmes. The purpose of bachelor studies is to broaden the scope of general education, to develop the basic knowledge and skills required for a certain field of study necessary for continuing at the master's level or for access to the labour market. The nominal duration of the programmes is generally 3 years (180 ECTS credits). As an exception, it may be up to 4 years (240 ECTS credits). The qualification awarded upon completion of the programme is bakalaureus (bachelor's degree) (a greenish-yellow diploma form marked L). The qualification gives access to master's programmes.

Master's Programmes

Master's programmes are second-cycle higher education programmes. The purpose of master's level studies is to develop the knowledge and skills required for a certain field of study and to acquire the necessary competences in order to enter the labour market or to continue studies at the doctoral level. The access requirement is a first-cycle higher education qualification. The nominal duration of the programmes is 1 to 2 years (60-120 ECTS credits), but with the first-cycle studies it is at least five years (300 ECTS credits). The qualification awarded upon completion of a master's degree programme is magister (master's degree) (a silvery diploma form marked M). The qualification gives access to doctoral programmes.

Integrated Bachelor's and Master's Programmes

Integrated bachelor's and master's programmes comprise both basic and specialised studies. Such long-cycle programmes are offered in the fields of medicine, veterinary medicine, pharmacy, dentistry, architecture, civil engineering, and class-teacher training. The nominal duration of programmes in medicine and veterinary medicine is 6 years (360 ECTS credits). The nominal duration of other programmes is 5 years (300 ECTS credits).

The graduates receive a qualification (a silvery diploma form marked M) certifying the completion of the integrated study programme. The graduates of a pharmacy, architecture, civil engineering and class teacher training programme are awarded a degree of magister (master's degree). The graduates of a medicine, dentistry and veterinary medicine programme are awarded *arstikraad* (Degree in Medicine), *hambaarstikraad* (Degree in Dentistry) or *loomaarstikraad* (Degree in Veterinary Medicine). The qualifications give access to doctoral programmes.

Doctoral Programmes

Doctoral programmes represent the third cycle of higher education, the purpose of which is to acquire knowledge and skills necessary for independent research, development or professional creative work. The access requirement for doctoral studies is a degree of magister (master's degree) or corresponding qualifications. The nominal

duration of programme is 3 to 4 years (180-240 ECTS credits). The qualification awarded upon completion of doctoral studies is doktor (doctorate degree) (a golden diploma form marked O). A doctorate degree is a research degree obtained after the completion and public defence of a dissertation based on independent scientific research or creative work.

Bulgaria



Formal education system in Bulgaria

The Republic of Bulgaria is a parliamentary democracy subdivided into 28 administrative provinces. The Bulgarian government is designated as the Council of Ministers. Where education is concerned, it sets national education policy and submits proposals to the Bulgarian National Assembly for the foundation, amendment and dissolution of institutions and faculties and for the determination of annual higher education admission quotas. The country's Ministry of Education, Youth and Science is responsible for setting national education policy. The language of education is Bulgarian, although a few faculties and departments at a number of higher education institutions also offer subjects in English, German and/or French. Foreign language education is also offered at secondary schools known as Foreign Language Secondary Schools. The Bulgarian language is written using the Cyrillic alphabet. In Bulgaria, education is compulsory up to the age of 16.

Basic and secondary education

Basic education lasts 8 years and consists of two phases. Junior education is for children aged 7 to 10 and lasts 4 years, resulting in a Certificate for completed primary stage of basic education. Presecondary education is for children aged 10 to 14 and also lasts 4 years, resulting in a Certificate for basic education.

Secondary education:

General secondary education. Secondary education is categorized into general secondary education, subject cluster-oriented education (academic streams) and secondary vocational education and training (vocational streams). Secondary education has a duration of 4 years and is taught in high schools, profiled high schools, secondary general education schools, professional high schools or professional schools, sport and

art schools, and in special schools. Education at subject cluster-oriented schools typically lasts 5 years. Pupils who enter subject cluster-oriented schools do so after completing their seventh year of basic education. At both types of schools, therefore, pupils get 12 years of basic and secondary education, which is rounded off by an exam at the age of 19. Upon successful completion of the programme, pupils are awarded the Diploma za Sredno Obrazovanie.

Secondary vocational education. Secondary vocational education and training (vocational streams) is offered at technical secondary schools (tracks include economics, technology, agriculture, art and music) and has a duration of 4 years for pupils who have had 8 years of basic education, or of 5 years for those who have had 7 years of basic education; in the latter case it also includes an intensive foreign language programme. This form of education therefore also lasts 12 years. Pupils who have completed secondary vocational education and training also receive the Diploma of secondary education and the Certificate for professional qualification. Both types of diploma grant admission to higher education in Bulgaria.

HIGHER EDUCATION. Under the Higher Education Act (1995), higher education is provided at higher education institutions. Such institutions are classified according to a number of different categories: universities, specialized higher education institutions and colleges. The universities and specialized higher education institutions and colleges are responsible for academic higher education.

The professional colleges provide post-secondary professional non-academic education. Currently, Bulgaria has approximately 50 recognized higher education institutions.

University education. The Higher Education Act of 1995 organized Bulgarian higher education into a two-cycle system:

First cycle degrees:

Professional Bachelor: Professional Bachelor's programmes last at least 3 years (180 ECTS). It corresponds to level 6 of EQF and conclude with state exams or the defence of a final paper. Holders of this degree can proceed with their further studies for obtaining a bachelor's degree in the corresponding major in an accredited university

with the following requirements: at least 60 credits and overall duration of study 4 years for the bachelor's degree. They also can proceed with their further studies for obtaining a master's degree in the corresponding major with the following requirements: at least 120 credits and overall duration of study 5 years for the master's degree. Graduates of a Professional Bachelor's programmes are also deemed qualified to enter the labour market.

Bachelor: Bachelor's programmes last at least 4 years (240 ECTS). It corresponds to Level 6 of the EQF and conclude with state exams or the defence of a final paper. Successful completion of which results in a certificate known as Diploma for graduated educational-qualification degree of higher education "Bachelor" and, in some cases, a professional qualification (such as Agronomist). Holders of a bachelor's degree can proceed with their further studies for obtaining a master's degree with the following requirements: duration of at least 1 year and overall duration of study 5 years for the master's degree. Graduates of a Bachelor's programmes are also deemed qualified to enter the labour market.

