With the support of the Lifelong Learning Programme of the European Union

ACT
(Agricultural Alliance for Competence and Skills based Training)

Project number: 540426-LLP-1-2013-1-DE-LEONARDO-LMP

Work package 1:
Cross-sectoral knowledge exchange and need analysis

Desktop Research guideline
according to D1.1

http://www.act-now.eu

Lifelong Learning Programme

Change history of the document:

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1	2014-01-20	Carmen Müller	Initial development of the document
2	2014-01-28	Andrea Mohoric	Comments and corrections via e-mail
3	2014-02-11	Bas Timmers	Comments and corrections in the document
4	2014-02-17	Carmen Müller	Finalisation of the document concerning to the comments, corrections and discussions in the consortium for so far
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1. Introduction to the project and its objectives

Agricultural Alliance for Competence and Skills based Training (ACT project) has been funded with support from the European Commission and aims to establish a strong connection between a sizable ecosystem: job seekers, job providers and training opportunities, in the agriculture sector, such there is a demand of qualified employees and a weak connection among job providers, job seekers and training programs. At this point, ACT aims at establishing and sustaining an Alliance for competences and skills based vocational education and training (VET) in agriculture: The **motivation** behind this, is to respond to the demand for lifelong-learning in the agricultural sector, facing environmental (Climate change and biodiversity loss), economic, social and territorial challenges, as well as EU directive reforms (Common Agricultural Policy (CAP)).

ACT **Mission** is to support and improve farming business by developing tools for defining competences on agricultural innovations and management. Consequently, ACT **vision** is to help the farming business to face current and future challenges, by providing innovative tools and establishing competence based vocational education and training in agriculture. Taking these into account, ACT main **scope** is to improve the competitiveness of European farming.

Eight partners from **four** countries (Germany, Greece, Italy and The Netherlands) are joining forces under the coordination of the University of Duisburg-Essen. This alliance will include all relevant stakeholder groups in the agricultural sector, namely the farmers, industry, VET providers and policy makers as well as the labour services within the European agriculture. In such close cooperation, ACT develops a framework, the "Pathways for Agricultural Competence and skills based Training (PACT)" and related training and tools for its implementation and usage. Thus, ACT clearly contributes to the ET 2020's key objective and priority for the continuous development and management of knowledge, skills and competences at the individual and organizational levels. In summary the **mission** of ACT is to support and improve farming business by tools defining competences on agricultural innovations and management - to finally making lifelong learning and mobility a reality in Europe.
The main **outcome** of ACT is the framework "Pathways for Agricultural Competence and skills based Training (PACT)" for the introduction and harmonization of competences and their descriptions in agricultural lifelong learning, labour services and policies. To implement PACT, several tools will be developed including a specific ACT Training module for PACT (to be used by multipliers first and then by VET

providers) and the ACT Portal (to be used by farming employers and employees, VET providers and labour services officers) for information about PACT as well as for easy finding of fitting competence based VET in agriculture.
For the broadest promotion, dissemination and exploitation of PACT, the ACT alliance issues (next to many other dissemination efforts and activities) an annual ACT Award to collect and highlight best practices for the usage and harmonization of competence descriptions in lifelong learning, labour services and policies in the agricultural sector. Finally, the ACT alliance will summarize all recommendations in the ACT White Paper.

All project outcomes will be available at: www.ACT-now.eu.
The main **target group** of ACT is the farming business with the family farmers as well as with the industrial farmers including both, the employers and the employees. They are benefitting from the introduction and harmonization of the competences and theirs descriptions in agriculture by the "Pathways for Agricultural Competence and skills based Training (PACT)" through the facilitated and improved search ability for fitting vocational education and training modules within the ACT Portal and within other online platforms and services like open job offers and labour services. In addition, the ACT alliance identifies and defines the required key competences of the two current core challenges for farming business (agricultural innovations and management) leading to clear information and potential demands for additional lifelong vocational education and training (VET) modules. Such demands are extremely valuable information for the second target group of ACT, the VET providers for agriculture. They are also benefitting from the introduction and harmonization of the competences through an easier and more comprehensive and understandable description of their lifelong learning modules. Consequently the VET policy makers and accreditation agencies in agriculture gain advantage through the identified required demands and competences and the facilitated and improved comparison of agricultural VET. Finally the labour services and their officers benefit from the harmonization of the competence descriptions within their daily work and for the publication of free job offers and their easier understanding and classification.

More information and all project outcomes will be available at www.ACT-now.eu.

This document describes the tasks and deliveries within WP1 concerning to the described project above as well as the results of the desktop research.

1.1 Terms and Definitions

ACRONYMS	DEFINITION
ACT	Agricultural Alliance for Competence and Skills based Training
AIAB	Italian Association for Organic Farming
AK	Agro-Know Technologies
BIBB	Bundesinstitut für Berufsbildung
DLG	DLG-Akademie
EC	European Commission
ECVET	European Credit system for Vocational Education and Training
ENAPRA	Ente Nazionale per la Ricerca e la Formazione in Agricoltura
EQF	European Qualifications Framework
IFSAT	International Foundation for Sustainable Agriculture Training
PACT	Pathways for Agricultural Competence and skills based Training
TEIA	Technical Educational Institute of Athens
UDE	University of Duisburg-Essen
VET	Vocational Education and Training

1.2 Description of WP1, tasks and deliveries

WP1 serves to lay the groundwork for the project by:

- Determining emerging jobs and existing skills needs in the agricultural sector in the four partner countries,
- Knowledge triangulation between policy-makers, representatives of the labour market and VET institutions,
- Involving the representatives of the above fields for future project activities.

The consortium has presumed and identified skills needs based on previous experience and common mutual project activities in the agricultural sector within the following areas:

- entrepreneurship & business management skills,
- marketing/promotion/networking skills,
- technology skills, and
- sustainable/organic cultivation skills.

However, these general findings need to be verified and explored in details how they should be addressed according to the perceptions and requirements of the key actors in the field.

To reach the objectives WP1 follows a strategy of open discourse and early involvement of the target groups. The following tasks are foreseen:

T1.1. Conduct a desk research on national and regional reports as well as policy papers highlighting specific skills-needs and emerging new jobs which businesses have found hard to staff. The consortium will mainly look into written documents issued by policy-makers or research centres in the partner countries without limit itself to these.

D1.1: Report on emerging jobs and skills gaps in agriculture in four countries

The report will present the results of the desk research in four different countries. It will highlight differences and commonalities in emerging jobs and articulated skills needs between partner countries. The report will also list some key players who have publically raised concerns or issued positions and white papers. It will feed into the preparation of the focus groups.

Further Tasks and deliveries in WP1:
T 1.2. Develop a focus group methodology for ACT and implement four national focus groups collaboratively organized by the partners in the respective partner countries (DE, EL, IT, NL) which will create a discourse among key representatives of the agricultural labour market, VET providers, and policy-makers, more specifically involving ministries, labour institutes, and professional associations, experts in agricultural training providers, and research centres. Knowledge gained through the previous desk-research will be refined and revised.

D1.2: This document will outline the methodology how future participants will be engaged in the discussion on emerging jobs and existing skills gaps in order to verify, disprove or refine results from the desk-research by providing key questions which will be discussed across the four partner countries (for comparability) without restricting to adapt to the national context.

The document will also have a practical nature, by providing templates for focus group invitations and implementation as well as a reporting scheme to feedback results to DLG who will synthesize the outcomes (D1.3 below).

D1.3: The deliverable will synthesize the outcomes of the focus groups and will present the results from the national focus group meetings: In particular it will provide input for the development of the "Pathways for Agricultural Competence and skills based Training" (PACT) framework allowing for an evidenced-based decision on

which job profiles, competences, and skills should be addressed to meet the stakeholders' needs best.

	Partners involved	Country	Short name	Role and tasks in the work package
Lead partner	**P5**	**DE**	**DLG**	Leader of the work package; will coordinate the initial desk-research among partners and compose D1.1; will organize a focus group in Germany supported by UDE and BIBB; will report on the German focus group results; will compose D1.3 integrating all focus group results
	P1	**DE**	**UDE**	Will contribute to the desk research focusing on Germany; Will prepare the focus group methodology D1.2; Will support the organisation of a focus group in Germany
	P2	**EL**	**TEIA**	Will contribute to the desk research focusing on Greece, Will organize a focus group in Greece supported by AK, Will report on the Greek focus group results
	P3	**EL**	**AK**	Will contribute to the desk research focusing on Greece, Will support the organisation of the focus group in Greece
	P4	**NL**	**IFSAT**	Will contribute to the desk research focusing on the Netherlands; Will organize a focus group in the Netherlands; Will report on the Dutch focus group results
	P6	**DE**	**BIBB**	Will contribute to the desk research focusing on Germany; Will support the organisation of a focus group in Germany
	P7	**IT**	**ENAPRA**	Will contribute to the desk research focusing on Italy; Will organize a focus group in Italy; Will report on the Italian focus group results
	P8	**IT**	**AIAB**	Will contribute to the desk research focusing on Italy; Will organize a focus group in Italy, Will report on the Italian focus group results

2. Working procedure according to the desktop research guideline (D1.1):

a) According to the desktop research template delivered in point 6) below, data will be collected in the partner countries on national level and - at the end - summarised for each country in English. (all partner countries which are Greece, Italy, The Netherlands, Germany)
An overview report on EU-level will be worked out extra ordinarily. (DLG)

b) Policy documents on national and EU-level shall be collected in the "template literature review" like in point 7 below. (all partner countries)

c) National and EU "key players" shall be listed in the "template key players" like in point 8. below (all partner countries)

d) Content analysis of the collected data and policy-documents according to differences and commonalities in emerging jobs and articulated skills gap

matching all reports from the partner countries and the EU-report shall be coded like in point 9. (DLG)

e) Final report on the desktop research of about 15-20 written pages plus list of key players who have publically raised concerns or issued positions and white papers. (DLG)

3. Time table for the Desktop research D1.1 up to D1.3

Task for D1.1 – desktop research	**by**
Delivery of guideline for desktop research –	2014-01-20
Feedback by all partners –	2014-01-27
Final guideline by DLG –	2014-01-31
Desktop research/Start of data collection by all partners –	2014-02-01
End of desktop research -	2014-03-15
Report on desktop research results merged by DLG – (pre-final D1.1)	2014-03-31
Feedback on D 1.1. by all partners –	2014-04-07
Final D1.1 by DLG –	2014-04-15

Task for D1.2: Focus groups methodology	**by**
Focus groups methodology – first draft by UDE	2014-02-21
Feedback by all partners –	2014-03-03
Final D1.2 –	2014-03-12

Task for D1.3: Focus Groups (workshops) in all countries and reports	**By**
Agree on dates for national focus groups asap and who to invite (beginning next week)	Asap
Start on collecting potential participants	Asap
short ACT summary / vision by UDE	2014-01-24
Invitation letter by DLG	2014-01-31
Focus Groups & Reports in each country	2014-03-15
National Report on Focus Group to be sent to DLG	2014-06-04
Pre-final merged version by DLG	2014-06-20
Final D1.3	2014-07-07

4. Target groups to be considered

The ACT project - through a multitude of activities - will engage 3 main target groups during its life-cycle:

1) representatives of the agricultural labour market and agricultural businesses
2) VET providers offering training opportunities in agriculture
3) and policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres

The below table shows the main benefits for all target groups which will be created through ACT project activities:

Sharing knowledge & creating awareness on currently emerging job profiles and existing skills needs in the agricultural sector	- Analyse emerging jobs and existing skills gaps in the agricultural sector in the four partner countries in policy papers, etc. in all four partner countries
1, 2, 3	- Organize four national focus groups to create dialogue among key individuals of all these actors (summarized in a report) reaching a minimum of 35[1] participants overall

As defined in the **ACT KICK OFF meeting** to start with in WP1 but can be changed
-agricultural VET providers
-VET policy makers and accreditation agencies
-MAIN: Farmers: Family and industry
(representatives of the labour markets)
=to be invited to focus groups later on
Further, 4th target group: Labour services

Definition of "Farmers":
Future farmer and his needs in the middle of the food chain:
1. Family Farmers/farming: farmers
2. Industrial farming/farmers: employers & employees

5. Contents to be considered – current topics

The consortium has identified the following skills areas to be focused on based on previous experience and common mutual project activities in the agricultural sector:

1. entrepreneurship & business management skills,
2. marketing/promotion/networking skills,
3. technology skills, and
4. sustainable/organic cultivation skills.

Elements contributing to "business sustainability":

- Professional skills/knowledge/competences (focus only on innovations!)

[1] The number is in line with research literature and experience for a suitable group size to arrange for successful focus groups

- Management (economic, legal, environmental)
- Social (e.g. family business, children take over and suddenly have to manage older people (change of roles));

= *management & innovation in agriculture*

6. National report template for desktop research

A template is provided below to enable the reports to be developed in a systematic way and to support standardisation of reporting. This report template will be used as coding frame for the content analysis for the final report as described in 9). Additionally a template for important sources and contact persons like in 7) and 8) shall be used.
Data Sources: Reports, Database research (Census; EUROSTAT; Government & Farmer Societies` Agricultural report); Books, articles; Surveys, academic journals; The source should be named by chapter, paragraphs and footnotes as in 7) above.

Overview: The desktop research includes 4 Themes:

Theme 1: National Agricultural Profile

Theme 2: Agricultural Education & Training system and role of VET (Environment of VET providers offering training opportunities in agriculture, policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres)

Theme 3: Current topics in agriculture (farmers` environment)

Theme 4: Education and Training needs: first interpretation of the collected data on national level - conclusion

National Report: Europe

Partner: DLG Country: Europe

Theme 1: National Agricultural Profile **Questions to be answered:**	
Economics	**What economic benefits are attributed to the agricultural economic agenda of the country?**
The contribution of agriculture and forestry to macroeconomic gross value added in the EU 28 was 1.7 per cent in 2012. This accounts for a share of 1.7% of the gross value added and a share of 4.9% of people employed. There are major differences between the individual Member States. For example, the share of employees ranges between 2% in Germany and 23% in Romania.	
Employment & Education	**What is the general employment situation and how are employees and farm employers educated?**
There are great differences between the agricultural farm structures and training of the workers within the EU. More than half of the farms in the EU are very small and only farm a very small area. Only a few very large farms farm about half of the agricultural area. Family labour predominates throughout the EU. In view of the different training paths within the EU there are also major differences in the qualifications of the farm managers.	

Theme 1: Content of data collection:

Demographic profile

- **Size**: 4,406,794.1 km²
- **Population**: Total Population (EU-28): 507,227,305
- Nominal GDP (EU-28): 13,067,619.0 million Euro
- **Climate, economic status**:
  The structure of agriculture differs very strongly between the various countries, depending on the nature of the soil, the topography, the climate and the natural resources, as well as on the diversity of the regional activities, the infrastructure and social traditions.

Agriculture and economics in general

Economic indicators:

Agricultural output in million €: 381,243.1 (54.4% crop output, 43.6% animal output)

The contribution of agriculture and forestry to the macroeconomic gross value added in the EU 28 was 1.7 per cent in 2012.

Importance of agriculture and the food industry in the EU: share in per cent of

- Gross value added: 1.7
- Number of employees: 4.9; → differs widely between countries: 23% Romania, 2% Germany

Economic importance of agriculture

Investments in agriculture

GDP (output value, gross value) (2013):

Output value: € 381,243.1 million (+1%)
Gross value: € 162,044.9 million

- Of the 12.2 million agricultural holdings in the EU-28 in 2010, 5.5 million holdings (44.6 %) had a standard output below EUR 2 000 and were responsible for only 1.4 % of total agricultural economic output in 2010.
- 1.9 % of holdings that had a standard output in excess of EUR 250 000 accounted for almost one half (47.8 %) of all agricultural economic output

Number of employees in general (people in paid work): 2010

- 25.5 million people work regularly on farms, including 23.5 million proprietors and family members
- More than half of these people spent less than 25% of their working time on agricultural activities (= part-time work)
- 9.9 million full-time employees in the year 2010
- 30% of farmers in the EU are older than 65
- Farming was predominantly a family activity: 77.8 % of the labour input in agriculture came from the proprietor or members of his/her family in 2010.

Working hours:
9,945,800 Annual Work Units

Development of the sector:
Varies widely in the different countries of the EU. As a result of the increasing use of technology, there has been an increase in production but this is difficult to measure due to the constant structural changes in the EU.

Agricultural budget in general:
EU budget for the year 2013: Euro 144.9 billion

- EU budget: Agricultural expenditure (2011) Euro 54.8 billion
- Share of agricultural expenditure in the EU's gross national income 0.38%
- Direct payments dominate the agricultural budget (75%), rural development (21%), market support measures (4%)

Production, markets & prices: equipment (crop protection, fertilizers, seeds, machinery) and animal feed;
Agricultural input: total intermediate consumption (2013) 250,532.4 (+2.6%)

- Feedingstuffs: Euro 98,179.1 million
- Energy: Euro 31,139.1 million
- Fertilizers and soil improvers: Euro 19,100.8 million
- Agricultural services: Euro 16,781.3

The price level for foods differs distinctly between the various countries:

- It is highest in Denmark
- It is lowest in Poland

Crop products; animal products

Crop products: 54.4% of the agricultural output (€ 211,130 million, constant as in the preceding year); cereals 15.8%, vegetables and horticultural products 12.7%, fruits 6.2%, industrial crops 5.2 %

Animal output: 43.6% of the agricultural output (Euro 170,113.1 million, +2.2%)

- 26.5 % animals
- 17.1 % animal products

Agricultural foreign trade, role of national production in the international context:

- The EU is the world's largest exporter; in 2011 its share of world trade was 15.4% (Euro 1,686 billion)
- Important export products are above all grain, milk, meat, beer, wine and spirits
- EU imports account for a share of 16.4% of world trade (Euro 1,791 billion)
- The main products imported are vegetables, fruit, fish, feedstuffs, oilseed and oilseed products, coffee, tea, meat products, tobacco, cocoa
- The EU is a net importer; the main trading partners are the USA, China and Russia
- In an international comparison, the EU is an open market for developing nations and emerging economies

Resources used in agriculture

Status % acreages used:

- The farms in the EU work 174.1 million hectares of land (the utilized agricultural area) or two fifths (40.0 %) of the total land area of the EU-28
- Three fifths (59.7 %) of the farmland was used as arable land in 2010, the greater part being used for cereal production
- One third (34.0 %) was permanent grassland and meadow
- Permanent crops, such as vineyards, olive trees and orchards, accounted for 6.1 %

Importance of bioenergy and renewable primary products

- The production of renewable energy from agriculture and forestry in the EU-27 reached 98.4 million tonnes of oil equivalent in 2010. Forestry is far more important in absolute terms (80.8 million tonnes) than agriculture (17.5 million tonnes).
- The primary energy production of renewable energy from agriculture and forestry in 2010 represented 11.9 % of the total primary energy produced and 59 % of the total renewable energy produced.
- 60 % of renewable energy from primary biomass sources in agriculture consists of biofuels (48 % or 8 457 ktoe from biodiesel energy crops and 12.2 % or 2140.8 ktoe from ethanol energy crops) and agricultural biogas (39.8 % or 7 008.7 ktoe).
- 2011: 6.1 million ha of agricultural land in the EU-27, (3.4 % of the total UAA), were directly devoted to the production of biomass and energy crops.

Agricultural structure

Initial investments: vary between the countries

Land market: varies between the countries

Farm structures

- Number of holdings: 12,247,990
- The average size of each farm in the EU-28 was 14.2 hectares
- A large number (6.0 million or half of all holdings) of very small farms (less than 2 hectares in size) farmed a small proportion (2.5 %) of the total land area that was used for farming in 2010
- A small number (2.7 % of all holdings) of very large farms (over 100 hectares) farmed almost half (50.2 %) of the farmland in the EU-28
- One half of all the land used in agriculture across the EU-28 was farmed in just four Member States: France (16.0 % of the EU-28 total), Spain (13.6 %), the United Kingdom (9.7 %) and Germany (9.6 %)

Farm typology (2010):

- 24.9%: holdings with specialist field crops (cereals, oilseed and vegetables)
- 20.1%: specialist permanent crop holding (vineyards, olives)
- Specialist grazing livestock holdings (dairy cows, cattle, sheep and other ruminants), granivore holdings (pigs or poultry), mixed livestock holdings and mixed crop-livestock-holdings together accounted for 46.7%

Sectors incl. organic farming

Five production systems:

- Precision Agriculture
- Conservation Agriculture
- Organic farming: 9.6 million hectares; 5.4%, over 186,000 farms. Continues to expand. 57% of total organically farmed land lies in Spain, Italy, Germany, France and the United Kingdom
- Agroforestry: 178 million hectares of forests and other wooded land in the EU, about 42 % of its land area (+0.3% per year), gross output (2008) 21,000 million
- Integrated farming

➔ These different production systems have differing impacts on nature; above all intensive agriculture has many negative effects: pollution of soil, water and air, fragmentation of habitats and loss of wildlife. Many political campaigns aim to structure agriculture more sustainably.

The **Common Agricultural Policy (CAP)** states three focal areas for measures to protect and maintain the agricultural heritage of the EU:

- Biological diversity, maintenance and development of “natural” agricultural and forestry systems and traditional agricultural landscapes,
- Water management and water consumption,
- Climate change.

Aquaculture:

- In Europe nearly 20% of fish originate from aquaculture
- ~ 70,000 persons are employed in the sector
- Since 2000 the volumes produced have been stagnating
- The EU is only a small producer on a global scale (1.5%)
  Aquaculture production by the EU-28 reached 1.28 million tonnes and Euro 3,000.51 million in 2011 according to the FAO.

EU policies and subsidies vs. national agricultural budget

Common agricultural policy

- Tied to “Cross Compliance”
- Possibilities of partial decoupling
- Splitting of the farm premium as of 2015 into a basic premium and a Greening Premium
- Bonus for young farmers

Theme 2: Agricultural Education & Training system and role of VET (Environment of VET providers offering training opportunities in agriculture, policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres)

Questions to be answered:

Strategic direction	What strategic objectives are attributed to VET policies?
Linkages	How is VET linked to political agendas e.g. employment?
Investment	What level and kind of investment is currently being deployed into VET?
Committees, panels, boards and certifying bodies according to target group 2 (stakeholders)	What kinds of committees, panels, boards and certifying bodies do exist within the VET system?
	What kinds of purposes do they have?
	Are these purposes consistent with current policy and ‘models’?
Different interests of stakeholders and their organizations	What kinds of interests are represented by the stakeholders?
	How do these interests engage with current policy agendas?
	Are the stakeholders contributing anything new to state of the art?
Conceptual shaping	What educational and learning models drive national approaches to VET?
	Which job profiles drive national approaches to VET?

Theme 2: Content of data collection:

Agricultural education system:
Existing Job profiles and tasks;
VET levels&models, requirements, lengths, courses, further advanced education,
Numbers participating in education by age; sector ; status, % GDP spend on education
Sectoral distribution (VET; schools; universities)
Average per capita spend on education
No. of schools, higher education, adult learning per population; average school size; teacher/pupil ratio; Educational and training policies; stakeholders and their functions

Theme 3: Current topics in agriculture (farmers` environment)

Questions to be answered:

Innovation & Management	**What kinds of current topics can be identified in agriculture and are of interest for the farmers in the near future?**

- Sustainability of Agriculture enterprises and production vs. Intensive agriculture,
- World agricultural trade
- Technological developments
- Agriculture as energy producer
- Climate Change
- Demographic and structural change
- Organic farming

From country to country different topics are currently of interest. These depend partly on the agricultural structure.

Requirements / Needs	**What do farmers need to survive in the near future and how can ACT and VET establishments support this?** **More specific: Which requirements / skills needs by farmers drive national approaches to VET?**

From country to country different skills are needed by labour. These depend partly on the agricultural structure.

Theme 3: Content of data collection:

Required skills for innovation & management in agriculture articulated by VET policy makers, VET providers & agencies, farmers (employers & employees) as well as labour services and prop. other important players in agriculture

Sustainable Food and Agriculture:

- Destruction of the environment is to be stopped by including environmental concerns in the Common Agricultural Policy
- The sustainability of the agricultural ecosystems is to be strengthened
- Extensive agriculture can preserve valuable landscapes; however, intensive agriculture can have a negative influence
- Negative influences that can be mentioned include pollution of soil, water and air, as well as destruction of habitats
- Accordingly, developments and trends in agriculture are to be considered with regard to sustainability

Climate change:

- Climate change represents a double challenge for agriculture
    - Agriculture causes gases having an effect on the climate

- Farmers suffer under the consequences
- The EU specifies measures and adaptations that must be implemented by the countries
- In adaptation it is important to develop new thinking patterns and approaches to risks and dangers, uncertainties and complex circumstances
  - The Europeans must work together here, learn from each other and invest in the long-term conversion processes

World agricultural trade

- World agricultural trade for value adding and food security – potentials and problems
  - Drivers of world agricultural trade and trends
  - Role of world agricultural trade for efficient and sustainable agriculture and food security
  - Agricultural policy problems and opportunities
- EU-US-Free Trade Zone – Significance for global agricultural trade
  - Impacts of the EU-US Free Trade Zone on agriculture in the EU and the USA
  - Importance of the Free Trade Zone for agriculture in the developing countries
- Open agricultural markets – opportunities for farmers in Europe as a prime location
  - Importance of production standards in international trade as seen by producers
  - Value chains as a key to securing international markets
  - Effects of production specifications on the domestic market and international competitiveness
- Shaping world agricultural trade – prospects for developing countries
  - Significance of agriculture for poverty reduction in developing countries
  - World agricultural trade – problem or problem solver for securing food for the world?
  - Principles of fair agricultural trade – prospects for developing countries
- Ethics of world agricultural trade
  - Effect of speculation and world agricultural trade on the pricing of agricultural products
  - Responsibility of agricultural favoured locations for food security and price stability
  - Role of markets in poverty reduction

Demographic change/structural change

- Migration of young people
- Maintenance of an adequate infrastructure necessary → Identifying the trend towards urbanization, life in the country must remain attractive
- Ever more difficult to find junior staff → Number of employees drops
- The number of young farmers drops
- The size of farms will increase throughout Europe
- The CAP can neither reverse nor stop the demographic change → only promotional options can be made available
- Development of rural areas is at the forefront of the EU agricultural policy

Organic farming

- For more and more people organic has become a way of living, good practices vis-à-vis the environment and the labour force employed on organic farms.
- The organic sector in the EU has been rapidly developing during the past years but most of the farms are in the EU member states.
    - In 2012 the organically farmed area in Europe increased by 6%
    - 30% of organically farmed land worldwide is to be found in Europe
- There is an EU Organic Regulation (Regulation (EC) No. 834/2007) on organic production and the labelling of organic products
- The regulation makes minimum demands of organically produced products that are partly developed further/made stricter by the Member States

Which requirements / skills needed by farmers drive national approaches to VET?

From country to country different skills are needed by labour. These depend partly on the agricultural structure.

Theme 4: Education and Training needs: first interpretation of the collected data on national level - conclusion

Questions to be answered:

Needs	What kinds of current needs (in between skills, VET, job profiles) in innovation & management can be identified?

Theme 4: Content of data collection:

Current needs (skills, VET, job profiles) in innovation & management

7. Template literature review: Recommendations for policy documents:
Please list here several literature/websites (media) you found/used within your research according to the themes 1-4, especially white papers and which you find relevant and you intend to approach. For each identified media, please provide a short description (abstract of the content) and your justification.

Partner: DLG Country (or EU-wide): EU-wide

Theme: 1, 3

Name of Publication	Reference / URL	Abstract /key messages
Theme 1:		
Deutscher Bauernverband (2013): *Situationsbericht 2013/14 – Trends und Fakten zur Landwirtschaft.*	http://www.bauernverband.de/situationsbericht-2014	This report highlights the development in the agricultural sector and points out the trends and facts for Germany.
European Commission for Fisheries (2013): *Aquakultur.*	http://ec.europa.eu/fisheries/cfp/aquaculture/index_de.htm	Overview on aquaculture.
European Comossion for Agriculture and Rural Development (2014): *Landwirtschaft und Umwelt.*	http://ec.europa.eu/agriculture/envir/index_de.htm	Overview on the rural area and the rural development in the EU.
European Comission (2010): *Agricultural Census 2010.*	http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Agricultural_census_2010_-_main_results	Statistics from the most recent farm structure surveys conducted in the EU as an agricultural census in 2009/10.
European Comission (2012): *Farm structure statistics*	http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Farm_structure_statistics/de	How the farm structure looks like in the EU.
European Comission (2012): *Rural Development in the EU: Statistical and Economic Information.*	http://ec.europa.eu/agriculture/statistics/rural-development/2012/full-text_en.pdf	The European Commission provides an annual overview of statistical and economic information covering the three objectives of rural development policy 2007-2013.

European Comission (2013): *Agrarstatistiken der europäischen Komission.*	http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/introduction	Controls the aims of the Agricultural Policy of the EU.
European Comission (2013): *Agri-environmental indicator - renewable energy production.*	http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Agri-environmental_indicator_-_renewable_energy_production	Overview on bioenergy production in Europe, several levels in different countries.
European Comission (2013): *The Economic Performance of the EU Aquaculture Sector (STECF 13-29)* .	http://stecf.jrc.ec.europa.eu/documents/43805/622206/2013-12_STECF+13-29+-+Aquaculture+economics_JRCxxx.pdf	Article on the Economic Performance of the EU Aquaculture Sector.
European Comission (2014): *Member States Factsheets*	http://ec.europa.eu/agriculture/statistics/factsheets/pdf/eu_en.pdf	Factsheets on the member states in the EU.
Eurostat Pocketbooks (2013): *Agriculture, forestry and fishery statistics.*	http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-FK-13-001/EN/KS-FK-13-001-EN.PDF	This pocketbook provides a selection of topical data. The information are presented for the European Union (EU) and its Member States.
STOA (Hrsg.) (2013): *Technology options for feeding 10 billion people.*	http://www.ecologic.eu/sites/files/publication/2014/stoa-feeding-10-billion-people-ipol-join_et2013513539_en.pdf	Report about Options for sustainable food and agriculture in the EU
Theme 3:		
AGRA-Europe Presse und Informationsdienst GmbH (Hrsg.) (2013): *Der Biomarkt wächst*	http://www.agra-europe.de/startseite.html?no_cache=1	Development of the organic market in the last year.

weiter. In: AGRA-Europe 8/14, S. 1f.		
Bundesanstalt für Landwirtschaft und Ernährung (2014): *Open Days zum Demografischen Wandel: Politische Strategien und praktische Lösungen.*	http://www.ble.de/DE/04_Programme/03_LaendlicheRaeume/Demografischer-Wandel-DVS-OpenDays.html	Consequences of the demographic change in rural areas.
DLG (2014): *DLG-Wintertagung 2014: Weltagrarhandel: Wer profitiert? wer verliert?*	http://www.dlg.org/wintertagung.html	The agricultural trade is important for efficient allocation of food and agricultural resources.
Europäische Umweltagentur (2013): *Europa muss sich anpassen, um dem Klimawandel einen Schritt voraus zu sein.*	http://www.eea.europa.eu/de/pressroom/newsreleases/europa-muss-sich-anpassen-um	Challenges because of the climate change
European Comission (2013): *Facts and figures on organic agriculture in the European Union.*	http://ec.europa.eu/agriculture/markets-and-prices/more-reports/pdf/organic-2013_en.pdf	Report how the organic sector in the EU has developed.
European Comission (2014): *Landwirtschaft und Umwelt.*	http://ec.europa.eu/agriculture/envir/index_de.htm	Why it is important to practice sustainable agriculture.
European Comission, Eurostat Yearbook (several years): *Europe in figures.*	http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Europe_in_figures_-_Eurostat_yearbook/de	Europe in figures - Eurostat yearbook presents a comprehensive selection of the available statistical data at Eurostat, together with explanatory text.
European Comission (2014): *Ökologischer Landbau.*	http://ec.europa.eu/agriculture/organic/index_de.htm	Website about organic farming in the EU.
Innovationsoffensive ländlicher Raum (Hrsg.) (2009):	http://www.fes.de/niedersachsen/common/pdf/Hinterg	Background paper for the series of events which focus on future in the agricultural area. It presents perspectives for Nature-compatible management after 2013 “

Perspektiven für naturverträgliches Wirtschaften nach 2013 – Zukünftige Herausforderungen für den ländlichen Raum in Deutschland und Europa – die Megatrends.	rundpapier_Kaphengst.pdf	
Science and Technology Options Assessment (STOA) (Hrsg.) (2013): *Technology options for feeding 10 billion people – Sustainable food and agriculture in the EU.*	http://www.ecologic.eu/sites/files/publication/2014/stoa-feeding-10-billion-people-ipol-join_et2013513539_en.pdf	The report offers a view on how the EU could play a role in meeting the challenges in the coming decades and sets out some of the options.
Von Witzke, H., Humbolt Universität zu Berlin (2008): *Weltagrarmärkte – Herausforderungen und Chancen für die EU Agrarwirtschaft.*	http://www.agrar.hu-berlin.de/fakultaet/departments/daoe/ihe/Veroeff/Agrarische_Rundschau_2008.pdf	Article about changes in global agricultural markets and implications for global food security and the EU agriculture.

8. Template "key players" in agricultural VET:

Contents: Name, function, URL, role and interpretation of influence (e.g. policy, lobby, labour union, chamber etc.)
Please identify and list here important "key players"who may be important to contact within the project and to invite to the focus groups.

Partner: DLG Country (or EU-wide): EU-wide

Theme: 3

Name	Function	Address/URL	Role	Influence
Prof. Dr. Dr. H.c. Joachim von Braun	Director	**Center for Development Research (ZEF)** Walter-Flex-Str. 3	Speaker at „DLG-Wintertagung 2014"	Article on the subject „Weltagrarhandel für

		53113 Bonn Email:zef@uni-bonn.de http://www.zef.de/zefhome.html		Wertschöpfung und Ernährungssicherung – Potenziale und Probleme“.
Prof. Dr. Martina Brockmeier	Director	**Professur für internationalen Agrarhandel und Welternährungswirtschaft, Uni Hohenheim** Wollgrasweg 43, 2. OG, 70599 Stuttgart Phone: 0711 459-23392 https://www.uni-hohenheim.de/einrichtung/fg-internationaler-agrarhandel-und-welternaehrungswirtschaft-1	Speaker at „DLG-Wintertagung 2014“	Article on the subject „EU-US-Freihandelszone – Bedeutung für den globalen Agrarhandel“.
Dr. Wolfgang Jamann	General secretary	**Deutsche Welthungerhilfe e.V.** Friedrich-Ebert-Str. 1 53173 Bonn Phone: +49 (0) 228-2288 0 info@welthungerhilfe.de http://www.welthungerhilfe.de/home.html	Speaker at „DLG-Wintertagung 2014“	Article on the subject „Weltagrarhandel gestalten – Perspektiven für Entwicklungs-länder“
Prof. Dr. Ingo Pies	Professor	**Lehrstuhl für Wirtschaftstechnik, Martin-Luther-Universität Halle-Wittenberg** Große Steinstraße 73 06108 Halle (Saale) Phone: +49 (0)345 55-23421 http://ethik.wiwi.uni-halle.de/	Speaker at „DLG-Wintertagung 2014“	Article on the subject „Ethik des Weltagrar-handels“

National Report: Germany

Partner: DLG **Country: Germany**

Theme 1: National Agricultural Profile **Questions to be answered:**	
Economics	**What economic benefits are attributed to the agricultural economic agenda of the country?**
German agriculture has undergone an enormous increase in productivity in recent decades. While in the year 1950 one farmer provided food for some10 fellow-citizens, in 2012 he feeds around 129. However, the shares of agriculture in the gross value added and in the labour force have declined in recent years. The share in gross value added in the year 2012 was only 0.8%; the share in the labour force was 1.6%.	
Employment & Education	**What is the general employment situation and how are employees and farm employers educated?**
In Germany agriculture is an economic sector that is still characterized by family farms (~90% of all farms) and family labour (~52%). However, a downward trend is emerging here, while figures for permanently employed labour (~20%) and other business forms, such as e.g. partnerships (~10%) are increasing. In the course of the structural change taking place, the number of farms is declining while the area farmed by individual farms is increasing as a result of mergers and cooperation arrangements. Against this background the business forms are changing too. Farmers in Germany are very well to well trained. 87% of all managers of farms where farming is the main activity have completed vocational training.	

Theme 1: Content of data collection:

Demographic profile

- **Size**: 357,167.94 km²
- **Population and its development**: 80,523,746 inhabitants (-0.1%)
- **Climate**: frequently changing weather, mild winters and not too hot summers, frequent precipitation in all seasons, no extreme temperature fluctuations at different times of day
- **Economic status:** GDP (2013) Euro 2,737.6 billion (+2.7%)

Agriculture and economics in general

Economic indicators (agriculture, forestry and fisheries) year 2012

- **Production value**: Euro 54.5 billion (+7%)
- **Gross value added**: Euro 20.0 billion (+8%)
- **Number of employed**: 668,000 persons (-1%)
- **Gross value added per employee**: Euro 29,900 (+9%)
- **Farm/company earnings**: Euro 62,900 per business

Share of agriculture in

- Gross value added (2012): 0.8 per cent (2011: 0.9%)

- Working population: around 1.6 per cent (668,000)

Economic importance of agriculture

Investments in agriculture:

- Production-related expenditures of German agriculture, forestry and fisheries in the year 2012: Euro 43.5 billion
- Of this, Euro 9.1 billion is accounted for by investments in buildings and machinery

Number of employees in general (people in paid work):

- 1.1 million employees (-5 % since 2010), including
  - ~ 568,000 family labour (52%); number declining (-12% since 2007)
  - ~ 195,000 permanent employees (+8%)
  - ~ 334,000 seasonal employees (of whom around 90% are not of German origin)
- 38% of the employees are female, only 8% of farms/businesses are run by women
- The share of full-time employees is increasing, above all as farm sizes increase
- ~ One third of farmers are older than 55 and thus distinctly older than in other occupations. On a European average the German farmers are among the younger.

Working hours:

- 554,000 work units
- An employee in agriculture works 1,407 hours a year on average
- A self-employed person works 2,050 hours

Development of the sector:

- Enormous increases in productivity in the last 100 years, today one farmer feeds 129 fellow-citizens (in 1950 about 10 persons)
- Despite this Germany remains a net importer with a degree of self-sufficiency of 81%

Food – consumption and prices:

- Price increase in foods, prices for foods in Germany well above the EU average (+6%). In 2012 Euro 170.0 billion or 11.7 per cent were spent on foods and non-alcoholic beverages
- Rising consumption of vegetables and cheese, declining consumption of butter and potatoes, many other products fluctuating from year to year

Agricultural budget in general:

- 2012: Euro 5,280,066,000 (1.69%)
- EU agricultural expenditure for Germany (2011): Euro 6,774 million, Germany is the largest net contributor to the EU

Crop products and animal products;

- Crop production (2013): 6.5 million hectares of grain, 1.5 million hectares of oilseed, 0.4 million hectares of sugar beet, 3.63 million tonnes of vegetables
- Animal production: 60% of domestic production is accounted for by pork, 14% by beef, 20% by poultry, altogether 8,449,000 tonnes meat, 31.0 million tonnes dairy products

Agricultural external trade, role of national production in international context:

- Degree of self-sufficiency: 81%
- Degree of self-sufficiency above 100%: potatoes, sugar, milk, beef, pork and poultry meat
- Degree of self sufficiency below 100%: fruit, vegetables, eggs and lamb/mutton

- Balanced: grain
- Agricultural exports worth Euro 62.9 billion, above all high-grade processed products (milk and dairy products, cheese, meat and meat products) are exported
- The main customers for these are the EU countries (76% of agricultural exports)

Resources used in agriculture

Status % used acreages:

Agriculture and forestry maintain and look after 29.4 million hectares of arable land, meadows and woodland (82% of Germany's area). In the year 2012, 16.7 million hectares were put to agricultural use, of which 71% was used as arable land.