Second cycle degrees:

Master: Master's programmes last at least 5 years (300 ECTS). The holders of a "Professional Bachelor in ..." degree have to cover a study load of at least 120 ECTS, holders of a Bachelor's degree have to cover a study load of at least 1 year. The master's degree corresponds to Level 7 of the EQF. Upon successful completion of the state exams or defence of their final paper, students receive a certificate known as Diploma for graduated educational-qualification degree of higher education "Master".

Doktor (PhD): Doktor programmes last at least 3 years following the completion of a Magistr programme. It corresponds to Level 8 of the EQF.

Higher professional education. The professional colleges provide post-secondary professional nonacademic education. These programmes are taught at colleges. Professional colleges offer professionally-oriented programmes of at least 2 years in a range of disciplines and various programmes in the fields of agriculture, technology and other. These programmes have a strong focus on professional practice and have no research component. Admission is based on the secondary school diploma and the state

exam. Upon finishing the programme and successfully completing the state exam, students receive a certificate for professional qualification known as the Certificate for professional qualification.

Quality assurance and accreditation. The National Evaluation and Accreditation Agency is charged with accreditation of Bulgarian higher education bodies and programmes (bachelor's, master's, PhD programmes). The term of validity of the accreditation shall be 6 years when the received assessment is "very good" or "good", and 3 years – upon "satisfactory" assessment. The accreditation includes the assessments: "very good", "good", "satisfactory" and "unsatisfactory". For more information visit the website of the National Evaluation and Accreditation Agency of the Council of Ministers.

(<https://www.epnuffic.nl/en/publications/find-a-publication/education-system-bulgaria.pdf>)

Formal education system in agriculture in Bulgaria

Agricultural education in Bulgaria (higher education – universities and secondary education - professional agricultural schools) was governed by the Ministry of Agriculture until 1989. After reforms, higher education was transferred to the Ministry of Education, Youth and Science in Bulgaria while lower professional education in agriculture still belonged to Ministry of Agriculture and Food (MAF). Agricultural research was mainly carried out by universities and research institutes. Most of the research institutes dealing with agricultural issues were (and still are) part of the Agricultural Academy funded by MAF. Most of the research and knowledge were passed through the network of agricultural engineers/agronomists employed by the collective enterprises and state farms before 1989, and by the commercial farms nowadays (Dimanova, 2014).

Agricultural academic higher education includes 6 universities in Bulgaria. All of them are public. The universities provide education and training to students at Bachelor, Master and Doctoral levels (EQF levels 6-8). There are:

Agricultural University -12, Mendelev Str., 4000 Plovdiv, Bulgaria
(<http://www.au-plovdiv.bg>)

Trakia University–Student's campus, 6000 Stara Zagora, Bulgaria(<http://www.uni-sz.bg/index.php?q=engl>)

University of Forestry – 10, Kliment Ohridsky Blvd., 1756Sofia, Bulgaria (<http://www.ltu.bg/a>)

Technical University of Varna – 1, Studentska Str., 9010 Varna, Bulgaria (<http://www.tu-varna.bg/tu-varnara/index.php?lang=en>)

Ruse University– 8, Studentska Str., 7017 Ruse, Bulgaria (<http://www.uni-ruse.bg/en/ru.php>)

They offer agricultural knowledge and education in the field of crop and animal production, plant protection, farm machinery, agro-ecology, agricultural economics, food technologies, etc.

Agricultural research and education includes also the Agricultural Academy with their Regional Research Institutes and Experimental Stations. Most of the Institutes provide PhD education and training. Agricultural Academy is an organisation for research, service and support activities in the field of agriculture, animal husbandry and food industry. Its main activities are related to the state agricultural policy. It has 25 Regional Scientific Institutes and 21 Experimental Filed Stations.

Agricultural Academy –30, Suhodolska Str., 1373 Sofia, Bulgaria(<http://www.agriacad.bg/>)

Colleges with Professional Bachelor'sprogrammes in different areas of Agriculture:

- Agricultural College in Plovdiv(<http://www.agricollege.com>)
- College of Shumen University – City of Dobrich - (<http://shu.bg/structure/fpn/departments?language=en>)
- Dobrudza College of Technology (Agriculture) – City of Dobrich (TU Varna) (<http://www.tu-varna.bg/tu-varnakd/index.php?lang=en>)

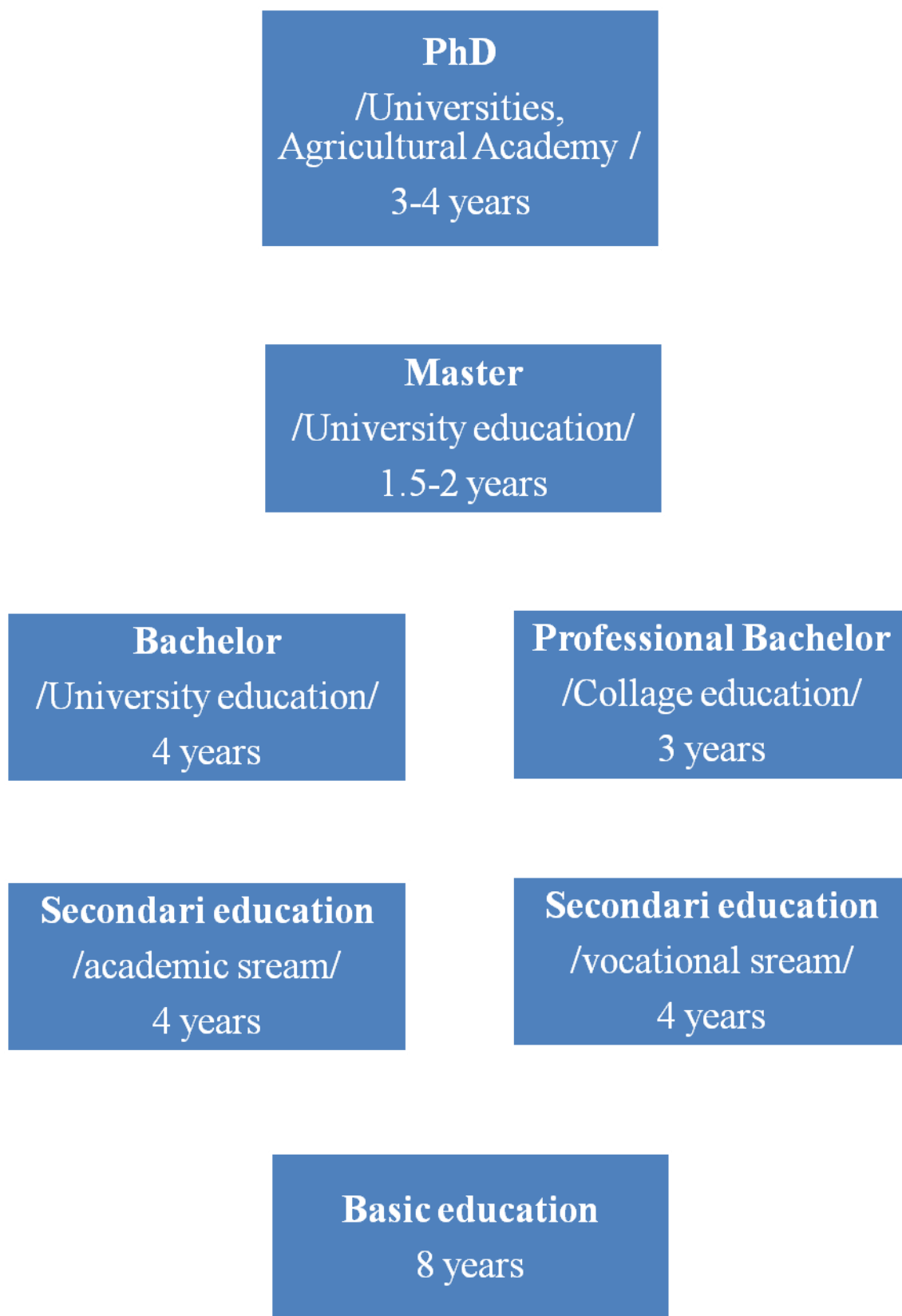


Figure 24. Structure of formal agriculture education system in Bulgaria

Turkey



Formal education system in agriculture

Formal education is the regular education conducted within a school for individuals in a certain age group and at the same level, under programs developed in accordance with the purpose. Formal education includes pre-primary, primary, secondary and higher education institutions. The general structure of the Turkish education system in agriculture is summarised in this diagram (Figure 25).

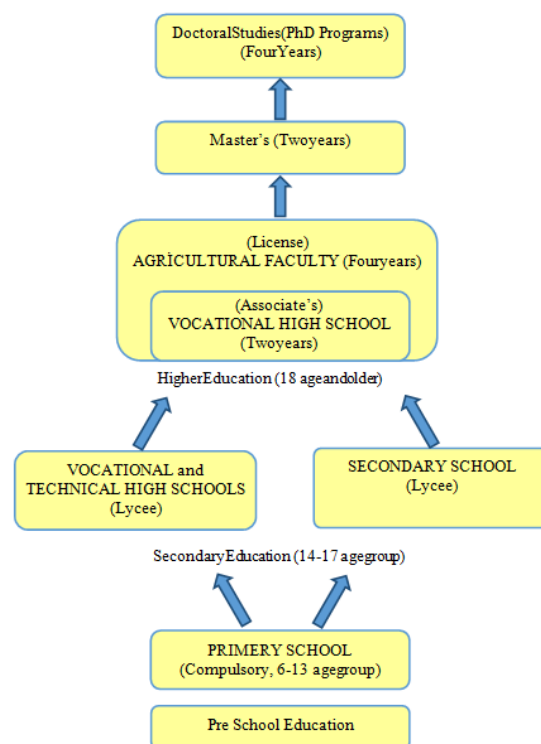


Figure 25. Turkish formal education system in Agriculture

Primary education

In Turkey, formal Agricultural education starts with Compulsory primary (basic) education which lasts eight years for the children in the age group 6-14.

Agriculture/husbandry is elective lesson that can be include in grades 6-8. It is decided at the school level depending on the conditions of school and local environment, students' interests, needs and aspirations, and parents' opinions. Agriculture lesson is two hours a week. Each teaching period lasts 40 minutes.

Secondary education

Secondary education is classified in two categories of educational institutions, namely general high schools and vocational and technical high schools (lycées) where a minimum of three years of schooling is implemented after primary education.

Agricultural education in Turkey, in known manner, is given in agricultural vocational high school and two or four-year college programs of the universities. There are three titles in this sense: technician, technical expert and engineers.

- a) Agricultural vocational school graduates, "technician",
- b) The two-year- higher technical education graduates " technical expert ",
- c) Four years of undergraduate study at the Faculty of Agriculture "agricultural engineer" title is given.

Agricultural vocational school

Students in Turkey may choose vocational high schools after completing the 8-year-long compulsory primary education. The secondary education (high school) is handled in two categories as general secondary education and vocational-technical secondary education. Vocational education is education within vocational schools that prepares people for a specific trade. Vocational-technical secondary education last minimum 4-year including 9th- and 12th grades and cover 14-17 ages. It directly develops expertise in techniques related to technology, skill and scientific technique to span all aspects of the trade. The vocational and technical education system in Turkey includes two main dimensions: theoretical (school training) and practical (in-company training). Vocational training policies and activities are mostly carried out by the MoNE (Ministry of National Education) within the framework of Law No. 3308, which came into force in 1986 and Law No. 4702 of 2001, which brought about changes to the system,

establishing new and strong links of co-operation with industry and commerce. Vocational and technical secondary education includes at least 19 different kinds of schools, in addition to vocational education centres. The MoNE is responsible for oversight of all vocational and technical schools whether or not they are under the jurisdiction of the MoNE. Vocational high school graduates may pursue two year-long polytechnics or may continue with a related tertiary degree.

In Turkey, there are 25 vocational agricultural high schools with total capacity of 1134 student per year (Table 4). Ratio of the agricultural high schools (25) to all vocational and technical high school (5106) is %0,5. These are the schools that a program is implemented on the subject that agricultural production that will contribute to the success of agricultural businesses and organizations to work animal health, plant health, landscaping, aquatic products, agricultural tools and machinery use, food analysis and control and advanced agricultural techniques. In these schools, boarding and day school education is carried out in areas such as Veterinary Health, Mechanical (Agricultural Machinery), Agricultural Technology, Laboratory Assistant, General Agriculture. Students graduating from schools can work in businesses and organizations on their private agricultural areas, thus having the opportunity to make their profession freely. Also, they enter the exam when it needs to work in public institutions.