Importance of bioenergy and renewable primary products:

- 129,000 jobs in **bioenergy** (largest share in the renewable energies sector, altogether 378,000 jobs)
- In 2012 Euro 2.6 billion was invested in new building or expansion of biogas plants.
- The turnover in the bioenergy sector was about Euro 10.7 billion in 2012.
- 11.5 per cent of all renewable energies are owned by farmers, 75 per cent of biogas plants and about 25 per cent of photovoltaic facilities belong to farmers.
- Agricultural crops for producing energy and waste recycling account for about 2.4 million hectares in Germany (20% of arable land and 14% of total agriculturally used land)
- The upward trend in the area cultivated has come to a standstill
- Oilseed rape is the most important energy plant
- The share of bioenergy in total energy consumption was 8.2% in 2012.

Status of farming production methods and techniques:

- The use of ploughs dominates in tillage
- 81% of arable land has ground cover in winter
- 40% of farms maintain landscape features
- Only 2% of agricultural area is irrigated
- About one third of the agriculturally used land is fertilized with slurry
- One in three cows grazes on meadows
- There is a trend towards more powerful machinery that requires large working areas
- Satellite-supported optimizing of the process chains
- Diesel-powered drive trains
- Parallel guidance systems are becoming increasingly popular
- Sensor-based machinery and equipment for fertilizing, electronically adjustable plant protection machinery and equipment

Agricultural structure

Initial investments:

- Euro 439,000 capital per employed person → most capital-intensive sector; 69% equity capital

Land market:

- Price per hectare agricultural land: € 14,400 (+7%)
- 60% of arable land is leased in addition

- Price per hectare leased land: former West Germany 347 €/hectare (rising), former East Germany 166 €/hectare (falling)

Farm structures:

- 2012: 288,200 farms with more than 5 hectares agricultural land, 25,500 farms with less than 5 hectares.
- Average area per farm: 57.8 hectares agricultural land
- The number of farms is declining
  - The number of farms with less than 100 hectares is declining
  - The number of farms with more than 100 hectares is increasing
- 72 per cent of all farms keep animals; here too a process of concentration is underway so that the farms have larger herds of animals

Legal forms and types:

- The individual agricultural enterprise (273,000) dominates, generally run as a family farm, but this figure is declining (-9% since 2007). These farms farm two thirds of the land
- The number of partnerships is increasing (roughly 21,000) (+15% since 2007)
- Legal entities (agricultural cooperatives, GmbHs and AGs) about 5,100
- Arable farms and forage cropping farms dominate
- The individual farms are roughly equally divided between fulltime and part-time farms

Sectors incl. organic farming:

- Forage growing farms (43%)
- Arable farms (25%)
- Mixed farms (25%)
- Permanent crops (fruit, wine) (10%)
- Animal production farms (pigs, poultry, eggs) (6%)

Organic farming

- 1.03 million hectares organically farmed land (6.2%), increased by 18,700 hectares compared with 2012 (+1.8%)
- 23,000 farms (8 %), increased by 1.8 %
- Organic products account for a market share of about 4% (Euro 7.04 billion)
- Germany is Europe's largest organic market
- Euro 1.5 billion sales proceeds for the farmers
- Target: 20% of agricultural land is farmed organically

Sustainability in agriculture

- Sustainability goal of the German Government: to reduce the excessive use of agricultural land
- Three aspects/challenges: climate change, organic farming, biodiversity
- No uniform definition of "sustainability"

"Farm forestry":

- Just under one third of the surface area of Germany is woodland/forest (1.1 million hectares)
- Germany is one of the most forest-rich countries in Europe
- Production value of forest management € 4.1 billion

- 35% of the woodland/forest is owned by farmers
- Farmers manage 1.4 million hectares of woodland/forest

Aquaculture:

- German fisheries catch and produce 265,000 tonnes of fish and seafood with 1,825 ships at sea, and in chiefly small inland fisheries and aquaculture enterprises
- The value amounts to around Euro 0.4 billion

Employees, trainees:

- ~ 34,800 trainees in the green occupations (2012) (-4%), including 8,496 farmers, 1,779 foresters and 588 skilled agricultural service staff
- High degree of training of farm managers, 87% of managers of farms where farming is the main activity have completed vocational training

Next generation of "farm followers":

- The question of farm followers is not clarified on many family farms
- In 2010 the farm follower issue had only been settled in 31% of the subject individual enterprises
- One in five proprietors without a farm follower is already 60 years old
- Structural change in the coming years

Status in society: Agriculture enjoys high regard

- 91 per cent of the population see the strengths of German agriculture in the production of high quality foods
- 82 per cent see German agriculture as a "constituent part of local heritage and tradition"
- 78 per cent state that agriculture makes an important contribution to landscape care
- 68 per cent see "jobs on the land" as an important factor
- For 57 per cent, securing food supplies outside Germany is also an important aspect
- There is growing interest in agricultural topics: the focus is on food safety and product quality as well as animal husbandry
- Farmers can only conditionally satisfy high consumer demands: there are major differences between consumer expectations and perceived realities in particular in aspects of animal husbandry, responsible use of resources and quality of food

Role of rural areas:

- About 90 per cent of the area of Germany is counted as rural area
- More than half of the population live in villages, boroughs and towns in the country
- There is an evident trend towards urbanization; ever more people are moving into the towns
- The challenge today is to retain the structure of rural areas in future too and develop them further
- Rural areas in Germany satisfy many different functions: living space, business location, areas of agricultural and forestry use, nature and recreational environment
- Creating or maintaining attractive and vital rural areas is an essential goal of the German Government's policy
- That is why care should be taken when structuring policy to ensure that it delivers favourable frameworks for strengthening the regional economy and creates good infrastructure that promotes social cohesion and ensures sustainable use of the natural resources – soil, water, air and biodiversity.

EU-policies and subsidies vs. national agricultural budget

German agricultural policy is indivisibly linked with EU agricultural policy. EU markets should become more liberal, export refunds should no longer be paid, milk quota rulings are being phased out, and the EU sugar regime is being phased out.

EU: In order to facilitate adjustment for farms, direct payments were introduced. These also serve the goal of compensating for more stringent conditions
Germany:

- New area-related premium system
- Extensive EU funds for developing rural areas

Common agricultural policy since 1962 and to date the only complete common aid policy:
2 pillars

- **1st pillar:** Promoting agriculture
- **2nd pillar:** Promoting rural development
- Both pillars have been reduced for Germany

Renewable Energy Act (EEG) in Germany

Theme 2: Agricultural Education & Training system and role of VET (Environment of VET providers offering training opportunities in agriculture, policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres)

Questions to be answered:

Strategic direction	What strategic objectives are attributed to VET policies?
-...	
Linkages	How is VET linked to political agendas e.g. employment?
-...	
Investment	What level and kind of investment is currently being deployed into VET?
-...	
Committees, panels, boards and certifying bodies according to target group 2 (stakeholders)	What kinds of committees, panels, boards and certifying bodies do exist within the VET system?
-...	
	What kinds of purposes do they have?
-...	
	Are these purposes consistent with current policy and 'models'?
-...	
Different interests of stakeholders and their organizations	What kinds of interests are represented by the stakeholders?
-...	

	How do these interests engage with current policy agendas?
-...	
	Are the stakeholders contributing anything new to state of the art?
-...	
Conceptual shaping	What educational and learning models drive national approaches to VET?
	Which job profiles drive national approaches to VET?
-...	

Theme 2: Content of data collection:

Agricultural education system:
Existing Job profiles and tasks;
VET levels&models, requirements, lengths, courses, further advanced education,
Numbers participating in education by age; sector ; status, % GDP spend on education
Sectoral distribution (VET; schools; universities)
Average per capita spend on education
No. of schools, higher education, adult learning per population; average school size; teacher/pupil ratio; Educational and training policies; stakeholders and their functions
-...

Partner: BIBB Country: Germany

Theme 2:

Agricultural education & training system and role of VET

Question 1: Strategic direction - What strategic objectives are attributed to VET policies?

The German dual system is highly significant in both quantitative and qualitative terms. Around 60% of every cohort complete vocational education and training (the Vocational Education and Training Statistics for 2011, for example, indicate that 1,460,658 young people were in VET, i.e. approximately 500,000 per year group). For this reason, work to secure adequate training and qualification provision for every willing and capable young person is permanently ongoing. Companies, including agricultural companies, fill a large part of their requirement for young skilled workers by drawing upon the initial and advanced vocational education and training system. Workers who have completed dual training have large advantages over those who have undergone school-based training or have gone down the academic qualifications route. They are familiar with company requirements and realities from the bottom up, and the close link between practical and theoretical training means that they are able to act competently.
[Explanatory note for non-Germans: English language explanations of the dual system and of its specific characteristics may be found in the literature referenced, in particular Dual Training at a Glance and VET in Europe – Country Report Germany, 10th edition, November 2012.]

Question 2: Linkages - How is VET linked to political agendas e.g. employment?

In April 2013, youth unemployment in Germany was 7.5%. This is the lowest rate in the European Union (in Greece and Spain, for example, the two countries with the highest levels of youth unemployment in the EU, rates are above 50%). Youth unemployment also mainly affects low skilled workers who have not obtained a school leaving qualification or completed vocational education and training.

In order to combat youth unemployment, the National Pact for Training and Young Skilled Workers (which has been in existence since 2004 and currently operating within the scope of the objectives set out for the period 2010-2014, partners include the Federal Association of German Employer Associations, BDA, the Federation of German Industry BDI, the Association of German Chambers of Industry and Commerce, DIHK, the German Confederation of Skilled Crafts ZDH, the German Association of the Liberal Professions, BFB, the Federal Ministry of Economics and Technology, BMWi, the Federal Ministry of Education and Research, BMBF, the Federal Ministry of Labour and Social Affairs, BMAS, the Standing Conference of the Ministers of Education and Cultural Affairs, KMK, and the Federal Employment Agency) has the declared aim of "the placement in company-based training of all young people who are willing to undergo training and who display the necessary apprenticeship entry maturity". This had led to the emergence of initiatives such as "Qualification and connection – educational chains until the completion of training" and "Vocational education and training – practically unbeatable".
[For further details: http://www.bmbf.de/en/2295.php]

Advanced and continuing vocational training also plays an important role in maintaining employability and training the unemployed. Both companies and employees on the one hand and the public purse on the other (Federal Employment Agency) are displaying a high degree of commitment in this regard.

In rural and thinly populated areas, it is frequently the case that agricultural companies provide the overwhelming majority of training places and thus facilitate the very existence of training in the region. In some cases, it is proving possible at least to slow down emigrant movements.

Question 3: Investment - What level and kind of investment is currently being deployed into VET?

For the company-based part of vocational training, the expense of training (training allowances, the time and cost of trainers) is borne by the companies providing training. According to the Report on Vocational Education and Training, in 2007 "average gross cost per trainee and year was €15,288. This was made up of the personnel costs of the trainees (€9,490) and of the trainers (€3,292), plant and material costs (€691) and other costs (€1,814). These gross costs were set off by income from productive performance of the trainees in the amount of €11,692, covering76% of gross costs." The result is, therefore, an average net cost of €3,596 per year and trainee. Especially with regard to the agricultural sector, however, we know that costs are lower and income from productive work is higher. This means that no net costs are incurred or, specifically in the case of training in the occupation of farmer, income even exceeds net costs by 13% [Laschewski/Sorge 2010, p. 26]

Costs for the school-based element of dual training, which takes place at vocational schools, are met by the public purse, in this case the federal states. In 2013, total costs for all vocational schools in all federal states were around €7 billion. In overall terms, "public spending on vocational training" from the Federal Government, the federal states and the Federal Employment Agency in the year 2013 amounted to approximately €11 billion (the equivalent of 0.5% of GDP). This figure also includes the costs of pupil grants and loans, support for the disabled, vocational orientation, the transitional system, funding programmes and various other items. [Source: BIBB: Data Report to accompany the 2013 Report on Vocational Education and Training- http://datenreport.bibb.de/html/dr2013.html]

Question 4: Committees, panels, boards and certifying bodies according to target group 2 (**stakeholders**)
Question 4.1: What kinds of committees, panels, boards and certifying bodies do exist within the VET system?

Question 4.2: What kinds of purposes do they have?
Question 4.3: Are these purposes consistent with current policy and 'models'?

Vocational education and training is governed in a nationally standardised manner by the Vocational Training Act (BBiG). The essential stakeholders from trade and industry and from the companies providing training are the employers and employees in the form of their respective associations and federations such as the chambers, employers' associations and trade unions. The main relevant bodies in the agricultural sector are the German Farmers' Association and the chambers of agriculture on the employer side and the trade union IG Bauen – Agrar – Umwelt on the employee side.
A central role in company-based training is played by the so-called "competent bodies", whose remit includes the monitoring of the implementation of vocational education and training and the conducting of examinations. The competent bodies in the agriculture sector are the chambers of agriculture. In the federal states where no chambers of agriculture exist, this function is performed by the relevant government offices [cf. List of competent bodies – http://www.landwirtschaftskammern.de/pdf/berufsausbildung.pdf].

Each competent body is required to establish a VET Committee made up of six representatives each from the trade unions and the employers and six vocational school teachers. The VET Committees must be notified and consulted on all important matters relating to vocational education and training.

The examination boards of the competent bodies comprise at least one representative each from the trade unions and the employers and at least one vocational school teacher.

The social and trade and industry partners are also responsible for the amendment and updating of occupations, i.e. of initial and advanced training regulations, and in this regard act in conjunction with the Ministry of Economics in the relevant federal state, the Federal Ministry for Economic Affairs, the Federal Ministry of Education and the Federal Institute for Vocational Education and Training (BIBB). BIBB acts on behalf of the relevant ministry in organising regulatory procedures, and the VET research it carries out assists with the appropriate adaptation or updating of occupational profiles. [cf. also in this regard "BIBB Vocational Training Regulations and the Process Behind Them" ... - http://www.bibb.de/veroeffentlichungen/de/publication/show/id/2062]

Cooperation across all areas of vocational education and training is characterised by the so-called "principle of consensus". This means that the employer and employee side in particular, despite their many differences, usually ultimately reach agreement on all relevant issues in a way that is in the best interests of trainees and future skilled workers.

State and private educational establishments also have a certain role to play as stakeholders. They are often used as experts for content and placement.

Question 5: Different interests of stakeholders and their organizations
Question 5.1: What kinds of interests are represented by the stakeholders?
Question 5.2: How do these interests engage with current policy agendas?
Question 5.3: Are the stakeholders contributing anything new to state of the art?

As already described (cf. Question 4), the essential stakeholders represent the employer side on the one hand and the employee side on the other. Naturally enough, they have different interests, particularly in respect of remuneration and working conditions. Within vocational education and

training, however, the principle of consensus prevails. Close collaboration with policymakers also takes place in some areas (cf. above: National Pact for Training and Young Skilled Workers).
In agriculture, there is also the special circumstance that significant numbers of companies are family firms which own their own land. They are frequently sole traders who only employ family members and/or seasonal workers. This means that the degree of organisation is low. There are no disputes comparable to those that occur in other branches regarding collective wage agreements or similar matters. By way of contrast, the main focus is on a joint interest in qualified training that meets requirements. This is an area in which both sides use the experiences they have gained from practice for the structuring of examinations and the updating of initial and advanced training regulations.
In recent times, the common interest has also increasingly steered towards action to counter the predicted shortage of skilled workers caused by demographic change and emigration.

Question 6: Conceptual shaping - What educational and learning models drive national approaches to VET? Which job profiles drive national approaches to VET?

To formulate things in general terms, the aim of all dual vocational education and training is the achievement of “employability skills”. “The purpose of vocational training is to impart the skills, knowledge and capabilities (employability skills) necessary in order to engage in a qualified occupational activity in a changing world of work within a regulated course of training. It should also enables trainees to gain the requisite occupational experience.” (§ 1 Paragraph 3 Vocational Training Act, BBiG). For this reason, vocational education and training has been and still is characterised by approaches that primarily impart practice and experience whilst also backing these up in a useful way with basic principles and theory. These approaches range from “watch and learn” to the four-stage method and extend to encompass modern work process, employability and competence oriented techniques.
The overall objective of vocational training is to equip trainees for (the whole of) their working lives. For this reason, VET courses are normally of three years’ duration and place high demands with regard to the breadth and depth of the contents and skills imparted in all occupations. A further aim is to facilitate continuing learning, i.e. to lay the foundations for autonomous in-service learning and the relevant competence development.

Data collection: Agricultural education system

Participants in VET and higher education

Data for the year 2012
Total number of trainees in the agricultural sector: 13,272 (0.9% of all trainees in Germany)
Example figures
Farmer: 8,496
Agricultural services specialist: 588
Wine grower: 882
Animal caretaker: 987
Equine manager: 204
Dairy technologist: 681
Hunting ground supervisor: 42

Of the 13,272 trainees:

1,035 had not achieved the lower secondary school leaving certificate;
5,931 were in possession of a lower secondary school leaving certificate;
4,185 were in possession of an intermediate secondary school leaving certificate;
1,923 had achieved a higher education or a trade and technical school entrance qualification.

Although women generally make up a significantly smaller proportion of trainees in the agricultural sector than men, this ratio is strongly dependent on the respective occupation. In the case of farmer, for example, females account for only about 11% of trainees. Equine manager, on the other hand, is an occupation that is extremely popular with women, who make up approximately 86% of the total number of apprentices.

In 2012, a total of 2,412 persons successfully completed commercial and technical advanced examinations in the agricultural sector. These included no fewer than 834 master craftsmen examinations.

In Germany in 2012/13, a total of 15,881 persons were studying for a degree in agricultural science/agronomy. 11,520 of these were studying at a university and 4,361 at a University of Applied Sciences.

Sectoral distribution

Because of the federal structure and the resultant widespread distribution of areas of responsibility, it was unfortunately not possible to ascertain the number of companies providing training in the agricultural sector. The figure definitely runs into several thousands across Germany.

In the whole of Germany, there are 168 vocational schools with responsibilities for agricultural occupations.

There are (as of 15.11.2012) the following numbers of trade and technical schools (for school-based master craftsman and technician training courses).
Agriculture: 106
Milk production: 3
Wine growing: 8

A total of 275 courses of higher education study are available in Germany in the field of agronomy, forestry and nutritional science. Just over 100 of these are in the agricultural sciences and agronomy and are offered at around 30 Universities of Applied Sciences and universities [http://www.studienwahl.de/index.aspx?bykapid=69].

Existing job profiles and tasks

In Germany, 14 occupations are usually designated so-called “green occupations” due to the fact that they are formally governed by the agricultural sector. Some of these occupations, such as distiller or fish farmer, are, however, unrelated to work in agriculture within the narrower definition of the term. In the case of other occupations, quantitative significance is very low. Nevertheless, these 14 occupations are merely initial training occupations. There is also a somewhat higher number of advanced training occupations and of academic qualifications. In addition to this, many employees in agriculture have completed vocational education and training in a technical occupation such as mechanic, in order to be able to maintain and repair the large amount of machines and equipment.

Main training occupations, brief descriptions and tasks [for detailed and further information, please see http://www.bildungsserveragrar.de/, http://www.bibb.de/en/26171.htm and materials referenced in the bibliography under Theme 2.2].

Occupation	**Farmer**
Brief description	Farmers spend much of their time working outdoors dealing with animals. Although they are much involved with modern agricultural technology, they also work in the office. The important tasks they perform are to provide consumers with high quality foodstuffs and to produce sustainable raw materials. Farmers need to understand technical production processes, have knowledge of business management and be familiar with the requirements of food and product quality. They deploy modern computer technology and treat the soil, the air, water, crops and animals sustainably, in an environmentally friendly way and in a manner that conserves resources. Their own work needs to be well organised, and a cost-effective approach is required.
Tasks	• Prepare and monitor production, draw up plans for aspects such as crop rotation, fertilisation and plant protection • Operate and maintain machines and equipment • Conduct business transactions, evaluate tools such as market reports, prepare products for marketing • Work and care for the soil, ensure sustainable soil fertility, identify and remedy damage to soil • Order and care for crops, put out seed and planting materials, manage plant crops in an environmentally friendly manner by carrying out care, fertilisation and crop protection measures in line with requirements and in a timely manner • Harvest and evaluate plant products, stipulate harvest time, operate harvest machines, store the harvest • Care for animals, monitor stable climate, calculate feed rations, help with births, comply with animal and environmental protection provisions • Use animals and operate equipment and machinery to obtain animal products, store or transport animal products • Ascertain company results and calculate the market value of sale products
Number of trainees	8,496 (2012)
Entry requirements	No particular prior learning is legally stipulated. A lower secondary or intermediate secondary school leaving qualification is expected. A basic vocational training year may suffice.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4

Advanced training opportunities	e.g. master craftsman qualification in agriculture (cf. below), agrarian specialist, business economist, higher education study if in possession of the relevant school qualifications
Occupation	**Agricultural services specialist**
Brief description	Agricultural services specialists carry out planting, sowing, fertilising and harvesting tasks using state-of-the-art technology. Although they work for larger agricultural companies specialising in crop farming, they mainly find employment with agricultural contractors. Important tasks are operating and driving agricultural machines for sowing, fertilisation, harvest and transport. Agricultural services specialists work in a team with colleagues and are in close contact with the customers of the agricultural contractor. Further tasks include the care and maintenance of equipment and machinery in the company's own workshop.
Tasks	• Carry out work on the basis of orders working autonomously or as part of a team and according due consideration to environmental protection, health and safety at work and health protection • Plan and document work, specify working steps, and check and evaluate work results • Evaluate operations and assist in farm organisation • Use communication and information technologies both internally within the company and when dealing with customers • Carry out quality assurance measures • Use, maintain and service agricultural technology • Operate and drive agricultural machines • Conduct crop production measures • Cultivate the soil • Bring out seeds and plants • Conduct fertilising and crop protection measures • Evaluate plant stocks during the vegetation process • Harvest, store and preserve plant products • Conduct landscape protection measures
Number of trainees	588 (2012)
Entry requirements	No particular prior learning is legally stipulated. An intermediate or lower secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4

Advanced training opportunities	e.g. master craftsman qualification in agricultural services, higher education study if in possession of the relevant school qualifications
Occupation	**Equine manager (five alternative specialisms: horse and stable management and service; horse breeding; classical horse riding training; horse racing; special forms of riding)**
Brief description	The prerequisites for making this hobby into an occupation are a love of horses and riding and good people skills. This is a tough job. Equine managers may sit in the saddle for many hours a day training horses. They also need to muck out, feed and clean the animals and provide veterinary treatment. Equine managers are responsible for every aspect of their horses and take care of them from early until late.
Tasks	• Look after, care for, lead and transport horses • Train riding horses • Understand the physical make-up, life processes and behaviour of horses and know how feed needs to be mixed • Have basic knowledge of animal health and hygiene, treat wounds, apply bandages, care for hooves, keep stable clean, clean and care for equipment and accessories • Be familiar with the various types of horse husbandry • Use machines and equipment
Number of trainees	1,689 (2012)
Entry requirements	No particular prior learning is legally stipulated. An intermediate secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4
Advanced training opportunities	Master craftsman qualification, business economist, higher education study if in possession of the relevant school qualifications
Occupation	**Animal caretaker (five alternative specialisms: cattle farming, pig farming, poultry farming, sheep farming, apiculture)**
Brief description	Livestock such as cattle, pigs, poultry, sheep and bees play a major role in agriculture, and their produce in the form of milk, meat, wool, honey and eggs is subjected to high quality requirements. A responsible animal caretaker helps to ensure that all these products are produced and provided in a species-appropriate way that accords due consideration to animal protection and in an

	environmentally friendly and sustainable manner. Considerable importance is attached to consumer protection. In the stables, animal caretakers work with modern husbandry systems, in which computer-aided feeding and air conditioning are often deployed. Animal caretakers pay constant attention to the health and well-being of the animals.
Tasks	• Care for and feed agricultural livestock • Know the behaviour, physical make-up and requirements of the animals • Be familiar with stipulations regarding animal and environmental protection • Be familiar with the various forms of husbandry • Clean and maintain stables and enclosures • Breed and raise animals • Pay attention to the health of the animals • Obtain, process, store and prepare animal products (e.g. milk, eggs, honey, hides) • Operate and maintain technocal equipment • Record data for breeding and business bookkeeping
Number of trainees	987 (2012)
Entry requirements	No particular prior learning is legally stipulated. A lower secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4
Advanced training opportunities	Master craftsman qualification, agrarian specialist, business economist
Occupation	**Dairy technologist**
Brief description	There are plenty of products that are derived from milk – milk for drinking, yoghurt, cheese and curd cheese, butter, cream and many more besides. Dairy technologists process milk to manufacture these products. They operate computerised machines, ensure a smooth production process, identify defects in quality and technical errors and work autonomously to remedy these.
Tasks	• Produce dairy products with due consideration to food regulations and product specifications and recipes using the correct techniques for the purpose • Prepare, commission and retool production machines

	• Use process control engineering, detect malfunctions and implement measures to rectify such malfunctions • Use quality assurance systems • Check, store and release products for sale • Use the correct packaging technologies for specific products • Plan and document work, determine work steps and check and evaluate work results • Carry out work autonomously or as part of a team according due consideration to environmental protection, sustainability, health and safety at work and health protection • Evaluate operations and assist in farm organisation • Conduct and evaluate personnel, product and operational hygiene measures • Use communication and information technologies
Number of trainees	681 (2012)
Entry requirements	No particular prior learning is legally stipulated. A lower or intermediate secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4
Advanced training opportunities	Master craftsman qualification, technician, higher education study if in possession of the relevant school qualifications
Occupation	**Plant technologist**
Brief description	Plant technologists are involved in many stages of crop growing. Their tasks include the planning, execution and documentation of field trials and serial tests, for example. They plant, care for and harvest crops. They support crop breeders in the development of new varieties. In the laboratory, they check plants for chemical contents or certain inherited traits.
Tasks	• Grow, care for and harvest arable crops for experimental and propagating purposes • Plan, implement and document trials and serial tests • Apply breeding and propagation techniques • Take and analyse samples • Use quality assurance systems • Use, maintain and service machines and equipment • Plan and document work, determine work steps and check and evaluate work results • Use measures to ensure safety and health and safety at work • Carry out work autonomously or as part of a team on the basis of work orders according due consideration to

	environmental and nature protection, ecological circumstances and sustainability • Evaluate operations and assist in company organisation • Use information and communication technologies
Number of trainees	New training occupation since 2013, trainees in the predecessor occupation of agricultural laboratory technician: 27 (2012)
Entry requirements	No particular prior learning is legally stipulated. An intermediate secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4
Advanced training opportunities	Master craftsman qualification, technician, higher education study if in possession of the relevant school qualifications
Occupation	**Wine grower**
Brief description	Winegrowing plays a particular role in some regions in Germany, such as in the Kaiserstuhl hills, in the Rheingau, on the River Mosel and in the Saale-Unstrut region. Vintners have a clear and precise idea of what is involved in the planting and tending of grapes. Technical and specialist crop science knowledge is the main thing that is required, alongside "green fingers", of course. Microbiological, chemical and legal knowledge are all essential, alongside the requisite know-how, when it comes to processing grapes into wine and other products. This is the only way of achieving the best level of quality.
Tasks	• Prepare and check work stages and production • Use and maintain machines and equipment • Calculate costs and prices and process business transactions • Work and tend the soil • Ensure sustainable fertility of the soil • Plant and tend vines, harvest grapes • Deploy various oenological procedures in the quality-oriented and environmentally friendly production of wine and other wine-related products (sparkling wine, jellies etc.) • Market company products and advise customers, package and sell wine • Accord due consideration to quality and environmental protection
Number of trainees	882 (2012)
Entry requirements	No particular prior learning is legally stipulated. An upper secondary school leaving qualification is usually expected.

Type and duration of training	Dual training at the learning venues of the company (farm) and vocational school, 3 years
DQR/EQF level	4
Advanced training opportunities	For example: master wine grower, technician in wine growing, higher education study (Oenology and Viticulture) if in possession of the relevant school qualifications
Occupation	**Mechanic for agricultural and construction machinery technology** as an example of a relevant occupation from a different area of regulation
Brief description	Farmers need much more than a tractor to run a farm. Combine harvesters and high-tech machines for ploughing, fertilising, chaffing, sowing and seed drilling are often in evidence. Mechanics for agricultural and construction machinery technology are, therefore, often out in the fields dealing with heavy machinery rather than merely spending their time in a workshop. They maintain and repair machines and equipment used in forestry, as well as looking after construction machines such as excavators, tracked vehicles. Their specialist knowledge also extends to lawn mowers and garden tillers. Mechanics for agricultural and construction machinery technology are always familiar with the latest status of technology and use modern measuring instruments in their work.
Tasks	• Service, test, install and repair vehicles, machines, plants and equipment • Manually and mechanically adjust and assemble workpieces and components • Diagnose faults and malfunctions and their causes in mechanical, hydraulic, electrical and electronic systems • Advise customers • Commission and operate vehicles and their associated systems • Test exhaust emissions and emissions reduction equipment • Construct and test electrical power supply points
Number of trainees	7,578 (2012)
Entry requirements	No particular prior learning is legally stipulated. An intermediate secondary school leaving qualification is usually expected.
Type and duration of training	Dual training at the learning venues of the company (craft trade or industry) and vocational school, 3.5 years
DQR/EQF level	4
Advanced training opportunities	For example: master craftsman qualification in agricultural machinery technology

Occupation	**Advanced training occupation of master craftsman in agriculture** as an example of a master craftsman qualification – for the other master craftsman qualifications in agricultural "green occupations" see http://www.bildungsserveragrar. de/fortbildung/ fortbildungsabschluesse/meisterin/
Brief description	Master craftsmen in agriculture are entrepreneurial farmers running their own company or else work as management staff in upstream or downstream sectors.
Contents	• Production and process technology in animal husbandry/integrated crop farming • Operational and company management • Vocational education and training and staff management
Number of qualifications	834 (2012)
Entry requirements	Completed initial vocational education and training in the initial training occupation of farmer and at least two years' subsequent occupational experience in the agricultural sector (or comparable)
Type and duration of training	Courses in scheduled teaching blocks or in the evenings (up to a duration of 20 months), or one-year attendance at a trade and technical school to prepare for the examination in addition to practical preparation at the company
DQR/EQF level[2]	6
Advanced training opportunities	Higher education – in almost all federal states, completion of a master craftsman qualification confers entitlement to higher education study, even if an upper secondary school leaving qualification has not been obtained.
Occupation	**Advanced training occupations of certified energy specialist – biomass and agrarian specialist in renewable energies – biomass** (chamber regulation in Lower Saxony) as examples of a systematic specialisation and career pathway
Brief description	Energy specialists are involved with the cultivation of sustainable raw materials and with the processing of these biogenic materials (e.g. biogas, bio-oils, solid fuels). Agrarian specialists hold organisational responsibility in renewable energy companies or assume management tasks in such companies.
Contents	Energy specialist: • Selection, cultivation and preparation of biomass for energy use

2 cf. Recommendation of the Board of the Federal Institute for Vocational Education and Training of 12 March 2014 for Benchmarks for the structure and quality assurance of advanced vocational training pursuant to the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO) - http://www.bibb.de/dokumente/pdf/HA159.pdf

	• Energy use of biomass • Basic legal principles, business and social studies Agrarian specialist in renewable energies – biomass: • Legal stipulations • Operational and company management • Staff management and training
Number of qualifications	No information for Lower Saxony, where the advanced training regulations only entered into force in 2012/2013; for this agrarian specialist qualification in Germany as a whole: 18 (in 2012)
Entry requirements	Energy specialist: Final examination in a training occupation in the agricultural sector and at least 6 months' relevant occupational practice Agrarian specialist: Successful completion of the first qualifications stage of "energy specialist" and at least one year of further practice in the field of renewable energies
Type and duration of training	Examination preparation course of between 6 and 9 months' duration (for energy specialists: 160 hours f teaching)
DQR/EQF level[3]	Energy specialist: 5 Agrarian specialist: 6
Advanced training opportunities	Energy specialist: agrarian specialist in renewable energies Agrarian specialist: Higher education – in almost all federal states, completion of the qualification confers entitlement to higher education study, even if an upper secondary school leaving qualification has not been obtained.
Occupation	**Agricultural technician** as an example of an advanced training qualification that takes place at a trade and technical school and is governed by federal state law (not by the Vocational Training Act)
Brief description	Agricultural technicians take on technical, organisational and business management tasks at agricultural companies. They plan the cost-effective deployment of machines and technical equipment and ensure the functionality of such machines and equipment by regular maintenance. They also plan and monitor company crop or animal production and take the market situation and their own company's requirements into account in determining the nature and quantity of the agricultural products to be produced.
Contents	• Take on specialist tasks in crop production • Carry out specialist tasks in animal production • Exercise company management tasks • Take on staff management tasks

3 cf. Recommendation of the Board of the Federal Institute for Vocational Education and Training of 12 March 2014 for Benchmarks for the structure and quality assurance of advanced vocational training pursuant to the Vocational Training Act (BBiG) and the Crafts and Trades Regulation Code (HwO) - http://www.bibb.de/dokumente/pdf/HA159.pdf

	• Be involved in agricultural testing
Number of qualifications	No information available
Entry requirements	Final examination in a recognised training occupation and relevant occupational practice (duration varies)
Type and duration of training	Trade and technical school, 2 years
DQR/EQF level	6
Advanced training opportunities	Higher education study
Higher education course of study	**Agriculture** Bachelor of Science (B. Sc.) at Weihenstephan-Triesdorf University of Applied Sciences
Brief description	In this degree course in Agriculture, students undertake an extensive investigation of the original production of foodstuffs derived from crops and animals, of the economic issues that relate to individual production areas and of agricultural companies as a whole. Graduates are qualified to be able to act autonomously in management positions across the broad spectrum of tasks within the agricultural sector, i.e. are able to be practically involved in agriculture as well as in various upstream and downstream occupational fields.
Contents	Basic principles: Science Economics Agriculture Practical placement in agriculture: interlinking of theory and practice via a semester spent in agricultural companies providing training More detailed study: More detailed study of technical production and economics subjects supplemented by practically related exercises Seminars and project work Students select their own main focus of study from the areas of crops, animals or business management according to their own interests Occupational field phase: Acquisition of methodological competence and key skills
Number of qualifications	No information available
Entry requirements	University of Applied Sciences entrance qualification/upper secondary school leaving certificate
Type and duration of training	7 semesters (= 3.5 years)

DQR/EQF level	6
Advanced training opportunities	Masters course of study
Higher education course of study	**Agricultural Sciences** Master of Science (M.Sc.) at the Martin Luther University in Halle
Brief description	The aim of this Masters course of study in Agricultural Sciences is to adopt an interdisciplinary approach in imparting detailed knowledge, theories, methods, processes and issues associated with the respective specialist disciplines within the agricultural sciences in such a way so as to enable students to undertake academic research work, to make judgements on a scientific basis, to take a critical view towards the classification of scientific findings and to act responsibly both within the world of work and in society. The Master of Science qualification represents the second formal qualification for the exercising of complex scientific activities in research and practice. Its objective is to facilitate the acquisition of competences, which are the prerequisites for targeted and successful action within an occupation, as well as opening up the way for further training in the form of a doctorate. The main focuses are on the recognition and analysis of networked correlations and on the ability to think in a holistic and integrative way.
Contents	Compulsory modules Detailed study of agricultural land use (45 credit points) Detailed study of livestock science (50 credit points) Detailed study of business studies and the social sciences in agriculture (50 credit points) Elective modules – total of 45 or 40 credit points
Number of qualifications	No information available
Entry requirements	Relevant B. Sc.degree
Type and duration of training	4 semesters (= 2 years)
DQR/EQF level	7
Advanced training opportunities	

List of education profiles

Meisterin	Master craftsman
Staatlich geprüften Agrarbetriebswirt/in Techniker/in	State-certified agricultural business economist Technician
Master/ Bachelor	Masters/ Bachelor
Master/ Bachelor /Promotion	Masters/ Bachelor/Doctorate
Meisterprüfung	Master craftsman examination
Abschlüsse	Qualifications
Staatlich geprüfte/r Wirtschaftler/in	State certified economist
Einjährige Fachschule	One-year trade and technical school
Zweijährige Fachschule / Technikerschule	Two-year trade and technical school/technician school
Fachhochschule	University of Applied Sciences
Meisterstudium 2-4 Semester	Master craftsman study 2-4 semesters
Bachelorstudium 4-6 Semester	Bachelor degree 4-6 semesters
Universität	University
Promotion /	Doctorate/
Meisterstudium 2-4 Semester	Master craftsman study 2-4 semesters
Bachelorstudium 4-6 Semester	Bachelor degree 4-6 semesters
Voraussetzung	Entry requirement
Berufspraxis 1 Jahr	Occupational practice 1 year
Berufspraxis 2 Jahre	Occupational practice 2 years
Berufspraxis 1 Jahr	Occupational practice 1 year
Praktikum / Berufsausbildung	Practical placement/vocational education and training
Abschlüsse	Qualifications
Berufsabschluss	Vocational qualification
z. B. Landwirt/in, Tierwirt/in	e.g. farmer, animal caretaker
Fachhochschulreife	University of Applied Sciences entrance qualification
Duale Berufsausbildung	Dual vocational education and training

3 Jahre / Anerkannte Ausbildungsbetriebe + Berufsschule	**3 years/recognised companies providing training + vocational school**
Fachoberschule	**Specialised upper secondary school**
Abschlüsse	**Qualifications**
Hauptschulabschluss	**Lower secondary school leaving certificate**
Fachoberschulreife / Realschulabschluss	**Specialised upper secondary school entrance qualification/intermediate secondary school leaving certificate**
Abitur (allgemeine Hochschulreife)	**Upper secondary school leaving certificate/university entrance qualification**

Theme 3: Current topics in agriculture (farmers` environment)

Questions to be answered:

Innovation & Management	**What kinds of current topics can be identified in agriculture and are of interest for the farmers in the near future?**

- Structural change
- New innovative business models
- Social perception and image of agriculture
- Environment and climate
- Political framework conditions
- Globalization and liberalization
- Technological progress
- New generations of farmers
- Knowledge generation and information procurement of farmers

Requirements / Needs	**What do farmers need to survive in the near future and how can ACT and VET establishments support this?**
	More specific: Which requirements / skills needs by farmers drive national approaches to VET?

All trend topics share certain requirements that call for certain skills on the part of the farmers. These include in particular strategy management and risk analysis (weighing up opportunities and risks).

Theme 3: Content of data collection:

Required skills for innovation & management in agriculture articulated by VET policy makers, VET providers & agencies, farmers (employers & employees) as well as labour services and prop. other important players in agriculture

What kinds of current topics can be identified in agriculture and are of interest for the farmers in the near future?

Improving resource efficiency, conserving the environment, ensuring cost-efficiency and assuring social compatibility. All these are challenges for agriculture. All trends and future developments in agriculture must accordingly be viewed with regard to sustainable agriculture.

Trends for agriculture (DLG Future Day)

1. **Structural change**

- In the coming years agriculture will be subjected to deep-reaching structural change that will affect every farmer. Advancing concentration leads to fewer and larger farms, to greater specialization and focusing of lines of business. New owner structures will evolve, more and different investors will enter the stage. Processes will become altogether more complex, demands made of the knowledge and skills of farmers will rise – farmers will increasingly become managers.
- Characteristics of the structural change are above all:
    - Falling numbers of farms
    - Rising farm sizes
    - Rising number of partnerships
    - Declining number of family farms
- Demographic developments have substantial impacts on the national economy and on rural areas → Strategies to secure the economic and technical structure and infrastructure in rural regions are necessary
- Farmers will be given a new role as service providers to secure infrastructure
- Perspectives for rural areas: Rural areas are not disadvantaged per se. What is necessary is a more refined consideration of the regions as a basis for future-securing strategies. “Endogenous” potentials of the regions and people with entrepreneurial skills are the basis for effective regional development
- Core issues:
    - How does the demographic change affect society and rural areas?
    - How can rural areas with different prerequisites be developed viably and how can people with entrepreneurial skills be mobilized?
    - What role do agricultural entrepreneurs play as service providers in securing public infrastructure?