Table 27. Vocational Agricultural High School

Province	Name of the School	Name of the Department	Capacity
Amasya	Gökhöyük Agricultural Vocational High Sch.	Agricultural Technologies	48
Ankara	Keçiören Agricultural Vocational H. Sch.	Agricultural Technologies	24
Burdur	Tefenni Agricultural Vocational High Sch.	Agricultural Technologies	60
Bursa	Bursa Agricultural Technical and Voc. High Sch.	Agricultural Technologies	24
Çankırı	Çankırı Agricultural Vocational High School	Agricultural Technologies	30
İzmir	Ödemiş Technical and Industrial Voc. High Sch.	Agricultural Technologies	30
Kırşehir	Kaman Osman Kulaksız Anatolia High Sch.	Agricultural Technologies	30
Konya	Çumra Agricultural Anatolia High Sch.	Agricultural Technologies	90
Kütahya	Çavdarhisar Anatolia High Sch.	Agricultural	60

		Technologies	
Malatya	Malatya Anatolia High Sch.	Agricultural Technologies	30
Mersin	ErdemliAnatolia High Sch.	Agricultural Technologies	120
Samsun	BafraAnatolia High Sch.	Agricultural Technologies	60
Sivas	SuşehriAnatolia High Sch.	Agricultural Technologies	60
Şanlıurfa	Gap Anatolia High Sch.	Agricultural Technologies	90
Bursa	Agricultural Technical and Vocational High Sch.	Animal Health	24
Erzincan	ErzincanAgricultural Vocational High Sch.	Animal Health	30
İstanbul	SelimiyeAnatolia High Sch.	Animal Health	60
Konya	Konya Anatolia High Sch.	Animal Health	60
Konya	SeydişehirAnatolia High Sch.	Animal Health	30
Malatya	Malatya Anatolia High Sch.	Animal Health	30
Samsun	Samsun Anatolia High Sch.	Animal Health	30
Van	Van Anatolia High Sch.	Animal Health	24
Çankırı	ÇankırıAnatolia High Sch.	Animal Breeding	30
Erzincan	ErzincanAnatolia High Sch.	Animal Breeding	30
Malatya	Malatya Anatolia High Sch.	Animal Breeding	30

Institutions called 'Anatolian' high schools use a foreign language as the predominant language of instruction.

Higher education:

In Turkey, higher education includes all educational institutions after secondary school. Higher education provides at least two years of school and educates students for associate's, bachelor's, master's or doctorate degree levels. Institutions of higher education consist of universities, faculties, institutes, schools of higher education, vocational schools of higher education and application-research centers.

a) Vocational school of higher education (two-year programs)

Turkish Higher Education System has qualifications that can be defined with different learning outcomes with compatible European Qualifications Framework. Classification of these cycles (qualifications groups) that differ in learning outcomes for each higher education levels is given the Table below.

Table 28. Turkish Higher Education System Levels and Qualifications of Different Learning Outcomes for Each Level

HIGHER EDUCATION LEVELS	AWARDED DEGREE /QUALIFICATIONS		
Doctorate QF-EHEA: 3. Level EQF-LLL: 8. Level	Doctorate	Proficiency in medicine	Competence in art
Master's QF-EHEA: 2. Level EQF-LLL: 7. Level	Master's with thesis		Master's without thesis
Bachelor's QF-EHEA:1.Level EQF-LLL :6.Level	Undergraduate (Faculty programmes)		Undergraduate (Higher school and Conservatoire programmes)
Associate's QF-EHEA : Short cycle EQF-LLL: 5. Level	Associate's (Among the bachelor's degree programmes)		Associate's (Vocational higher schools-MYO)

The current associate's, bachelor's, master's and doctoral degree qualifications (profiles) within Higher Education system shown in Table 5 are classified as (1) academic based higher education qualifications, (2) vocational education based qualifications and (3) art education based qualifications according to their learning outcomes. These are shown below.

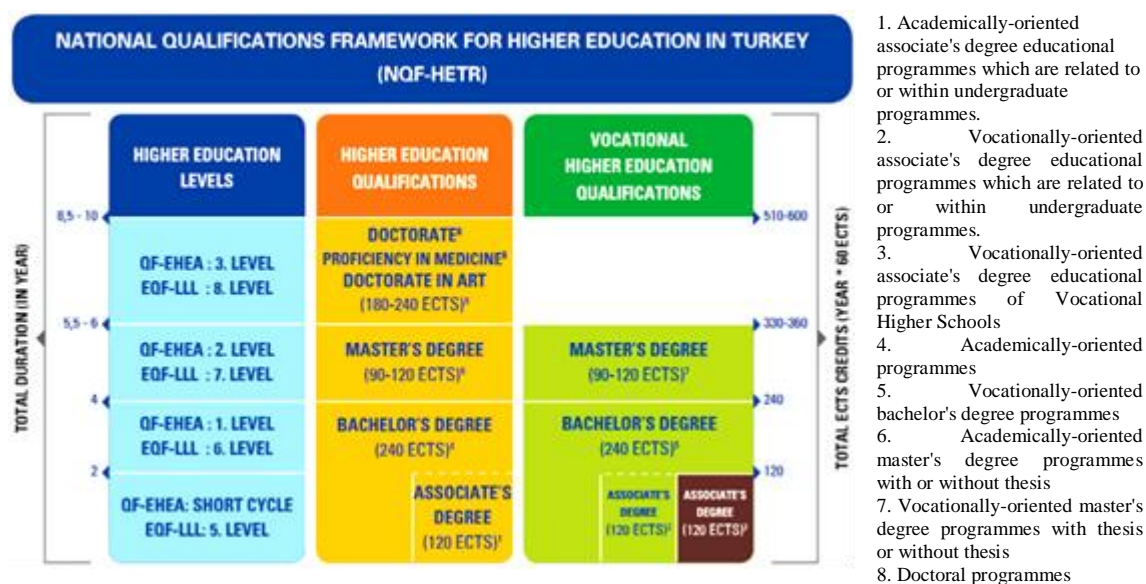


Figure 26. Qualifications' Profiles for NQF-HETR Levels

Total education time of each degree (associate's, bachelor's, master's and doctorate) within NQF-HETR and periods of student work load are shown below.

Table 29. Total Credit (ECTS) and Student Workload Periods for each level of NQF-HETR*

NQF-HETR levels	Duration (year)	Total ECTS Credits (Yearx 60 ECTS)	Total StudentWORKLOAD (hour) (1 ECTS = 25-30 hours)
8.Level(Doctorate)	3-4	180 - 240	4.500 - 5.400 / 6000 - 7.200
7.Level (Master's)	1,5-2	90 -120	2.250 - 2.700 / 3.000 - 3.600
6.Level(Bachelor's)	4	240	6.000 - 7.200
5.Level (Associate's)	2	120	3.000 - 3.600

* An academic year is calculated grounded on 60 ECTS and 1500-1800 hours of workload.