- Specifically for the different types of farm, this means:

  - **Arable farms**: Low grain price level draws attention to production costs; technical innovations for increasing productivity; how can farms be developed with scarce land resources? End of the quota in sugar beets in sight
  - **Dairy farms**: Growing herds require adaptations in management; usability of commodity futures exchange for risk management and pricing open; milk price stable at a high level
  - **Pig farms**: Growth is increasingly difficult for single farms – focus on growing in cooperation arrangements + internal optimizing; stricter Fertilizer Regulation – operative adjustments necessary; fall in pig prices; pig farming in a new context – will future higher production standards pay off for pig farmers?
- **Management**: Further external capital deployment with declining equity capital quotas; financial controlling and characteristic analysis to steer companies
- **Organic market**: will continue to grow slowly, turnover plus of 7.2%, area expansion by 1%, number of farms will grow by 2%; how can future farmers be motivated to change over to organic agriculture?
- **Single farm growth** will come up against limits (access to land, use of external capital, construction permits)
- **Economic development globally and in the Euro zone:** Effects of the cheap money policy on investments in and increases in the value of properties – bubble formation in the share, real estate and land markets?
- **Investments for farmers:** Analysis of risks and opportunities; where are the markets for German agriculture and how can these be served?
- **Interrupted value chain**: The concept of continuous value chains will lose relevance – the sector will become uncoupled and arrange itself anew. New structures will develop, other and new forms of integration and together with these new power relationships. Agriculture will be increasingly reduced to the role of raw materials supplier. It is no longer “master” of the product and production chain. It will lose influence on product design, its “weight” in the chain will decrease; the role, ties and cooperation models will change. DLG is called upon here to support these changes with its knowledge and its access to the agricultural sector.

2. New innovative business models

- Today business farmers have more opportunities for innovations than ever before – basically, each farmer needs his own business model. New possibilities of farm combination will result, own brands, farm shops, direct marketing, online trade, new business models through the WWW, catering, hotels, tourism, services for third parties, energy etc.
- Strategically identifying and implementing opportunities for development (farm/business analysis and identification of development options and risk assessment of the development paths and risk management)

3. Social perception and image of agriculture

- Society, reinforced by (new) media, is increasingly taking a critical attitude to agriculture. Agriculture must act – or will run the risk of only being able to react. Agriculture is

increasingly subject to public criticism, acceptance is falling – above all due to the negative image of industrial production. The focus is on highly sensitive themes – such as genetic engineering. Consumer power is growing and habits are changing – acceptance of higher costs/prices for quality products is also growing. Politicians are increasingly "helping" consumers. Demands for new and more transparency are raised – farmers are increasingly having to master the tightrope between public interest and their own commercial interest.

- Sustained criticism of modern agriculture in society
- Consumer acceptance for sectoral approaches to improve animal welfare etc. is open; making animal protection requirements "marketable"
- Criticism of agriculture in society changes the "basis of business": higher production standards gain market relevance
- Agricultural environment programmes offer the possibility of satisfying requirements of society as a service provider, but are not offered everywhere
- The question of the economic viability of production based on higher standards is open
- Production on the basis of higher production standards offers opportunities of pro-active communication between agriculture and society
- Consumers today: How do changing consumer attitudes influence the food market and agriculture? An overview of consumer trends, changes in consumer attitudes, label agriculture, strategies of the food retail trade for marketing changes in society

4. Environment and climate:

- **Climate change**: Climate change will alter the conventional structures and regional specialities in agriculture perceptibly – there will only be winners and losers here. Regional shifts in production structures are to be expected, but altogether they are not likely to lead to a land area problem; changes in conditions (crops, pests etc.), large harvest losses in third world countries, major problems with water supply, especially in southern regions (e.g. Spain), strongly altered agricultural products and an increase in storms and disasters. Forward-looking adaptation strategies will become increasingly necessary.
- **Agriculture's effect on the environment:** The burden on the environment caused by agriculture is already a major topic. With further growth, expansion of land area and improvements in efficiency, the issue will become far more important. Agriculture has an increasingly detrimental effect on the environment; biodiversity is limited/endangered; more toxins make their way into the environment; the groundwater level will be polluted and lowered, and land will be used extensively, even leading to cutting down the rainforest.

5. Political framework conditions

- The will of policymakers to structure and regulate is increasing perceptibly – at the same time agriculture is losing its potential to influence and its power vis-à-vis the policymakers. Ever more regulation of agriculture is taking place (subsidies, consumer issues etc.), so that farmers' freedom to structure is dwindling distinctly. It is expected that their influence in expanding land areas/setting aside is likely to decline. The wide variety of critical themes – production conditions, climate protection, internationalization, mechanization, economizing,

subsidies – is driving agriculture into a corner where it has to justify itself. However, farmers have ever less influence/lobby power in politics. The image of farmers has already changed – there are shifts of power in the industry.

- CAP reform – Investments are only promoted if they lead to special services for society, the environment, climate
- The proposal for the reform of the Renewable Energy Act affects the biogas sector and other sectors of renewable energies (e.g. wind)
- Right of class action in animal welfare law in North Rhine Westphalia - model

6. Globalization and liberalization:

- The world is growing together and becoming more liberal in many areas – with favourable and less favourable developments and their consequences for agriculture. The increase in global movements of goods, trade, competition, volatility in commodity prices, price increases ("are wiggling altogether upwards"), pricing by supply and demand, concentration in agribusiness can all be observed; rising power of the traders and supermarkets, securing of resources of the nations, land grabbing, agro-invest, food-energy substitution – depending on pricing (e.g. oil prices). Altogether opportunities and risks are arising for farmers. However, agriculture is becoming ever less a national topic. Production and consumption are international; claims, opinions and framework conditions are increasingly being negotiated internationally.
- World agricultural trade for value adding and food security – potentials and problems: drivers of world agricultural trade and trends; role of world agricultural trade for efficient and sustainable agriculture and food security; agricultural trade policy problems and opportunities.

- **Securing supplies of food for the world:**

  - The greatest challenge in the coming years is the massive growth of the world population and affluence. A vast demand is developing, which cannot be mastered without new strategies and technologies. Strong population growth – above all in Asia (2050 → 10 billion) – leads to the need for approx. 60% more output by agriculture by the year 2025. With rising affluence, demands rise too (e.g. meat consumption), especially in threshold countries. One solution to the dilemma is seen in mechanization and changing nutritional habits. DLG can collaborate on solutions. For this it is necessary to draft and clarify standpoints, and the international set-up should be reconsidered (threshold countries, developing countries).

- A vast demand is developing that cannot be mastered without new strategies and technologies.

7. Technological progress

- Great potentials are seen in future in new technologies (biology, chemistry, IT, technology, organization) – agriculture is faced with a new technological revolution. New methods such as Smart Farming, Big Data, Software/Hardware combinations, systems bringing knowledge into the process (Farm-Management), agricultural machinery and equipment are becoming intelligent and networked systems and further strong innovations are expected in seed, fertilizer and genetic engineering. Accordingly the profession of farmer will change and become more demanding. However, there will be an enormous need to catch up in third world countries and opportunities will open up – technological progress could be seen as a solution to the problem of feeding the world.
- Data management – question for the future:
    - Large quantities of production process data are collected – how are these to be analyzed meaningfully for the farm? Who has the rights to data and how safe are the data?
    - What is possible, how does the farmer benefit, and how will data security be achieved?

- Daring to adopt technical progress
    - The population is largely sceptical when it comes to technical progress – they focus more on risks than on opportunities
    - Risk orientation determines modes of action in policy-making and legislation and constrains economic and social developments
    - Agriculture has not managed to make it clear that progress and innovations can strengthen sustainability
    - Core questions:
        - What are the drivers of alarmism and fear regarding the future?
        - How can the perception of opportunities and risks of technical progress be balanced more strongly against each other again and how can a climate more open to technology be achieved?
        - How can acceptance in society for innovations in the agricultural sector be achieved?

8. New generations of farmers:

- A new generation is growing up – with different wishes, communication and activity patterns, philosophies and values. In fact, new generations (generation Y; millennials etc.) have a different orientation – less tied to tradition, less oriented to relationships, difficulties in the transition from childhood to adulthood, great technical affinity, strongly networked with completely new communication patterns and forms of relationships. For this generation knowledge is available on the web, rather than “ingested“. New education paths and forms of knowledge transmission (e.g. eLearning) are becoming increasingly more significant.
- A fundamental change is about to take place.

9. Knowledge generation and information procurement of farmers:

- Research and agricultural practice are becoming increasingly decoupled. New paths of knowledge generation for farmers are evolving. Today, agriculture-driven research is increasingly addressing the science community or industry – and less practical farming. The farms gather their "advisory services" together themselves; use of their own scientific advisor is likely to decline. Training avenues and vocational professionalization are changing strongly and there is an increasing shift in information procurement and knowledge expansion into digital formats and international sources. The demand for learning and information is changing – solutions instead of background understanding, lifelong learning instead of one-off training. A major problem is the increasing flood of information – a need for a credible "evaluator" and "filter" is developing.
- Requirements and challenges of future knowledge generation:
    - How will the international transfer of knowledge be secured?
    - How can knowledge be meaningfully communicated and digitized?
    - How can the gap between research and practice be closed?
    - How can lifelong learning be promoted?
    - How can knowledge products be developed in accordance with the requirements and demand of farmers?

- Future communication avenues:
    - eLearning, Apps, International Knowledge Platform, training in niche sectors (specialization), Intranet for farmers

Which requirements / skills needs by farmers drive national approaches to VET?

Areas of expertise for farmers: What affects farmers in their existence?

All trend topics share certain requirements that call for certain skills on the part of the farmers. These include in particular strategy management and risk analysis (weighing up opportunities and risks).

Sector-specific expertise:

- Requirements made of organic farming/how does one become an organic farmer?
    - Occupational field organic farmer?
    - Changing over to organic farming – is it worthwhile? How is it done?
- Knowing and applying the challenges and demands made of sustainable agriculture
- What agri-environmental programmes are there, where are they, and how can they be used?
- Mechanization – learning to handle new machinery, equipment and systems

Personal/social/methodological/communicative skills:

- Media education: knowing the opportunities and risks of the new media and applying new media in targeted fashion
- Management capabilities/farm management/data management
    - New business forms bring new challenges
    - They are to be managed differently than family farms
    - Carrying out mergers/cooperations of farms expediently
    - Being able to weigh up risks and opportunities for new investments
- Strengthening dialogue capabilities with society/surroundings
    - Strengthening the image of farming, especially with regard to animal husbandry
    - The farmer becomes a service provider: the focus is not on a pure production task; customer orientation and the service idea are becoming increasingly important
    - How can rural areas remain viable, what role does the farmer as service provider assume here?
- Willingness to adopt lifelong learning
    - As in other sectors, learning never stops
    - Willingness to undergo regular further training
- Image work
    - Making the profession of “farmer” attractive in order to attract qualified labour, farm successors and trainees in future
- Innovations management
    - Developing new products, fields of business and strategies
    - Identifying development opportunities and assessing the risks of development paths
- Soft skills (personality and social skills): above all these are crucial!
    - Problem-solving and decision-making capabilities
    - Ability to work in a team, social skills
    - Management skills, willingness to assume responsibility
    - Independent working, individual initiative
    - Self-organization (flexibility, stress tolerance, work-life-balance, time management)
        - Is not sufficiently pronounced, especially among management staff
    - Social-communicative skills (communication, e.g. with people outside the sector too, conflict management, internationalism, ability to cooperate and work in a team)
        - High demand for catching up among both specialists and managerial staff
    - Sector-specific and methodological skills (thinking in structures and processes, decision-making behaviour, market and sector knowledge, handling electronic media)
        - Computer knowledge is considered to be mandatory
    - Personal characteristics (ability to assert oneself, patience and calmness, readiness to learn, loyalty, target orientation)
        - Must be promoted more strongly in training

Theme 4: Education and Training needs: first interpretation of the collected data on national level - conclusion

Questions to be answered:

Needs	What kinds of current needs (in between skills, VET, job profiles) in innovation & management can be identified?
-…	
Theme 4: Content of data collection:	
Current needs (skills, VET, job profiles) in innovation & management -...	

National Report Template for Desktop Research:
Please put together the information asked for and answer on the questions according to your country.
Partner: BIBB Country: Germany

Theme 4:
Education and Training needs: first interpretation of the collected data on national level - conclusion

Question: Needs - What kinds of current needs (in between skills, VET, job profiles) in innovation & management can be identified?

The trends identified (cf. answers to Theme 3 and the literature/material about Theme 4.1: trends and needs in (C)VET and Theme 4.2: specific education and training needs) are contradictory.

- Concentration on a small number of products vs. diversification and/or individualisation (everyone their own business model)
- (Further) industrialisation and technisation of production vs. (agricultural) services for customers, society/infrastructure and environment
- Global correlations and interconnections (climate, environment, economy, society, policymaking) vs. small-scale structures, special regional circumstances, short-term decision-making necessities

Against the background of the existing agricultural training system and available occupations and training opportunities (cf. Theme 2 answers and literature review) and the ACT Consortium “resumed and identified skill needs” [ACT - WP 1, Description of WP1, tasks and deliveries] in the area of

- entrepreneurship & business management skills
- marketing/promotion/networking skills
- technology skills
- sustainable/organic cultivation skills

the following requirements may be provisionally identified for Germany.

1. Institutional system of VET and higher education

There is no recognisable reason why the existing system of organisation and institutions for initial training, whether this is in the form of dual training or higher education study, should be called into question. As far as can be ascertained, this system enables well-founded basic training to be achieved.

2. Job profiles

If demand is to be believed, the existing training occupations (in particular farmer and agricultural services specialist) essentially seem to meet requirements. There are, however, no empirical surveys in this regard. Companies providing training have a large degree of organisational freedom with regard to training, and the regional examination boards enjoy considerable leeway in respect of examinations (within the scope of the training regulations as amended). Although we know that use is made of this organisational freedom (in contrast to other branches), no survey has thus far been undertaken on the way in which this happens and on the extent of this freedom.

Nevertheless, the training profile and examinations in the case of the occupation of farmer focus strongly on the production of animals and crops. This is essentially problematic from two points of view.

a) Although there are (major) agricultural companies which specialise in the production of a small number of products or individual products (such as pigs, eggs or grain), this does not (any longer) apply to the majority of small family run farms or part-time farming businesses. Alongside agricultural production, or even in some cases instead of agricultural production, such farms are providing a significant amount of other services, for example the enhancement and marketing of their products or in the fields of renewable energies and tourism. The requirements that result from this do not form part of the training occupational profile, neither are there any other agricultural training occupations that would provide training in this regard. [cf. point 4 below on competences and skills]

b) In a similar way to in other branches, the question also needs to be posed in the agricultural sector of whether the conception of an agricultural company as a company which produces things is still appropriate. Both individual farms and the agricultural sector as a whole are providing a large number of services to customers (e.g. direct marketing or tourism), to society (increasing infrastructure services in rural areas) and, last but not least, to nature and the environment (a current example being the “ecologisation of agricultural policy” via means such as “greening”). The provision of services instead of the production of raw materials not only requires a different attitude and therefore different competences. It also creates the necessity for different business management considerations and calculations. [cf. point 4 below on competences and skills]

3. System and offering of advanced vocational training and professional development

Because of the contradictory trends (cf. above) and expected socio-structural, technical and systemic upheavals, both the system and provision of advanced and continuing training seem to be in need of improvement. It is clear that farmers and all those employed in the agricultural sector need to adjust to frequent changes in their work, some of which are very severe. The accustomed attendance of master craftsman or technician courses, the largely informal continuing training pursued via

the reading of specialist periodicals and visits to trade fairs and events, consultations (between colleagues) and similar vehicles are not (any longer) sufficient. New forms and provision of in-service advanced and continuing training are, therefore, necessary. These must, however, take the specific conditions in agriculture into account (especially the restriction of employees with regard to location and time). The forms of (regional) networking and mutual consultation, which have been common up until now and are extremely useful, should also be addressed and supported methodologically and didactically. It would also make sense to link these with academic research findings and current developments. A host of virtual and/or integrated provision ("blended learning") is conceivable here.

In the light of the trends outlined, provision which is of a more technical nature needs to be joined by training aimed at the (continuing) development of personal and social competence. Overcoming changes, the assumption of responsibility whether for employees or in networks, services and the development of individual business models all require technical and methodological skills alongside self-confidence, management competence, the appropriate attitude, the ability for self-organisation and self-directed learning, specific skills in dealing with people and, last but not least, the ability to think systemically within the various contexts and interconnections and to undertake a rethink [cf. point 4 below on competences and skills]. Although all these competences can be developed, such a development process requires individually suitable support. Various forms of learning support, coaching, mentoring and advisory services are particularly appropriate for this purpose.

4. Competences and skills needed

The new and changed requirements expected with regard to activities in agriculture give rise to a need for cross-cutting competences and for technical content in initial, advanced and continuing training in certain areas.

Cross-cutting competence: systemic, holistic thinking or thinking within contexts[4] together with the ability to use this process to derive and implement conclusions for the specific regional and company circumstances. In order to overcome most of the challenges facing the agricultural sector (climate change, environmental requirements such as biodiversity, renewable energies, organic farming) this competence is at the least useful for all employees (although certainly at different levels) and in some cases absolutely indispensable.

4 As stated in Vester, F.: Die Kunst vernetzt zu denken. Ideen und Werkzeuge für einen neuen Umgang mit Komplexität. Munich: dtv, 2002; English edition: Vester, F.: The Art Of Interconnected Thinking. Ideas And Tools For A New Approach To Tackling Complexity. Munich: MBC Publishing House, 2012.

Cf. also: Hüttel R., Bens, O., Plieninger, T. (Eds.): Zur Zukunft ländlicher Räume. Entwicklungen und Innovationen in peripheren Regionen Nordostdeutschlands *[On the future of rural areas. Developments and innovations in peripheral regions of North Germany]*. Berlin: Akademie Verlag, 2008, in particular pp. 98 ff, in the bibliography as landinnovation.bbaw.de

Cross-cutting competence: Self-management as the comprehensive ability to organise oneself, reflect upon and further develop one's own activities and skills, including willingness to learn or self-directed learning and development processes. In light of the multiplicity and speed of the expected changes and upheavals, this competence is also absolutely essential for all employees in agriculture and is the basis for the acquisition of new technical skills.

Cross-cutting competence: the capacity for interaction as a comprehensive ability in terms of internal and external company communication, cooperation and conflict resolution. This includes managing customer relations, including for service providers, and relationships with business and cooperation partners. The establishment and nurturing of regional networks of a new type, such as in connection with the generation and exploitation of renewable energies, also shows itself to be useful. Depending on the person and situation, capacity for interaction also encompasses management and leadership skills, especially at large companies.

Technical area: organic farming. No sufficient supply is in place to meet the increasing demand for organic products which are grown within the region if possible. Organic cultivation and in particular making the switch to organic farming require appropriate knowledge and skill. This begins with the basic principle of crop rotation, whereas soil cultivation and associated issues relating to fertility, species-appropriate animal husbandry etc. all play a major role. [cf. responses to Theme 4.2 in the literature review]

Technical area: environmental and nature protection. The requirements farmers face with regard to pursuing environmental and nature protection in an active manner, reducing CO_2 emissions and even in providing or at least supporting ecological services[5] are significantly increasing. Because general conditions and opportunities vary greatly both regionally and with regard to individual companies, the relevant provision (continuing training, advisory services and similar) needs to show the same variety. [cf. responses to Theme 4.2 in the literature review]

Technical area: renewable energies. The generation, and in some cases the exploitation of renewable energies is an important topic for the agricultural sector in terms of making a contribution towards environmental protection and possibly with regard to crop rotation in organic cultivation and as a (further) source of income. The focus here is on the cultivation of biomass in the form of crops such as corn, rapeseed or wood fuel and on areas for wind turbines or solar collectors. This throws up many issues and challenges of a legal and practical nature and with regard to marketing and exploitation thus giving rise to relevant training requirements. [cf. responses to Theme 4.2 in the literature review]

Technical areas: technical and scientific innovation. The implementation and operational use of technical and scientific innovations, including machine, information and control technology, are also playing a major and increasing role in agriculture. There is, however, a lack of material from which specific needs could be derived.

5 Correct term: ecosystem services, cf. http://de.wikipedia.org/wiki/Ökosystemdienstleistung or https://en.wikipedia.org/wiki/Nature%27s_services

Only one area is producing clear indications: data management of the large quantities of data produced by modern agricultural machines.

Technical areas: further agriculturally related sources of income. There are also training requirements with regard to the opportunities for and exploitation of further agriculturally related sources of income. Some examples here are tourism services, including offers that go beyond traditional “farm holidays”, direct marketing of the farm’s own produce and the enhancement of such products (e.g. apple juice or cider instead of apples, dry pellets instead of damp wood chippings etc.). Similar circumstances apply in this regard as is the case with environmental and nature protection. Because general conditions and opportunities vary greatly both regionally and with regard to individual companies, the relevant provision (continuing training, advisory services and similar) needs to show the same variety.

Technical area: business administration/management. The management and business administration of agricultural companies create particular requirements, both for family farms (“self-employment with support”) and for business units in the form of legal entities, that are mostly larger in size. Alongside specific business administration aspects and the areas stated above, a particular role is played by process and risk management, marketing and distribution, issues of concentration, diversification and individualisation. Cooperation agreements, networks and the securing of such networks by formal contractual agreement are becoming ever more crucial for the companies, as are employment law issues due to the increase in the number of staff and other dependent workers. Greater importance is also being attached to liquidity calculations and financing opportunities due to the fact that new business fields often require investments and the revenues from such investments no longer follow the annual harvest cycle.
[cf. responses to Theme 4.2 in the literature review]

7. Template literature review: Recommendations for policy documents:
Please list here several literature/websites (media) you found/used within your research according to the themes 1-4, especially white papers and which you find relevant and you intend to approach. For each identified media, please provide a short description (abstract of the content) and your justification.

Partner: DLG Country (or EU-wide): Germany

Theme: 1, 3

Name of Publication	Reference / URL	Abstract /key messages
Theme 1:		
Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz (2010): *Die deutsche Landwirtschaft - Leistungen in Daten und Fakten*	http://www.bmelv.de/cae/servlet/contentblob/430138/publicationFile/26477/DieDeutscheLandwirtschaft.pdf	German Agriculture: certain facts and figures
Bundeministerium für Ernährung und Landwirtschaft (2014): *Nachhaltige Landnutzung*	http://www.bmel.de/DE/Landwirtschaft/Nachhaltige-Landnutzung/nachhaltige_landnutzung_node.html	Website from the German Federal Ministry of Food and Agriculture on “Sustainable Land Use”.
Bundeministerium für Ernährung und Landwirtschaft (2014): *Ökologischer Landbau*	http://www.bmel.de/DE/Landwirtschaft/Nachhaltige-Landnutzung/Oekolandbau/oekolandbau_node.html;jsessionid=73285ADF2217C9E1AC1897AAA9249FE5.2_cid296	Website from the German Federal Ministry of Food and Agriculture on organic farming in Germany.
Deutscher Bauernverband (2013): *Situationsbericht 2013/14 – Trends und Fakten zur Landwirtschaft*	http://www.bauernverband.de/situationsbericht-2014	This report highlights the development in the agricultural sector and points out the trends and facts for Germany.
Statistisches Bundesamt (2014): *BIP in Deutschland*	https://www.destatis.de/DE/PresseService/Presse/Pressekonferenzen/2014/BIP2013/Press	GDP of Germany.

	ebroschuere_BIP2013.pdf?__blob=publicationFile	
Theme 2:		
Dual Training at a Glance	www.bmbf.de/pub/dual_training_at_a_glance.zip	A set of 40 sheets witch explain the German “dual systems” very clear (in English)
VET in Europe - Country Report Germany; 10th edition, November 2012	http://www.bibb.de/dokumente/pdf/DE_Country_Report_2012.pdf	Basis and necessary informations about VET in Germany, including data and explanations of the “dual system” (in English)
Vocational Education and Training in Germany - Assuring the Future	http://www.bibb.de/en/wlk32526.htm	The film presents the basic elements of the German VET system such as collaboration with government and industry, the "two learning venues" principle, and qualifications that are recognized nation-wide
Report on Vocational Education and Training newest: 2013 only in German; 2012 and older also in English	http://www.bmbf.de/de/berufsbildungsbericht.php?hilite=Berufsbildungsbericht http://www.bmbf.de/pub/bbb_2012_en.pdf	training market situation, Vocational training policy measures and programmes
"National Pact for Career Training and Skilled Manpower Development in Germany“	http://www.bmbf.de/en/2295.php	Strategic objectives of the government and the social partners in VET
VET specific statistics for agriculture	http://www.bmelv-statistik.de/de/fachstatistiken/ausbildungsstatistik/	A lot of data about vocational training (“Dual System”) in green jobs and also about vocational schools
Overview and details to all profiles on all levels in agriculture: VET, CVET, schools, universities	http://www.bildungsserveragrar.de/	Overview, details, links, juridical regulations, examinations etc. (in German); see also Didam, R., Teichler, A., Hensche, H.: Berufsbildung in der Landwirtschaft. Bonn: aid, 2008.
Green (and other) occupations – VET and Advanced Training	http://www.bibb.de/de/26171.htm	All official documents for each profile/occupation and further informations (in German);
The 14 green occupations	http://www.die-deutschen-	Overview and stories (in German);

	bauern.de/gruene-zukunft	see also Pötzsch, M., Zepp, V.: Die Grünen 14 - Vierzehn Ausbildungsberufe im Agrarbereich. Bonn: aid, 2012.
Agricultural services specialist - „Fachkraft Agrarservice“	http://www.lohnunternehmen.de/aus-und-fortbildung/fachkraft-agrarservice.html	Detailed informations about this new profile, including videos (in German); for a short description in English see: http://www.bibb.de/en/ausbildungsprofil_21921.htm see also Bundesverband Lohnunternehmen (BLU) e.V. (Hrsg.): Fachkraft Agrarservice Clenze: ERLING Verlag (agrimedia), 2013.
Animal caretaker - „Tierwirt/in“ (verschiedene Fachrichtungen)	http://www.bibb.de/en/ausbildungsprofil_971.htm (list of profiles)	Short Profiles (in English)
Farmer (“Landwirt/in”)	http://www.gruene-berufe.info/landwirt-aus-leidenschaft/was-machen-landwirte.html	Overview and stories (in German)
Overview and details to all profiles on all levels in agriculture: VET, CVET, schools,	http://www.landwirtschaft-bw.info/pb/MLR.Landwirtschaft,Lde/Startseite/Bildung_Beratung/Fachschulen_+Technikerschulen+_+Hochschulen	Infodienst Landwirtschaft – Ernähung – Ländlicher Raum in BaWü
Vocational and Working education in Agriculture	Becker, A., Böhme-Friese, I., Hannig, J. (Hrsg.): Die Landwirtschaft - Berufs- und Arbeitspädagogik. München: BLV Buchverlag, 2009.	Overview and structure of “Dual System” from the perspective of trainers and teachers
Vocational Education and Training in German Agriculture	Mühl, H.: Berufliche Bildung in der deutschen Landwirtschaft. Band 1: Entwicklung. Bonn: Deutscher Agrar-Verlag, 2000. Mühl, H.: Berufliche Bildung in der deutschen Landwirtschaft. Band 2: Bildungspolitik. Bonn: Deutscher Agrar-Verlag, 2000	A very comprehensive publication from the perspective of the “Deutscher Bauernverband” 1. Volume: History of Vocational Education (up the 1950th) 2. Volume: History from 1969 up to now (2000); Vocational Education Work of the “Bauernverband”; Cooperation with trade union;Futher Development of VET, CVET also in European context ; etc.

Theme 3:		
AGRA-Europe Presse und Informationsdienst GmbH (Hrsg.): *Der Biomarkt wächst weiter.* In: AGRA-Europe 8/14, S. 1f.	http://www.agra-europe.de/startseite.html?no_cache=1	Development of the organic market in the last year.
Booklet „*DLG-Future Day*“		Meeting on 24th February 2014 in Groß-Umstadt (Germany) with 120 participants, including the management board, Consultants Agency (HLP Organisationsberater) and employees of DLG, in order to discuss about relevant future developments in the agricultural sector.
Bronsema, Hauke/ Theuvsen, Ludwig/ Guenther-Lübbers, Welf: *Fachkräftemangel: Fakt oder Mythos?* In: DLG-Mitteilungen, H. 4/2012, S. 14-17.	This application is not available online.	This article represents if there is a shortage of skilled professionals in the agricultural sector.
DLG (2014): *Nachhaltige Landwirtschaft*	http://www.nachhaltige-landwirtschaft.info/	DLG sustainable standard for sustainability in agriculture.
DLG-Unternehmertage 2014: *Programm*	http://www.dlg.org/unternehmertage.html	Contents of the “DLG-Unternehmertage” ahead of the next “Unternehmertage” in September 2014.
DLG-Wintertagung 2014: *Programm*	http://www.dlg.org/wintertagung.html	DLG-Wintertagung 2014. Weltagrarhandel – Wer profitiert? Wer verliert?
DLG-Wintertagung 2015	http://www.dlg.org/wintertagung.html	Contents of the “DLG-Wintertagung” ahead of the next “Wintertage” in January 2015 in Berlin.
Dr. Schwerdtfeger Agri HR Consult (2013) (Hrsg.): *Eine Aufgabe mit Aussicht.* In: DLG-Mitteilungen Beruf&Karriere.	http://www.personal-schwerdtfeger.de/fileadmin/veroeffentlichungen/Karriereplanung.pdf	Which skills do Companies expect from their applicants?

Auf in den Job! S. 4-8.		
Heyder, M./von Davier, Z. und Theuvsen L. (2008): *Fachkräftemangel in der Landwirtschaft: Was ist zu tun?* In: DLG (Hrsg.): Landwirtschaft 2020, S. 267-284.	This application is not available online.	This article is about the shortage of skilled professionals in the agricultural sector.
Institut für Agrarpolitik und Marktforschung, Justus Liebig Universität Gießen (2013) (Hrsg.): *Welcher Abschluss soll es sein?* In: DLG-Mitteilungen Beruf&Karriere. Auf in den Job! S. 12-14.	This application is not available online.	Article about relevant skills which applicants need.
Susanne Kos und DLG-Akademie (Hrsg.) (2009): *Erfolgreich führen mit Herz und Verstand.*	http://www.dlg-verlag.de/shop/product_info.php/info/p1369_Erfolgreich-fuehren-mit-Herz-und-Verstand.html	Soft skills for small and medium-sized enterprises.
VDL (2011): *Studie „Anforderungen der Unternehmen an Bachelor- und Master-Absolventen im Agrarbereich“*. In: Jahresbericht 2010/2011, S. 16-17.	http://www.vdl.de/hochschule_und_studium/VDL_Bericht_komplett_klein.pdf	Yearbook of the VDL (Bundesverband Berufsverband Agrar Ernährung Umwelt - professional organisation for agricultur, nutrition and environment in Germany).
Theme 4:		
Trends and new offerings on the CVET market	http://www.bibb.de/en/wlk14291.htm	“Being market-oriented and flexible, CVET is a motor for many continuing developments which more regimented parts of the education system adapt for their use only after a considerable time lag.”

FreQuenNz – network of reseach for early detection of qualification needs	http://www.frequenz.net/	Methodological tools and interesting projects, partially with agricultural themes
Studdy: Needs in CVET in Agriculture in Sachsen	http://www.landwirtschaft.sachsen.de/landwirtschaft/download/Bericht-Endfassung.pdf	Qualification (CVET) needs of professionals in agricultural in Geman federal state Sachsen (in German): „nternehmensstrategisch-betriebswirtschaftlich relevante Qualifizierungsthemen – hierzu gehören Unternehmensführung und Unternehmensplanung, Aufbau von Unternehmenskooperationen, Mitarbeiterführung und Personalmanagement, Auf- und Ausbau von Wertschöpfungsketten, Marketing und Direktvermarktung, Schlüsselkompetenzen sowie Arbeitsorganisation und Finanzierung – finden hingegen im bisherigen Weiterbildungsengagement kaum Berücksichtigung.“
Challenges to the agricultural VET system and VET reality	www.researchgate.net/publication/235685741_Herausforderungen_an_das_landwirtschaftliche_Ausbildungssystem_und_Ausbildungswirklichkeit/file/d912f5128d3123e6d8.pdf	Laschewski, L., Sorge, D. 2010: Herausforderungen an das landwirtschaftliche Ausbildungssystem und Ausbildungswirklichkeit. Rostock: Universität Rostock, 2010. structure and change of agricultural VET, comprehensive case stdy about the situation in the Federal State „Mecklemburg-Vorpommern“; one result. New/enhanced job profiles needed
Personal Developent and Advanced Training – Results of a survey of the agriculture in Thuringen	http://www.tll.de/ainfo/pdf/demo1107.pdf	Thüringer Landesanstalt für Landwirtschaft (Hrsg.): Auswirkungen des demografischen Wandels auf die Thüringer Landwirtschaft. Teilbericht: Auswertung der Betriebsbefragung zur Personalentwicklung und Weiterbildung. Jena: 2007.
Budding Professionals in Agriculture in Sachsen	https://publikationen.sachsen.de/bdb/artikel/18450	Landesamt für Umwelt, Landwirtschaft und Geologie Sachsen (Hrsg.): Untersuchung zum Berufsnachwuchs im Agrarbereich, Sachsen, Schriftenreihe des LfULG, Heft 5/2013.
Personal Developent and Advanced Training – Results of a survey of the agriculture in Brandenburg		Fock, T., Fechner, J.: Analyse des landwirtschaftlichen Fachkräfte- und Bildungsbedarfs im Land Brandenburg. Neubrandenburg: Fachhochschule Neubrandenburg, 2002.

Requirements at future (C)VET	http://www.vlf-online.de/44.html	policy documents of the vlf - „Bundesverband Landwirtschaftlicher Fachbildung e. V.
Integrating sustainability in green jobs (project)	http://www.agrarbuendnis.de/fileadmin/Daten-KAB/Ausbildung/AB_2012-11-05_Stein.pdf	
(Future of) Part-time farmers (Nebenerwerbslandwirte)	http://www.agrarbuendnis.de/index.php?id=257	Different Materials (presentations, studies and positions) → special qualifications - special needs? (in German) see also: Lemmerbrock, H.: Erweiterung der Unternehmensaktivitäten landwirtschaftlicher Betriebe und deren Bedeutung für die Wirtschaftskraft ländlicher Räume in Schleswig Holstein. Aachen: Shaker, 1999
Foundation Ecology & Agriculture with education programms (VET, universities, etc.)	http://www.soel.de/bildung/ausbildung_studium.html	Overview and detailed links (partielly in English, but most in German)
3L — Lifelong learning on organic farms	www.hnee.de/3L	Materials, Seminars: different actual themes in organic farming marketing and economy (mostly in German)
Integrating organic farming in (C)VET	www.hnee.de/_obj/49F1949A-FDA6-48B0-88C5-838FFECE21C5/outline/Kurzfassung-Endberichtes.pdf	Stiffel, Häring: Ansätze zur Integration von Ökolandbauthemen in die Aus- und Weiterbildung in Brandenburg - Kurzfassung zum Endbericht des Projektes „Bildungszentrum Ökolandbau“. Eberswalde: HNEE, 2011.
Change and Future of Work in Agriculture	www.agrarbuendnis.de/fileadmin/Daten-KAB/AB_Wandel_der_Arbeit/Protokoll_Arbeit_AgrarBuendnis_FT_2013-06-25.pdf	Wandel und Zukunft der Arbeit in der Landwirtschaft am Beispiel milchviehhaltender Betriebe – Protokoll eines Fachgesprächs von 2013 mit ganz unterschiedlichen Beiträgen: “Das Fachgespräch hat gezeigt, wie individuell die Wege sind, die Betriebe beschreiten, um die Arbeit zu bewältigen und um Leben und Arbeit in Einklang zu bringen. Standardlösungen greifen nicht und so müssen Gesellschaft und Politik sich dafür öffnen, diese vielfältigen Wege zu unterstützen. Agrarpolitisch gesehen geht es dabei um eine Förderung von Diversifizierung und qualitativem Wachstum statt – wie bisher – um eine relativ einseitige Unterstützung des Mengenwachstums. Dazu ist es bedeutsam, dass schon bei der Ausbildung

		– von den Berufsschulen bis hin zu den Universitäten andere Wertvorstellungen vermittelt werden.”
Development of Qualifications in Agriculture	www.frequenz.net/uploads/tx_freqprojerg/Schlussbericht_Trendqualifikationen.pdf	Abicht, L.: Ermittlung von Trendqualifikationen als Basis zur Früherkennung von Qualifikationserfordernissen.” Schlussbericht zum Projekt, Halle, 2007. Zur Qualifikationsentwicklung in der Landwirtschaft Untersuchung neuer “Qualifikationsbilder” von denen an “Land- und Tourismuswirt/in”, “Direktvermarkter/in” und “Energielandwirt/in” lt. Empirischer Erhebung Bedar besteht, allerdings eher als Weiterbildung oder Modifikation bestehender Ausbildungen, nicht als neue Berufsbilder.
Requirements and qualification needs in the field of regional development (in rural regions)	www.fh-eberswalde.de/_obj/D203E567-9199-4BC3-A5F4-9B5A0B8057A7/	“Eines der größten Defizite des aktuellen Angebotsspektrums liegt in der fehlenden Europäisierung der Inhalte und der Methoden in diesem Berufs- und Arbeitsfeld.”
Future of Agriculture in 2030	bdl.landjugend.info/publikationen.html?eID=dam_frontend_push&docID=56	“Die ZukunftsInitiative Landwirtschaft – ZIeL 2030”
List of special information about „new“ themes like climate change, ecological agriculture, technical develoment, etc.	www.landwirtschaftskammern.de/aktuell.htm	material to deduce education and training needs (in German)
Interdisciplinary research group „Options for a future-oriented land-use of rural areas – LandInnovation“	http://landinnovation.bbaw.de/	material to deduce education and training needs (in German) “As both environmental conditions and societal demands to land-uses in agricultural areas are changing rapidly, there are presently important questions to be answered. Examples are: • to sustainably supply the population with clear water and top-quality food • to maintain cultural landscapes and to secure biodiversity • to explore the potentials and consequences of breeding and

		spreading genetically engineered plants and animals • to develop sustainable systems of energy supply • to study aspects of regional sustainability • to analyze effects of increasingly globalized markets and their feedback to rural regions
Bioenergy, renewable raw material	http://mediathek.fnr.de/media/downloadable/files/samples/a/e/aee_potenzialatlas_090114_2013_fnr.pdf	material to deduce education and training needs (in German) Agentur für Erneuerbare Energien e.V. (Hrsg.): Potenzialatlas Bioenergie in den Bundesländern. Berlin: AEE, 2013.
Risk Management in Agriculture – an empirical analysis in three Federal States of Germany	https://publikationen.sachsen.de/bdb/artikel/13811/documents/21139	material to deduce education and training needs (in German)
Risk Management in Agriculture	www.uni-goettingen.de/de/document/download/09632b827e794f8cdc8561ecc9210dad.pdf/Nachdruck_LeitfadenRisikomanagement_23112011_final.pdf	material to deduce education and training needs (in German: Leitfaden für Landwirte: So behalten Sie die Risiken im Griff)

8. Template "key players" in agricultural VET:

Contents: Name, function, URL, role and interpretation of influence (e.g. policy, lobby, labour union, chamber etc.)
Please identify and list here important "key players"who may be important to contact within the project and to invite to the focus groups.

Partner: DLG Country (or EU-wide): Germany

Theme: 3

Name	Function	Address/URL	Role	Influence
DLG: Carl-Albrecht Bartmer	**Management board:** Farmer Farmer	**DLG e.V.** Eschborner Landstr. 122 60489 Frankfurt Phone: +49(0)69/24 788-(0) http://www.dlg.org/	Represantatives of the DLG towards politics, economy, science and agricultural practice.	