Key area of Agriculture, Forestry and Fisheries is a basic area based on the producing, protecting and examining plant and animal organisms in the ecosystem. In this area at various universities, more than 60 theoretical and practical educational programs are carried out.

Table 30. Fields of Training in VET agricultural programmes of vocational school of higher education

Name of the Programme	Name of the Programme
Agricultural Technology	Animal Health Care
Food Technology	Horticulture
agricultural Cooperatives	Agribusiness
agricultural Marketing	Agribusiness and Marketing
Agricultural Machinery	Laboratory Technology
Milk and Dairy Products	Wine Production Technologies and Viticulture
Technology of Meat and Meat Products	Bakery Products and Technology
Fruit and Vegetable Processing Technology	Growing sugar beet and Technology
Oil Industry	Food Technology
Food Quality Control and Analysis	Agricultural Products Storage and Technology
Fisheries Processing Technology	Sugar Technology
Land Conservation and Reclamation	Animal Nutrition and Feed Technology
Nuts Production and Technology	Horticulture
Seedling Cultivation	Viticulture
Vegetable Production	Coffee Expertise
Nuts Expertise	Plant protection
Grassland and Forage Crops	Farm plants
Irrigation Technology	Tobacco Farming and Carving
Mushroom Cultivation	Seeding
Olives and olive Processing Technology	Industrial Plant Breeding
Medicinal and Aromatic Plants	Subtropical Plant Breeding
Organic farming	animal Production
Breeding Poultry	Poultry Industry
Dairy and Livestock Breeding	Beekeeping

Sericulture	Equine and Coaching
Greenhouse	Agriculture (distance education)
Home & Experimental Animal Breeding	Citrus Farming and Processing
Aquaculture	Landscape and Ornamental Plants
Ornamental Plant Breeding	Cut Flower Growing
Lawns and Plant Management	ecotourism

b) University programs

Currently, Turkey has 114 public and 76 private universities, and 2 vocational colleges. 38 of them have agricultural faculties (Table 8). Nowadays, Faculty of Agriculture containing 10-13 department (horticulture, plant protection, food engineering, dairy technology, landscape architecture, aquatic products, agricultural economics, field crops, agricultural machinery, agricultural structures and irrigation, soil science and plant nutrition, animal science, agricultural biotechnology) has targeted to carry out tasks such as researching in all branches of agriculture, producing technology and services and extending the knowledge.

Table 31. The number of faculty and students in the key area of agriculture and fisheries in higher education

Name of the faculty	Number of Faculty	Number of student
Agricultural faculty	38	4781
Fisheries faculty	25	145

Table 32. The number of faculty and student quotas according to discipline

Name Of The Department	Number of Faculty	Quota	Number of total student	Ratio of Fullness
Plant protection (32)	29	1056	990	93,75
Field crops (32)	28	961	856	89,07
Horticulture (34)	23	811	708	87,30
Agricultural economics (23)	17	644	644	100,00
Zootechnics (28)	11	326	324	99,39
Agricultural machinery (11)	9	219	146	66,67
Soil science and plant nutrition (26)	9	279	256	91,76
Agricultural biotechnology (17)	8	288	265	92,01
Biosystem engineering (17)	4	140	132	94,29
Agricultural structures and irrigation (11)	3	83	34	40,96
Milk Technologies (4)	2	42	42	100,00
Crop production and tech. (2)	1	31	31	100,00
Poultry farming (1)	1	26	5	19,23
Agricultural genetic eng. (1)	1	31	31	100,00
Total (240)		4937	4464	90,42

Note; The numbers in brackets is the number of departments, including those closed quotas.

When the Table 9 examined, it is seen that only three departments' quotas are full. Most preferred department by students are Plant Protection.

Adult education system in agriculture

Although today's context is different from informal education activities, adult education studies are found in every era of history of Turkish Education. Non-formal education includes all the activities organized outside or alongside the formal school system.

Education at a Glance survey which was conducted among OECD countries, has listed countries according to utilize the adult education activities of the individuals between the age groups considered adult. Among the OECD countries, the percentage of participation the population between 25- 64 years in adult education activities has investigated and this ratio in Turkey is at the level of 9.7% which ranks 30.

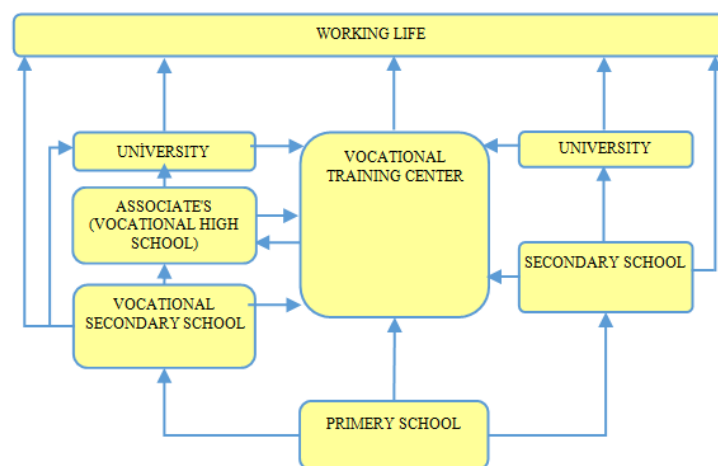


Figure 27. Additional options after Primary School

Non-formal education program is structured in two main categories.

General Education Programs; successful programs, health, family life, mother-child educational programs, civic education programs, self-development programs, social and rural development programs.

Vocational and Technical Education Programs; grouped as follows: vocational programs to acquire basic skills development programs and the use of technology programs.

Vocational training programs are developed and implemented by the Ministry of Education. The non-formal education programs for employees are developed and implemented by the education centres (PEC, VETC) in cooperation with the relevant sector. It is essential to be developed and implemented the modular structure of vocational training programs in accordance with national standards.

Types of Informal Education

Provision of non-formal training services is very important in the rural areas in terms of skill development and job creation in agricultural sectors, which enable to increase income, business and employment opportunities.

Non-formal education institutions in Turkey can be grouped as follows:

- Public Education Center
- Vocational Training Centers
- Handicrafts Training Center: This institution provides non-formal education to women.
- Council of Higher Education Distance Education Institutions: Open Education Faculties.
- Private Educational Institutions; Special courses.

Public EducationCenter

In non-formal education, the most widely-serving institution in Turkey is the Public Education Centres. Public Education Center education activities, carried outside of formal education institutions, take place mainly in public training centres throughout the country. The number of these centres in all provinces and districts are currently 935. They conduct all types of non-formal training. These centers offer: Literacy courses, Vocational courses, Socio-cultural courses and activities.

Fields of Agriculture in VET are; Agricultural Technology, Animal Health Care, Food Technology, Handicrafts, Horticulture. In this context, 1349 different educational programs have been defined and maintained (Table 33).

Table 33. A summary of agricultural course programs held by public education centers

Name of the thematic area	Number of program
Agricultural Technologies	81
Horticulture	174
Food Technologies	52
Animal Production and Husbandry	10
Animal Health	5
Handicrafts	1027
Total	1349

Fifty four (54) of these educational programs are organized to train apprentices, assistant master and master as vocational programs that describing the qualification skills according to EQF. Full list of the vocational programs are presented in the Table below.

Table 34. Vocational Training Center Lifelong Learning Educational Programs in the field off Agriculture

No	Program	Duration (Total/Teoric)	Level of EQF
1	Grafter	920/560	3
2	Gardener	1200/784	3
3	Pruning worker	920/576	3
4	Flower Arrangements	2680/1432	4
5	Outdoor Plants Grower	2560/1344	4
6	Planting Worker	680/352	2
7	Indoor Plant Grower	3520/1336	4
8	Spraying Worker	1040/616	3
9	Cut Flower Grower	2400/1248	4
10	Fruit Grower	2760/1440	4
11	Landscape Horticulture	2440/1376	4
12	Vegetable Grower	2680/1464	4
13	Dismantling Worker	680/400	2
14	Irrigator	520/256	2
15	Soil Processor	680/360	2
16	Grower	1000/592	3
17	Band Staff	1040/752	2
18	Tea Blending Staff	1360/1008	3

19	Tea Packing Staff	1360/1008	3
20	Tea Production and Processing Staff	2000/1520	4
21	Miller	1200/888	3
22	Ice Cream Production Staff	1320/960	3
23	Frozen Vegetables and Fruits Operator	1320/976	3
24	Baker	1400/1048	3
25	FoodControl Staff	3080/2232	4
26	Dough Maker (Hamurcu)	1480/1112	3
27	Grain Storage Staff	920/664	3
28	Grain Processing Staff	2360/1800	4
29	Drinking Milk Processing Staff	1400/1048	3
30	Canned Producing Staff	1400/1040	3
31	Dry Bean Staff	1040/752	3
32	Dry Bean Packaging Staff	1080/784	3
33	Dried Vegetables and Fruits Operator	1360/1000	3
34	MeydanciveZeytinAlicısı	1240/920	3
35	Packaging	1080/792	2
36	Cheese Production Staff	1600/1184	3
37	Jam and marmalade production Staff	1360/1016	3
38	Paste Production Staff	1320/976	3
39	Vegetables and Fruit Processing Element	2040/1552	4
40	Wholesalers of table olives	1280/944	3
41	The table olive processors	1640/1232	3
42	Milk Processing Element	2280/1656	4
43	Butter Production Staff	1320/992	3
44	Pickle Production Staff	1320/976	3
45	Yogurt and Buttermilk Production Staff	1520/1128	3
46	Olive Processing Element	2280/1728	4
47	Stockman of olive oil	1280/944	3
48	Olive Oil Production Staff	1600/1184	3
49	Decorative handicrafts staff	1800/1200	4
50	Decorative linensstaff	2080/1488	4
51	Hand-woven staff	1520/1136	4
52	Hand and scrub the embroiderer	2080/1560	4
53	Carpet designer	1920/1288	4
54	Industry embroiderer	1880/1440	3

Terms of Acceptance

To be a Turkish citizen. However, in some cases, people can participate in courses in which foreign nationals.

To be trained at a certain level concerning the nature of the course to be taken. The requirement of that at least primary school graduates are sought.

It is required to have exceeded the age of compulsory education to attend non-formal education in vocational and technical training courses (to have completed 14 years of age).

Basic Principles of the Educational Process

Courses in non-formal education, can be conducted in PEC, VETC, study areas, public areas or private institutions, the formal education institutions, hospitals, prisons and performed wherever appropriate. Also training is given in the form of distance education.

Studies carried out in the course centers lasts for 12 months. The duration of year is determined in relation to the situation of people who attended the course and the course location.

Vocational Training Centre:

Vocational training centre is an educational institution, such as other schools under the Ministry of National Education. Vocational training centre educates qualified manpower with the needs industry and service sector.

Vocational Education and Training aims to teach the students the principles of apprentices working and the scientific foundations of the profession in accordance with apprenticeship agreement. For this purpose, in vocational education, technical and theoretical subjects are given by the teachers at vocational centre, practical training is given by the craftsmen at work trainers.



Figure 28. Apprenticeship and Vocational Training System

In Vocational Training Centers for all professions, the general culture lessons per week with 4 hours per week and for 6 hours of theoretical lessons are given professional

In line with international standards, taking into account the needs of the country along with the social partners in vocational branch 35 branch and 151 modular teaching programs prepared and has been enforced by.

Vocational education is given 2 or 3 years to young people who have completed primary education and finished the age of 15, according to the type of profession

Apprentice students come Vocational Training Center one day a week to see theoretical training. The apprentices students of vocational training one hand earn money on the other hand, has the ability to maintain a vocational education.

For practical training other 5 days a week they go to the workplace

According to the law, firms cannot give job to the people who hasn't vocational training.

Handicrafts Training Centers

In Turkey, there are 6 Handicrafts Training Centers other than public education centers. Their policies and activities are carried out by The Ministry of Food, Agriculture And Livestock. Full list of these centres are presented in the Table below.

Table 35. Handicrafts Training Centers

No	Name of the Handicrafts Training Centers	Capacity	Gender
1	Bilecik Handicrafts Training Center	80	Male
2	Düzce Handicrafts Training Center	100	Male
3	Elazığ Handicrafts Training Center	25	Male
4	Kastamonu Handicrafts Training Center	40	Female
		70	Male
5	Mersin/Silifke Atatürk Handicrafts Training Center	30	Male
6	Sivas Handicrafts Training Center	80	Female

Training Topics: Rug Weaving, Local Cloth Weaving, wood Engraver, Removing the block and plate Manufacturer, Restoration, carpet Weaving, Women Top Clothing Sewing, Sewing-Embroidery, Imitation Jewellery Manufacturing, silver Processing

Turkish citizens are required to have attended the course. The participants are also required to have completed 14 years of age for boarding courses. All expenses of the trainees are paid by the government.