Helmut Ehlen				
Prof. Dr. Achim Stiebing	Profesor at the University Ostwestfalen-Lippe, Meat technologist			
Dr. Reinhard Grandke	Managing Director			
Prof. Dr. Olaf Christen	Professor at the University Halle-Wittenberg			
René Döbelt	Farmer			
Dr. Harald Isermeyer	Farmer			
Claudia Müller	Farmer			
Prof. Dr. Peter Michael Schmitz	Professor at the University			
Philipp Schulze Esking	Farmer			
Ludwig Spanner	Farmer			
Martin Umhau	Farmer			
Carl-Christian von Plate	Farmer			
Maximilian Graf Hardegg				

Prof. Dr. Harald Grethe	Professor	**Universität Hohenheim** Institut für Agrarpolitik und Landwirtschaftliche Marktlehre (420) Phone: 0711 459-22631 https://www.uni-hohenheim.de/	Speaker on the „DLG-Unternehmertage 2013“	Article on the subject “Zunehmende Regulierung des Agrarsektors: Folgen für die Wettbewerbsfähigkeit”
Cort Brinkmann	Consultant	**LBB mbH Göttingen** Luttertal 70 37075 Göttingen Phone: 0551 20905 – 0 http://www.lbb-agrar.de/	Speaker on the „DLG-Unternehmertage 2013“	Article on the subject “Bewegung in Markt und Politik – Fruchtfolgen überprüfen”
Stefan Leuer	Speaker	**Landwirtschaftskammer NRW** Landwirtschaftskammer Nordrhein-Westfalen Nevinghoff 40 48147 Münster Phone: 0251 2376-0 info@lwk.nrw.de http://www.landwirtschaftskammer.de/		
Folker Hellmeyer	Chief analyst	**Bremer Landesbank** Kreditanstalt Oldenburg – Girozentrale – Domshof 26, 28195 Bremen Phone: +49-421 332-0 http://www.bremerlandesbank.de/	Possible Speaker at „DLG-Unternehmer-tage 2014”	Article on the subject „Wirtschaftliches Umfeld: Konjunkturaussichten, Zinspolitik, globale und wirtschaftliche Schocks und deren Bedeutung für die Landwirtschaft“
Dr. Rüdiger Fuhrmann	Head of the agricultural banking	**Nord/LB** Breiter Weg 7 39104 Magdeburg Phone: + 49 - 391 589-0 https://www.nordlb.de/	Possible Speaker at „DLG-Unternehmer-tage 2014“	Article on the subject „Investitionsfelder für Landwirte: Welche sind tragfähig?“
Prof. Dr. Enno Bahrs	Head of agricultural	**Universität Hohenheim** Fg. Landwirtschaftliche Betriebslehre	Possible Speaker at „DLG-	Article on the subject „Investitionsfeld

	business operations	Phone: +49(0)711 459-22566 https://www.uni-hohenheim.de/person/enno-bahrs	Unternehmer-tage 2014“	er für Landwirte: Welche sind tragfähig?“
Albrecht Macke	Senior Partner	**BB Göttingen** Raseweg 4 37124 Rosdorf Phone: +49 (0)551 798660 http://www.bbgoettingen.de/	Possible Speaker at „DLG-Unternehmer-tage 2014“	Article on the subject „Strategische Betriebsentwicklung – Ansätze und Handlungsfelder“
Dr. Klaus Drescher	Consultant	**LWK Schleswig-Holstein** Grüner Kamp 15-17 24768 Rendsburg Phone: 04331/9453-0 lksh@lksh.de http://www.lksh.de/	Possible Speaker at „DLG-Unternehmer-tage 2014“	Article on the subject „Strategische Betriebsentwicklung – Ansätze und Handlungsfelder“
Dr. Shenggen Fan	Director-General	**International Food Policy Research Institute** 2033 K St, NW Washington, DC 20006-1002 USA Phone: +1 202-862-5600 ifpri@cgiar.org http://www.ifpri.org/de	Speaker on the „DLG-Wintertagung 2013“	Article on the subject “Knapper Boden, knappes Wasser: Anforderungen an Landwirtschaft und Ernährung aus globaler Perspektive“
Prof. Dr. Kurt-Jürgen Hülsbergen	Professor	**Technische Universität München** Arcisstraße 21 80333 München Phone: +4989289-01 https://www.tum.de/	Speaker at the „DLG-Wintertagung 2013“	Article on the subject “Ressourcennutzung in der Pflanzen- und Milchproduktion: Ansätze für die Betriebsoptimierung”
Dr. Rainer Klingholz	Director	**Berlin Institut für Bevölkerung und Entwicklung** Schillerstr. 59 10627 Berlin Phone: 030-22 32 48 45 info@berlin-institut.org	Possible Speaker at „DLG-Wintertagung 2015”	Article on the subject „Demographischer Wandel in Deutschland – Risiko für Staat und Gesellschaft?“

		http://www.berlin-institut.org/		
Prof. Dr. Bernd Raffel-hüschen	Professor	**Universität Freiburg** Schillerstr. 59 10 627 Berlin Phone: 0 30-22 32 48 45 https://www.uni-freiburg.de/	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Demographischer Wandel in Deutschland – Risiko für Staat und Gesellschaft?"
Petra Roth	Managing Director	**Stiftung Schloss Ettersburg** Am Schloss 1 99439 Ettersburg Phone: (03643) 740 21 30 info@stiftung-ettersburg.de http://www.stiftung-ettersburg.de/	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Demographischer Wandel in Deutschland – Risiko für Staat und Gesellschaft?"
Prof. Rainer Danielzyk	Professor	**Professur für Landesplanung und Raumforschung** Welfengarten 1 30167 Hannover Phone: +49-511 762 0 http://www.umwelt.uni-hannover.de/danielzyk.html	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Perspektiven für ländliche Räume: Erfolgsfaktoren und Handlungsansätze einer zukunftsfähigen Entwicklung"
Michal Ziche	District Administrator	**Altmarkkreis Salzwedel** Karl-Marx-Straße 32 29410 Salzwedel Phone: +49 -3901 8400 http://www.altmarkkreis-salzwedel.de/	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Ländliche Räume entwickeln durch Nutzung endogener Potenziale – das Beispiel der Altmark"
Mathias Horx	Holder, Futurologist	**Zukunftsinstitut GmbH** Kaiserstr. 53 60329 Frankfurt am Main Phone: +49 -69 2648 489-0 http://www.zukunftsinstitut.de/	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Zukunfts-Optimismus: Utopie oder gestaltende Kraft?"

Gerd Gigerenzer	Director	**Center for Adaptive Behavior and Cognition** Max-Planck-Institut für Bildungsforschung Lentzeallee 94 · 14195 Berlin · Phone: +49 30 82406-0 info@mpib-berlin.mpg.de https://www.mpib-berlin.mpg.de/de/forschung/adaptives-verhalten-und-kognition	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Akzeptanz von Fortschritt in der Gesellschaft: Perspektiven für die innovationsbasierte Zukunftsgestaltung"
Carl Vierboom		**Vierboom und Härlen Wirtschaftspsychologen** Gartenstr. 30 53773 Hennef **Phone** +49 2242 9332964 http://www.wirtschaftspsychologen.de/index.php?id=126	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Akzeptanz von Fortschritt in der Gesellschaft: Perspektiven für die innovationsbasierte Zukunftsgestaltung"
Kathrin Göring-Eckhardt	Parliamentary party leader	**Bündnis 90/ Die Grünen** http://www.gruene.de/startseite.html	Possible Speaker at „DLG-Wintertagung 2015"	Article on the subject „Umsteuern jetzt – „alternativer Fortschritt" als Zukunftsprinzip"
Prof. Dr. Dr. h.c. Joachim von Braun	Director	**Zentrum für Entwicklungsforschung, Universität Bonn** Walter-Flex-Str. 3 53113 Bonn Email: zef@uni-bonn.de http://www.zef.de/zefhome.html	DLG-Wintertagung 2014	Article on the subject „Weltagrarhandel für Wertschöpfung und Ernährungssicherung – Potenziale und Probleme" at the DLG-Wintertagung 2014
Dr. Martin Lambers	Expert for VET (BIldungs-referent)	www.landwirtschaftskammern.de	umbrella association of chambers in agriculture	Social Partner, employer site
Dr. Martin Weserberg	Expert for VET (BIldungs-referent)	www.lohnunternehmen.de	German Federal Association	Social Partner, employer site

			of agricultural contractor	
Kerstin Zimmer	Expert for VET (BIldungs-referent)	www.igbau.de	labour union	Social Partner, employee site
Friedrich von Homeyer	Speaker	www.agrarbuendnis.de	Umbrella association of 24 agricultural organisations	Lobby: eco-farming, professional association
Werner Schwarz	Vice President	http://www.bauernverband.de/information-english VET: http://www.bauernverband.de/ausbildung-studium	The German Farmers' Association	Lobby; for Werner Schwarz see http://www.bauernverband.de/da-geht-noch-eine-menge
Reiner Becker	Board of directors	www.vdaw.de/	Umbrella association of SMEs in aggricultural business	Lobby, professional association
Dr. M. Kunisch	CEO	www.ktbl.de	Association for agricultural technics and building	professional association
Markus Bretschneider	Expert for #Ordnungsverfahren# Landwirtschaft	www.bibb.de/en/	Public authority	centre of excellence for vocational research and for the progressive development of VET
N.N.	Chairmen/women of „Berufsbildungsausschuss" for each federal state	List at http://www.landwirtschaftskammern.de/pdf/berufsausbildung.pdf	„Zuständige Stellen" - Responsible bodies for annual examination of all VET occupations in each federal state	Content and Specifications of Examinations
Karsten Mensing	President	www.deula.de/	German Federal association of agricultural	Association of Training Providers

			technology schools	
Gehard Eimer	President	www.vlf-online.de/	German Federal association of agricultural professional education	Association of Schools for Professionals
Prof. Dr. Folkhard Isermeyer	President	www.ti.bund.de/en/	German Federal Research Institute for Rural Areas - under the auspices of the German Ministry of Food and Agriculture (BMEL)	scientific basics as decision-making helps for the policies of the German government
Prof. Dr. Lothar Abicht	Professor at TU Chemnitz, CEO isw	http://lothar-abicht.net/	R&D, trend insights of VET	
Prof. Dr. Reiner Brunsch	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/atb/	R&D: Leibniz Institute for Agricultural Engineering	
Prof. Dr. Eckhard George	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/igz/	R&D: Leibniz Institute of Vegetable and Ornamental Crops	
Prof. Dr. Hubert Wiggering	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/zalf/	R&D: Leibniz Centre for Agricultural Landscape Research (ZALF)	
Prof. Dr. Alfons Balmann Prof. Dr. Thomas Glauben Prof. Dr. Thomas Herzfeld	Managing Directors	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/iamo/	R&D: Leibniz Institute of Agricultural Development in Transition Economies	

Prof. Dr. Dr. h.c. Bernhard Müller	Executive Board and Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/ioer/	R&D: Leibniz Institute of Ecological Urban and Regional Development	
Dr. L. Laschewski Dr. D. Sorge	Agrar Sociologist, VET Experts	www.researchgate.net/profile/Lutz_Laschewski/ www.mathnat.uni-rostock.de/fakultaetsleitung/	R&D	e.g. Authors of „Herausforderungen an das landwirtschaftliche Ausbildungssystem und Ausbildungswirklichkeit". Rostock: Universität Rostock, 2010.
Prof. Dr. Jens Pape	Dean Faculty of Landscape Management and Nature Conservation	http://www.hnee.de/de/Fachbereiche/Landschaftsnutzung-und-Naturschutz/Fachbereich-Landschaftsnutzung-und-Naturschutz-K240.htm	R&D, Higher Education, e.g. Master of Science "Ecological and Agricultural Management "	
JProf. Dr. Marcel Robischon	Head: Subject Related Didactics Agricultural and Horticultural Sciences	http://www.agrar.hu-berlin.de/fakultaet-en/departments/daoe/didactics-agri-horticulture/standardseite?set_language=en&cl=en	Higher Education of Teachers of VET Schools	
Prof. Dr. Matin Qaim	Board of Directors: Department of Agricultural Economics and Rural Development	http://www.uni-goettingen.de/en/board-of-the-department/18883.html	R&D, also in VET and agriculture labor market, Higher Education, VET	See also http://www.uni-goettingen.de/en/working-papers-of-the-department-starting-issue-4-2007/72592.html for different relevant studies
Prof. Dr. Hubert Röder	Chair of Business Economics of Biogenic Resources	http://www.wz-straubing.de/default.asp?Menue=14&lang=ENG&MandantID=4	R&D about Bioenergy, renewable raw materia	

Dr. Tobias Plieninger	Head of projects: Ecosystem services and LandInnovation	http://www.oekosystemleistungen.de/team/tobias-plieninger-leitung	R&D	

Partner: BIBB Country (or EU-wide): Germany

Theme: 2+4

Name	Function	Address/URL	Role
Dr. Martin Lambers	Expert in VET	www.landwirtschaftskammern.de	Umbrella association of chambers in agriculture
Dr. Martin Weserberg	Expert in VET	www.lohnunternehmen.de	German Federal Association of Agricultural Contractors
Kerstin Zimmer	Expert for VET	www.igbau.de	Trade union
Friedrich von Homeyer	Speaker	www.agrarbuendnis.de	Umbrella association of 24 agricultural organisations
Werner Schwarz	Vice President	http://www.bauernverband.de/information-english VET: http://www.bauernverband.de/ausbildung-studium	The German Farmers' Association
Reiner Becker	Board of Directors	www.vdaw.de/	Umbrella association of SME's in agricultural business
Dr. M. Kunisch	CEO	www.ktbl.de	Association for Agricultural Technology and Construction
Markus Bretschneider	Expert in regulatory procedures in agriculture	www.bibb.de/en/	Public authority
N.N.	Chairs of the "VET Committees" for each federal state	List at http://www.landwirtschaftskammern.de/pdf/berufsausbildung.pdf	"Competent bodies" - responsible bodies for annual examination of a VET occupations in each federal state
Karsten Mensing	President	www.deula.de/	German Federal Association of Agricultural Technology Schools
Gehard Eimer	President	www.vlf-online.de/	German Federal Association of Agricultural Professional Education
Prof. Dr. Folkhard Isermeyer	President	www.ti.bund.de/en/	German Federal Research Institute for Rural Areas – under the auspices of the German Ministry of Food and Agriculture (BMEL)
Prof. Dr. Lothar Abicht	Professor at TU Chemnitz, CEO of the Institute for Social and Ecological Business Research, isw	http://lothar-abicht.net/	R&D, trend insights of VET

Prof. Dr. Reiner Brunsch	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/atb/	R&D: Leibniz Institute for Agricultural Engineering
Prof. Dr. Eckhard George	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/igz/	R&D: Leibniz Institute of Vegetable and Ornamental Crops
Prof. Dr. Hubert Wiggering	Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/zalf/	R&D: Leibniz Centre for Agricultura Landscape Research (ZALF)
Prof. Dr. Alfons Balmann Prof. Dr. Thomas Glauben Prof. Dr. Thomas Herzfeld	Managing Directors	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/iamo/	R&D: Leibniz Institute of Agricultur Development in Transition Economies
Prof. Dr. Dr. h.c. Bernhard Müller	Executive Board and Director	http://www.leibniz-gemeinschaft.de/en/institute-museen/einrichtungen/ioer/	R&D: Leibniz Institute of Ecologica Urban and Regional Development
Dr. L. Laschewski Dr. D. Sorge	Agrarian Sociologist, VET experts	www.researchgate.net/profile/Lutz_Laschewski/ www.mathnat.uni-rostock.de/fakultaetsleitung/	R&D
Prof. Dr. Jens Pape	Dean Faculty of Landscape Management and Nature Conservation	http://www.hnee.de/de/Fachbereiche/Landschaftsnutzung-und-Naturschutz/Fachbereich-Landschaftsnutzung-und-Naturschutz-K240.htm	R&D, higher education, e.g. Maste of Science "Ecological and Agricultural Management"
Prof. Dr. Marcel Robischon	Head: Subject Related Didactics Agricultural and Horticultural Sciences	http://www.agrar.hu-berlin.de/fakultaet-en/departments/daoe/didactics-agri-horticulture/standardseite?set_language=en&cl=en	Higher education of teachers at VET Schools
Prof. Dr. Matin Qaim	Board of Directors: Department of Agricultural Economics and Rural Development	http://www.uni-goettingen.de/en/board-of-the-department/18883.html	R&D, also in VET and agriculture labour market, higher education, VET
Prof. Dr. Hubert Röder	Chair of Business Economics of Biogenic Resources	http://www.wz-straubing.de/default.asp?Menue=14&lang=ENG&MandantID=4	R&D in bioenergy, renewable raw materials
Dr. Tobias Plieninger	Head of projects: Ecosystem Services and Land Innovation	http://www.oekosystemleistungen.de/team/tobias-plieninger-leitung	R&D

National Report:

Partner: TEIA and AK Country: GREECE (EL)

Theme 1: National Agricultural Profile **Questions to be answered:**	
Economics	**What economic benefits are attributed within the agricultural economic agenda of the country?**

Agriculture is very important for the sustainable development of rural areas in Greece from economic, social and environmental point of view. According to Table 1.1, the territory of predominately rural areas covers 82% of the total Greek territory, where the 43% of the population lives. The agriculture and the activities related to agriculture (secondary, services) are the heart beat of the economy and crucial for the rural development. The total Utilized agricultural area (UAA) is 3 478 000 ha and the contribution of the primary sector (definition Branch A, NACE) to the economy reaches the 3.4% (2012) of the total GVA of the country.

Also, there is a tendency for exports increase; according to the data (year 2012), the Greek exports of total agricultural products were increased by 1.5% in the EU countries and by 29.5% in the non EU countries. On the same period the imports of total agricultural products from EU and non-EU countries decreased by 5.4% and 4.9%, respectively The total agricultural products (all sectors) covers the 17.1% of total exports (Year 2012, Table 1.11).

Due to special characteristics of Greece (geography, morphology, many mountains, and islands) where diverse microclimates and conditions are developed and this is connected with the production of local products with special characteristics and high quality. Therefore there are several products under labels such: Protected Designation of Origin (PDO), Protected Geographical Indication (PGI), and Traditional Specialities Guaranteed (TSG) with added value in the market.

According to the Hellenic Ministry of Rural Development and Food, thinking of the significant challenges that the agriculture and rural development sectors should face in a globalized system of market competition, special emphasis is given to the "Local identity and quality of European agricultural products a competitive and development tool for rural entrepreneurship"

Two main topics are:

1.Strengthening rural entrepreneurship by connecting the local production with other economic activities

2.The contribution of rural entrepreneurship in job creation and social cohesion

(*Source:* Hellenic Presidency of the Council of the European Union, Informal Meeting of Directors of Rural Development, Athens 31-03-2014 http://athens2014.agrotikianaptixi.gr/index.php/top-menu)

Employment & Education	**How is the general situation in employment and how are employees and farm employers educated?**

The employment in rural areas was 12.2% (2012) of the total employment of the country. Due to recession, in 2012, around one fourth (24.3%) of the total active population in Greece was unemployed. However, from the three areas classification, in the rural areas (thinly populated areas) it was recorded the lowest value (21.8%) for the year 2012. Unfortunately due to recession, the next two years the unemployment increased further, reaching 27.0% and 26.0%, for 2013 and 2014 respectively.

Finally, the training and education in Agriculture is limited, and the majority of the farm managers learned their profession through practical experience (96.5%), while only 0.3% had completed a full cycle of agricultural training. In EU the respective values for the above parameters are 71% and 6.9%.

Theme 1: Content of data collection:

Demographic profile

(size, population and its development, climate, economic status)

-Total area: 131 957 km^2;

-Allocation: 128 133 km^2 (97.1%) of the country are rural areas according to the OECD[1] definition (73.9% are mainly rural and 23.2% intermediate rural)

-Population and its development: (2011) 10.8 million (Males: 5.3 million, Females: 5.5 million)

(2011) 11.1 million average population (Males: 5.5 million, females: 5.6 million)

Crude rate of total population change (per 1000 inhabitants) (2012): -5.5

Crude rate of increase (per 1000 inhabitants) (2007) 2.9

There is a tendency towards a decrease in the age groups of 0-24 and 25-59, while an increasing in the ages 60.

Table 1.1 The importance of rural areas in Greece.