In addition, there is non-formal training activities of The Ministry of Food, Agriculture and Livestock on home economics and agriculture for the farmers and their family who lives in rural area.

Open Education Faculties

Distance education is a contemporary practice that "allows students to learn via communication technologies". Distance education, offered in many developing and developed countries, enables people from different age groups, different occupational backgrounds and different income groups to pursue their studies without losing their productivity and to arrange their studies based on their own capacity and pace. Distance education has recourse to education models that bring together students, instructors, and educational resources from different locations thanks to communication technologies. It is an educational philosophy that makes use of the technology of the age.

Articles 5 and 12 of the Law no. 2547, regulating the Turkish Higher Education and adopted on November 6, 1981, allowed Turkish universities to offer continuous and open education. Anadolu University Open and Distance Education System is the first institution in Turkey that offers higher education through contemporary distance education model.

The Open Education Faculty, where printed materials and television broadcasting have been used, continuously endeavors to find ways of integrating advanced technologies like the Internet, computer-assisted teaching and video-conferencing into learning processes to help students get accustomed to these technologies and build technological interaction. Besides, to fulfill students' needs, the faculty offers face-to-face academic guidance and practical services in selected areas.

Agriculture is the one of the programmes offered through the Open Education System. The overall objective of the program is to train qualified technicians who can contribute to the economy of the country in terms of agricultural production, can work successfully

in agricultural and agriculture-based institutions, and can implement advanced agricultural techniques.

Table 36. Open Education Faculty Agriculture Programme general specifications

Programme	Degree	Programmeavailability ¹
Agriculture	Two-year associated degree	SP, DP
<i>DP, domestic programmes open to graduates of General High Schools and Vocational Technical High Schools in Turkey and Northern Cyprus; SP, special occupational programmes.</i>		

Students that gain the knowledge, competence and skills specified in Higher Education Qualifications Framework in Turkey and qualifications of the Associate Degree Program in Agriculture graduate as specialists in agriculture. Although there is no specific professional legislation concerning agricultural technicians, the Law no. 3795 enacted after being published in Official Gazette no. 21226 of May 12, 1992 stipulates that the graduates of two-year higher technical education take the title of technicians and may be employed as agricultural technicians in all agricultural works that require technical staff. For example, in agricultural enterprises dealing with cultivation of field crops, horticultural crops and greenhouse production systems agricultural technicians can help agricultural engineers.

Agricultural Extension in Adult Education in Turkey

Extension services in Turkey have been performed mainly by the Ministry of Agriculture since the 1940s. Turkey has much experience in the application of agricultural extension system and approaches in terms of relationships between farmers and extension-research organizations. The implementation of private extension was limited but effective for today the contribution of universities, NGO's and private firms to extension activities were limited. Training and extension services are primarily under the responsibility of the Ministry of Agriculture. Extension services are organized at administrative districts by the Provincial Agricultural Directorates. In the provincial level, agricultural extension and related activities are implemented by agriculture directorates at 81 provinces, 803 districts and thousands of villages, and the organizational structures of these are shown in Figure below

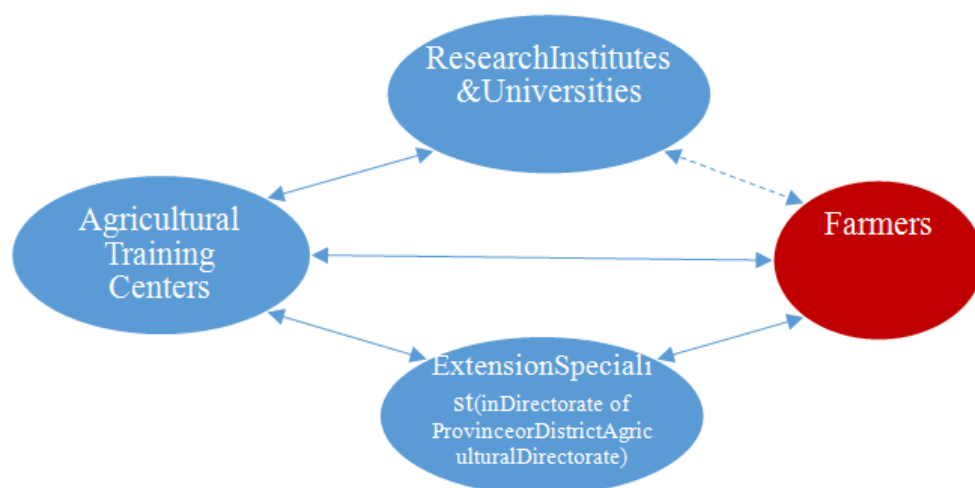


Figure 29. Agricultural adult education system

In-service training courses have also been organized and implemented by Agricultural Training Centers under The Ministry to all ministerials taff and farmers.

Table 37. Agricultural Training Centers by Ministry of Food Agriculture and Livestock

S.N	Name of the Training Center
1.	Adana Agricultural Extension and In-Service Training Center
2	Söke Agricultural Extension and In-Service Training Center
3	Ankara International Agricultural Training Center

A summary of the Agricultural training courses conducted in this Training Centers is given in Table 38. Although the number varies over time, 43 non-formal education activities were carried out.

Table 38. Course topics and duration in training centers

No	CourseSubject	Duration
1	ComputerAided Design	10
2	ComputerAided Design (3D)	10
3	CombineHarvesterControllerTraining	5
4	PlantProtectionMachinesandCalibration	5
5	Geographic Information Systemsand Using in Agriculture	5
6	Precision AgricultureTechnology	5
7	CottonHarvesterOperator Training	5
8	MilkingandMilkingMachines	5
9	Greenhouse Management	5
10	IrrigationSpecialist Basic Training	20
11	IrrigationMethodsTraining	10

12	ForageCropsandForageMechanisation	10
13	Use of RenewableEnergySources in Agriculture	5
14	Safety in Agriculture	5
15	AgriculturalMachinery Management	5
16	AgriculturalMachineryandEquipment Basic Training	10
17	AgriculturalWorkMachinesTrainer Course	10
18	No TillageAgriculture	5
19	CombineHarvesterOperatorTraining	14
20	CottonHarvesterOperatorTraining	14
21	GinningMachine Operator Training	14
22	PeaHarvest Machine Operator Training	14
23	Mechanization of vineyardsandorchards	5
24	Cotton mechanization	5
25	Sowing-planting-fertilizingmachinery	5
26	Greenhouse climate mechanization	5
27	OilPlantsMechanization	5
28	fruitMechanization	5
29	Silage mechanization	5
30	CornMechanization	5
31	Livestock mechanization	5
32	Forage crops mechanization	5
33	Pasture improvement and mechanization	5
34	Fieldcropsmechanization	5
35	Tractormaintenance	5
36	Graincleaningmachines	5
37	Tuberousplantsharvesters	5
38	Product Processing	5
39	Pruning	5
40	Fertilization in horticulture	5
41	Plantnutrition	10
42	Healthandsafety in agriculture	10
43	Renewableenergyresources in Agriculture	5

In the training centers, the agricultural extension has been focusing on the technologytransfer approach as a methodology for enhancing the productive capacity of agricultural producers. Graph that shows the number of trainees related to agricultural mechanization is presented in Figure9. Accordingly, in the last 15 year period, 11.178 people have been trained in agricultural mechanization issues. This data includes all engineers and technicians trained besides farmers.

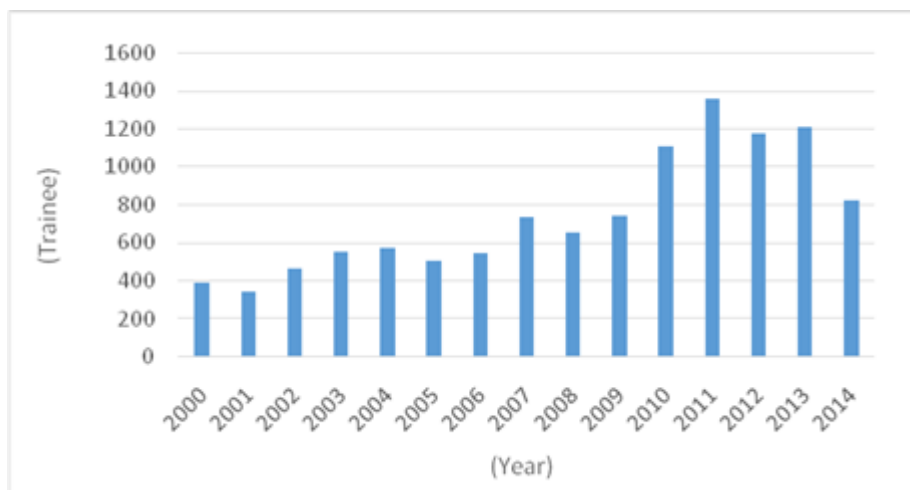


Figure 30. The number of trainees trained on agricultural mechanization through non-formal education

BRIEF COMPARASION

This baseline study covers the situation of Adult Education and Lifelong Learning in the ten countries of the Agri Base project consortium (Republic of Macedonia, Bosnia and Herzegovina, Italy, Spain, Serbia, Kosovo, Romania, Estonia, Bulgaria and Turkey) and complies with the European strategy (Europe 2020) for sustainable economic development as well as its modest benchmark of 15% adult participation in learning by 2020. One of the main changes in the understanding of the factors for economic development is the increasing role of human capital. Investments in education, training, acquiring new knowledge and skills, lifelong learning are the factors that lead to significant economic and social development. According to the statistical and economic information for the rural development in the EU and the report of the EC from 2013, the inclusion of adults from the rural areas into the LLL is between 5-10% in France and Italy, around 1% in Bulgaria, Portugal, and no data at all for Macedonia, Bosnia and Herzegovina and Kosovo. Besides the very low percentage, the adult education mostly is oriented towards basic skills like ITC and foreign languages, and no data for more specific skills, like attaining new skills in the field of agriculture. Therefore, well planned investments in human resources for the country will have an effect in the long term sustainable development of both individuals and the national economy.

The section Educational profile gives an overview of the key policy currently in force, and also outlines the main legislation or situation in the country. Additionally it outlines the main adult education providers, mainly looking at non-formal and informal learning.

As the baseline report shows, the adult education in general is hardly implemented in countries like Republic of Macedonia, Bosnia and Herzegovina, Kosovo and Serbia. These countries strive to implement the national education strategy in adult education as well as to raise awareness among the beneficiaries. The EU countries from the Agri Base project consortium show progress in that sphere with more in tensed focus on the adult education this connecting it to the second career and professional reorientation. According with the institutional framework in Spain, adult education is organized institutionally in three different areas: (1) Technical and Vocational education and Training, within the Educational Administration, (2) the Occupational Training for the

unemployed, and (3) Continuing Education and Training for workers employed within the area Labor Administration. In Italy, vocational training is mainly provided through Professional Training Courses. Their main purpose is the integration of students into the world of work, but they also work to enhance the professionalism and qualifications of the student. Given the variability of the economic system, these courses are inherently flexible but mostly orient towards ICT and foreign languages. The rest of the institutions in the consortium have acquired a National development Program on adult education and Adult Education Policy, yet this type of education is conducted at vocational schools where the programs are in a phase of accreditation. In any case, the adult education in the field of agriculture is mainly mostly developed in Estonia where a variety of study opportunities have been developed for adult learners including distance learning and evening courses, external study and part-time study, with EMU being a positive example in conducting AE programs in agriculture.

Many of EAEA's Central and Western European members are currently involved in the development or implementation of National Qualification Frameworks or Validation Frameworks for non-formal adult education. At the Southern European, Central and Eastern European countries (ES, IT, TR, MK, BG, SR) the recognition of the non-formal adult education is an issue and raising the awareness is the basic problem.

CONCLUSION

Baseline report is a professional material with a focus on the adult education systems in agriculture, upon which the following conclusion can be made:

- The actual and social role of the adult education gains on importance lately.
- The EU policies in adult education provide with a scope of activities within the national policies of the EU member states.
- The candidate EU states as well as non-EU states implement in their policies of adult education the European priorities and principles which provides for a convergence of the adult education system on the entire European continent.
- The system of adult education in the field of agriculture and food technology is highly heterogeneous in many aspects.
- At the partner countries of the project consortium the following types of adult education are present (formal, non-formal and informal).
- The e-learning system is still not implemented sufficiently.
- The issue of competence recognition, in particular at the non-formal and informal learning is still open.

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