Year 2010	Territory (km^2)	Population (1000 inhabitants)	GVA (Million EUR)	Employment (1000 persons)
Predominantly Rural regions (PR)	108 216.0 (82%)	4 834.1 (43%)	66 850.7 (34%)	1 950.2 (41%)
Intermediate Regions (IR)	15 914.0 (12%)	1 197.0 (11%)	17 275.1 (9%)	481.5 (10%)
Predominantly Urban regions (PU)	7 491.0 (~6%)	5 274.0 (47%)	111 096.6 (57%)	2 280.0 (48%)
Total	131 957.0	11 305.1	195 222.6	4 711.7

Source: European Commission, Directorate General for Agriculture and Rural Development, 2013 Rural Development Report http://ec.europa.eu/agriculture/statistics/rural-development/2013/full-text_en.pdf

-Climate: Mediterranean, temperate, mild, wet winters, hot, dry summers

-Economic Status: More than 50% of Greek industry is located in the Greater Athens area; the main economic sectors are agriculture, tourism, construction and shipping.

[1]OECD: the Organisation for Economic Co-operation and Development as predominately rural areas (PR) are defined the areas in which more than 50% of the population lives in rural communes (150 inhabitants/km^2)

(*Source:* http://europa.eu/about-eu/countries/member-countries/greece/index_en.htm

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

Agriculture and economics in general *(economic indicators)*

Table 1.2 Economic indicators

Economic indicators for Greece (in general)			
Indicators	2012	2013	2014
GDP			
In million EUR	193 749	182 836	183 008
Per capita (in PPS)	19 204	18 577	18 961

Annual % change			
GDP growth (at constant prices)	-6.4	-4.0	0.6
Exports (goods and services)	-0.8	2.5	4.6
Imports (goods and services)	1.0	-7.1	-1.3
% of total employments (active population)			
Unemployment rate	24.3	27.0	26.0

Source: European Commission, Directorate General for Economic and Financial Affairs, European Economic Forecast-Autumn 2013. Eurostat, Updated: November, 2013.

Table 1.3 Structure of the economy of Greece (%GVA by branch)

Area	Sector	Value	EU-27 average
Rural	Primary sector	7.4 %	4.4 % EU-27
	Secondary sector	22.0 %	30.9% EU-27
	Tertiary sector	70.6 %	64.6% EU-27
Intermediate	Primary sector	4.3 %	2.2% EU-27
	Secondary sector	18.7%	29.1% EU-27
	Tertiary sector	77.0 %	68.7% EU-27
Urban	Primary sector	0.6 %	0.5% EU-27
	Secondary sector	13.7 %	20.8% EU-27
	Tertiary sector	85.7 %	78.6% EU-27

Source: European Commission, Directorate General for Economic and Financial Affairs, European Economic Forecast-Autumn 2013. Eurostat, Updated: November, 2013.

Economical importance of agriculture

(investments in agriculture, GDP (output value, gross value), number of employees in general (people in paid work), working hours; development of the sector; Food – consumption and prices, agricultural budget in general; production, markets & prices: equipment (crop protection, fertilizers, seeds, machinery) and animal feed; crop products; animal products; Agricultural external trade, role of national production in international context).

Table 1.4 Economic development of the primary sector in Greece (2012)

Economic development of the primary sector in Greece (2012)	EUR million (current)	EU-27
Gross value added[1] and share of GVA in the primary sector (Branch A) - MS – 2012 (EUR million)	5 751.3 (3.4% of overall economy)	195 037.0 (1.7% of overall)
Absolute change and average annual growth rate of GVA in primary sector (Branch A) – MS – 2007 to 2012	244.9 (0.7% annual change)	-4 687.5 (-0.5% annual change)

Note: Primary sector (branch A in NACE rev.2) includes agriculture, forestry and fishing. Agriculture plus forestry (A01 + A02) represented 98% of

the sector in the EU-27, and between 88 and 100% in the Member States.

[1]This indicator measures the gross value added (GVA) in the primary sector in a region. GVA is defined as the value of output less the value of intermediate consumption. Output is valued at basic prices, GVA is valued at basic prices and intermediate consumption is valued at purchasers' prices. GVA is measured in absolute terms.

Source: European Commission, Directorate-General for Agriculture and Rural Development

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

Table 1.5 Key Agricultural Indicators for Greece

Agricultural Indicators	2011	2012	2013
Output of the agricultural industry (% of GDP)	5.2	5.4	5.7
Agricultural output prices (index, 2005=100)	81.5	80.7	83.8
Agricultural input prices (index, 2005=100)	115.5	119.4	122.6
Agricultural income (Indicator A) (index, 2005=100)	111.5	112.8	107.5
Agricultural employment (% of total employment)	11.6	12.2	-

Source: http://ec.europa.eu/agriculture/statistics/factsheets/index_en.htm

Table 1.6 No of employees in general (people in paid work)

Working Hours	Value (Year)	Definition (EUROSTAT)
Number of employees (farm labour force)	568.71 (2007) x 1000 full-time employees	Labour force includes everyone (over the legal age limit) having provided an agricultural work on and for the holding during the last 12 months. The work time of each person is recorded as percentage of a full-time.
Family farm labour force	1478.59 (2007) x 1000 persons	Every member of the holder's family (over the compulsory school age), including the holder himself, having provided an agricultural work on and for the holding during the last 12 months.
Full-time regular farm labour force (1000 persons)	127.04 (2007)	Labour force includes everyone (over the legal age limit) having provided an agricultural work on and for the holding during the last 12 months. Are taken as regular labour force every member of the holder's family working on the holding are taken as regular labour force (holder included) and non-family regularly employed labour force.

Part-time regular farm labour force (1000 persons)	1381.14 (2007)	Labour force includes everyone (over the legal age limit) having provided an agricultural work on and for the holding during the last 12 months. Are taken as regular labour force every member of the holder's family working on the holding are taken as regular labour force (holder included) and non-family regularly employed labour force.

Source: Eurostat

Table 1.7 Agricultural Market and Prices

Agricultural Market and Prices	Value (Year)	Definition (EUROSTAT)
Producer price indices, total agricultural production - 2000 = 100	147.2 (2008)	The indices in this table give information on the trends in the producer prices of agricultural production as a whole. The sub-indices were weighted by the values of sales in 2000.
Producer price indices, crop products- 2000 = 100	156.1 (2008)	The indices in this table give information on the trends in the producer prices of crop production as a whole. The sub-indices were weighted by the values of sales in 2000

Source: Eurostat

Table 1.8a Agricultural production (Crops production)

Crop products	Value (Year)	Definition (EUROSTAT)
Cereals, production (1000 t)	4068.7 (2012)	Production of cereals is harvested production (not including the losses to the harvest). Cereals include: wheat, barley, maize, other cereals.
Fruits, production* (1000 t)	5423.3 (2006)	Fruit production corresponds to the harvested production of fruit in the reference year. Fruit production is the result of the activity of all agricultural holdings, specialised or non-specialised. This agricultural production is

		intended for sale or for direct consumption by the producer.
Vegetables, production* (1000 t)	3445 (2008)	Vegetable production corresponds to the harvested production of vegetables in the reference year. Harvested production includes marketed quantities, but also quantities consumed directly on the farm, losses and wastage on the holding, and losses during transport, storage and packaging. Vegetable production is the result of the activity of all agricultural holdings, specialised or non-specialised, with the exception of kitchen gardens. This agricultural production is intended for sale or for direct consumption by the producer.
Area under glass (1000 ha)	5.3 (2009)	Crop under glass or (highly) accessible cover
Fallow land (1000 ha)	155.87 (2012)	Arable land (i.e. land in the crop rotation) not harvested during the surveyed year.
Vineyards (1000 ha)	99.2 (2012)	
Wine, production (1000 hl)	3115.300 (2012)	Wine production corresponds to the Marketing year running from the 1st of August of the year n-1 to the 31st of July of the year n (n being the year mentioned in the heading of the table). As an example, for 2007, the harvest mentioned is the one of the year 2006 (Marketing year of 01/08/2006 to 31/07/2007).

Table 1.9 Agricultural Input (million EUR)

Input Components	2012	2013
Seeds and planting stock	297.2	299.6
Energy	1 385.7	1 340.7
Plant protection products	275.2	279.7

Fertilizers and soil improvers	192.9	195.2
Veterinary expenses	79.4	73.9
Feeding stuff	1 687.5	1 754.2
Maintenance of materials	148.4	150.6
Maintenance of buildings	15.4	16.6
Agricultural services	405.2	406.3
Other goods and services	563.9	556.4
Total intermediate consumption	5 252.2	5 270.5
Fixed Capital consuption	2 021.9	2 205.9

Source: http://ec.europa.eu/agriculture/statistics/factsheets/index_en.htm

Table 1.10 Agricultural output (million EUR)

Input Components	2011	2012	2013
Crops			
Cereals	1 203.0	1 200.1	1 053.8
Industrial crops	802.1	706.0	640.9
Forage plants	533.5	480.3	449.9
Vegetables and horticultural products	1 581.0	1 491.1	1 496.8
Potatoes	296.8	247.2	231.8
Fruits	1 895.4	2 029.8	1 804.3
Wine	34.0	41.4	35.1
Olive oil	712.3	793.4	728.8

Other crop products	23.6	23.6	23.0
Crop output	7 081.8	7 12.9	6 464.3
Animals	1 471.1	1 415.6	1 460.0
Cattle	277.2	279.7	270.4
Pigs	247.6	241.3	357.4
Equines	1.9	2.2	0.9
Sheep and goats	767.5	698.0	644.7
Poultry	139.6	160.3	163.5
Other animals	37.4	34.1	23.2
Animal products	1 362.6	1 351.5	1 275.3
Milk	1 130.5	1 112.7	1 065.5
Eggs	118.6	126.5	79.8
Other animal products	113.6	112.3	130.0
Animal output	2 833.8	2 767.2	2 735.3
Agricultural gross output	9 915.5	9 780.0	9 199.6
Gross value added at basic prices	5 292.3	5 058.6	5 115.7

Source: http://ec.europa.eu/agriculture/statistics/factsheets/index_en.htm

Table 1.11 The role of National production in International context

Agricultural external trade in 2012					
	Total trade	Trade with EU countries		Trade with non-EU countries	
GREECE	Million EUR	Million EUR	%change 2012/2011	Million EUR	%change 2012/2011
Exports					
Commodities	885.7	324.2 (11.0% of total agric. products)	-0.4%	561.4 (31.3% of total agric. products)	65.3%
Intermediate	764.2	560.3	9.8%	203.9	4.9%
Final products	3042.3	2019.4	-0.1%	1022.9	20.6%
Other products[1]	44.1	39.3	-5.4%	4.7	78.3%
Total agricultural products	4736.2	2943.2	1.5%	1793.0	29.5%
as % of total exports	17.1%	24.1%	-	11.6%	-
Imports					
Commodities	611.1	347.0	-17.0%	264.1	-12.1%
Intermediate	1262.8	838.0	2.8%	424.8	4.1%
Final products	3954.5	3510.6	-6.1%	443.9	-7.6%
Other products	64.5	62.2	2.2%	2.3	-46.9%
Total agricultural products	5892.9	4757.8	-5.4%	1135.1	-4.9%
as % of total imports	12.0%	21.1%	-	4.3%	-
Balance					
Commodities	274.6	-22.7	-	297.3	-
Intermediate	-498.6	-277.7	-	-220.9	-
Final products	-912.2	-1491.3	-	579.0	-

Other products	-20.4	-22.9	-	2.5	-
Total agricultural products	-1156.7	-1814.6	-	657.8	-

[1]: other products: products that do not bear a direct linkage to agriculture, e.g. waters, flavours

Source: Directorate General for Agriculture and Rural Development, based on COMEXT

Role of Greek Production in International Context: According to the recorded data, the Greek exports of total agricultural products were increased by 1.5% in the EU countries and by 29.5% in the non EU countries. On the same period the imports of total agricultural products from EU and non-EU countries by 5.4% and 4.9%, respectively.

Resources used in agriculture

(status % used acreages, importance of bioenergy and renewable primary products, status farming production methods and techniques)

Table 1.12 Utilized agricultural area, by land use, 2010 (1000 hectares) (Context Indicator 3)

Utilized agricultural area, by land use, 2010 (1000 hectares)					
	UAA (Total utilised agricultural area)	Arable land	Permanent grassland and meadow	Permanent crops	Kitchen gardens
EL[1]	3 477.9	1 767.9 (50.83%)[2]	750.7 (21.58%)	950.3 (27.32%)	9.1 (0.26%)

[1]: Common land in Greece is excluded

[2]: Percentage of the used agricultural area by land use

Source: Eurostat, online data code: ef_oluft

Table 1.13 Progress of Certified organic crop area (period 2007-2012).

Organic farming[1]	2007	2008	2009	2010	2011	2012	Definition (EUROSTAT)
Area under organic farming, %	7.0	7.8	8.5	8.4	5.2	n/a	The share of total utilised agricultural area (UAA) occupied by organic farming (existing organically-farmed areas and areas in process of conversion).
Organic crop area (fully converted area), ha	174724	266745	293644	292584	201272	351804	The area which fulfills all the conditions of production established in Council Regulation (EC) No 834/2007 can be considered to be organic. The detailed rules for the implementation of this Regulation are laid down in Commission Regulation (EC) No 889/2008.

[1] Organic farming is a method of production, which puts the highest emphasis on environmental protection and, with regard to livestock production, animal welfare considerations. It avoids or largely reduces the use of synthetic chemical inputs such as fertilisers, pesticides, additives and medical products. Farming is only considered to be organic at the EU level if it complies with Council Regulation (EC) No 834/2007, which has set up a comprehensive framework for the organic production of crops and livestock and for the labelling, processing and marketing of organic products, while also governing imports of organic products into the EU. The detailed rules for the implementation of this Regulation are laid down in Commission Regulation (EC) No 889/2008.

Source: Eurostat, online data code: tsdpc440 and tag00098

Agricultural structure

(*Initial investments; soil market; farm structures, legal forms and types; branches incl organic farming, bioenergy, "farm forestry" and acqua-culture; employees, trainees, next generation of "farm followers", education system; social policy/sociological point of view; political frameworks; role of rural areas)*

Initial Investments

Table 1.14 Key Indicators of Soil market

Land prices and rents annual data (year 2008) *Source:* Eurostat (online data code: apri_ap_aland)	
Price, agricultural land	Not available
Price, arable land	Not available
Price, meadow	Not available
Price irrigated land	11883,30 Euro/hectare (2008)
Price non-irrigated land	4851,50 Euro/hectare (2008)
Rent, agricultural land	Not available
Rent, arable land	501,70 Euro/hectare

Table 1.15 Key Indicators of Farm structures

Holdings[1] (year 2010)		
Number of farms	723 010	5.9% EU-27
Average size of farm (ha/farm)	4.8	14.3 EU-27
UAA < 5 ha (%)	77.1% (2010)	49.1% EU-27
UAA .= 50 ha (%)	1.0% (2010)	6.0% EU-27
Economic size < 4000 EUR	52.8% (2010)	60.4% EU-27
Labour force (No of AWU)	429 520	9 761 310 EU-27
Holder[2] < 35 years old (%) (next generation of "farm followers")	6.9% (2010)	7.5% EU-28
Holder > 65 years old (%)	33.3% (2010)	29.7% EU-28
UAA per holding (ha)	7.2 (2010)	14.4 EU-28
Sources: http://ec.europa.eu/agriculture/statistics/rural-development/2013/full-text_en.pdf		

http://ec.europa.eu/agriculture/statistics/factsheets/pdf/gr_en.pdf Number of Agricultural holdings, by farm type (year 2010) *Source*: Eurostat (online data code: ef_kvftreg) and Census		
Specialist field crops	134 960 (2010)	4.4% of EU-28
Specialist horticulture	13 920 (2010)	5.7% of EU-28
Specialist permanent crops	420 550 (2010)	17.1% of EU-28
Specialist grazing livestock	48 580 (2010)	2.5% of EU-28
Specialist granivores	5 420 (2010)	0.4%of EU-28
Mixed cropping	39 230 (2010)	7.4% of EU-28
Mixed livestock	6 710 (2010)	0.8%of EU-28
Mixed crop-livestock	48 320 (2010)	3.1%of EU-28
Non-classifiable holdings	5 310 (2010)	2.2% of EU-28
Total	723 010 (2010)	5.9% of EU-28
Labour force (in holdings of more than 2 hectares) (year 2010) http://ec.europa.eu/agriculture/statistics/factsheets/pdf/gr_en.pdf		
Persons (No), of which:	632 830 (2010)	4.4% of EU-28
Women (%)	38.0% (2010)	39.5% in EU-28
Holders (%)	55.2% (2010)	40.8% in EU-28
Farm labour force (year 2010) *Source:* Eurostat (online data code: ef_olfftecs) and Census		
Family labour force	1 186.5	1000 persons
Regular non-family labour force	26.2	
Family labour force	354.4	

Regular non-family labour force	18.3	1000 annual work units
Non-family, non-regular labour force	56.8	
Labour force directly employed by the holding	429.5	

[1]: a single unit both technically and economically, which has single management and which produces agricultural products. Other supplementary (non-agricultural) products and services may also be provided by the holding. The smallest farms (less than 1% of national agricultural activity) do not have to be surveyed.

[2]: the legal or physical person taking benefit of the agricultural activity. They are only accounted the individual holders and not the holders of group holdings.

Table 1.16 Legal Types

Key farm variables by legal types: area, livestock (LSU), (AWU), total area (ha)						
Legal types (2010)	hold: Total number of holdings	ha: Utilised agricultural area	LSU of the holdings with livestock	AWU: Total: Labour force directly employed by the holding	Euro: Standard output (SO)	ha: Total area
Total	723 060	5 177 510	2 406 520	429 520	6 872 835 240	5 461 290
Sole holder holding	722 400	3 465 480	2 243 690	427 210	6 537 166 150	3 736 000
Holding is legal entity	660	1 712 030	162 830	2 320	335 669 090	1 725 290
Group holdings	:	:	:	:	:	:

Source: online, Eurostat data code: ef_kvaareg

Social policy/sociological point of view

-Keep the socio-economic stability of the countryside

-Stop the depopulation

-Strategic role in food safety, especially today in periods of serious turbulence of the world food market.

-Contribution to consumer protection

-Broadening trade flows

-Protect the natural environment

Role of rural areas

-Agriculture is the core activity in the rural areas

-Farming-especially family farming-is considered as a public service

Political frameworks

CAP funding includes the following pillars:

Pillar 1: Direct payments

Pillar 2: Rural Development and

Market measures

EU-policies and subvention vs. National agricultural budget

(Note: in case there are required, more information for the CAP 2007-2013 are also available)

The CAP before 2013 (period 2007-13): The programming period 2007-2013 has provided a great opportunity to boost Greek agriculture competitiveness, improve the environment and broadly develop country´s rural areas through financing support supplied by the European Agricultural Fund for Rural Development (EARFD).

According to the Rural Development Plan for Greece the chosen strategies are in alignment with Community Strategic Guidelines (CGS) and the National Strategy Plan and are:

-Strengthening the competitiveness of the primary and food industry sector

(improvement of the infrastructure and the conditions of the conditions that an enterprise operates)

-Protection of the environment and biodiversity, preservation and development of “natural” farming and forestry systems, sustainable use of natural resources and landscape conservation, water management and use

-Improving the quality of life in rural area and diversification of the rural economy mainly in the mountainous and less favoured areas

The rural development policy for Greece was implemented through the Rural Development Programme 2007-2013 (RDP) focusing on the following Axes :

AXIS 1 : Improvement of the Competitiveness of the Agricultural and Forestry Sector

AXIS 2 : Improvement of the Environment and the Countryside

AXIS 3 : Quality of Life in Rural Areas and Diversification of the Rural Economy

AXIS 4 : Implementation of LEADER Approach

Table 1.16 European CAP budget allocations for Greece by measure category (2012).

Measures	2012 (1000 EUR)
Decoupled direct aids	2 039 727.0
Other direct aids	275 566.6
Additional amounts of aid	-44.7
Direct payments	2 315 248.9
Cereals	0.0
Rice	0.0
Refunds	0.0
Food programmes	25 453.0
Sugar	0.0
Olive oil	7 901.0

Textile plants	3 983.2
Fruit and vegetables	14 773.0
Wine sector	7 387.2
Promotion	4 192.0
Other plant products/measures	5 030.8
Milk and milk products	-4 555.0
Beef and veal	23.0
Sheepmeat and goat meat	0.0
Pigmeat, eggs, poultry and other	2 809.3
Sugar Restructuring Fund	0.0
Market measures	66 997.6
Rural development	669 030.4
TOTAL	3 051 276.8

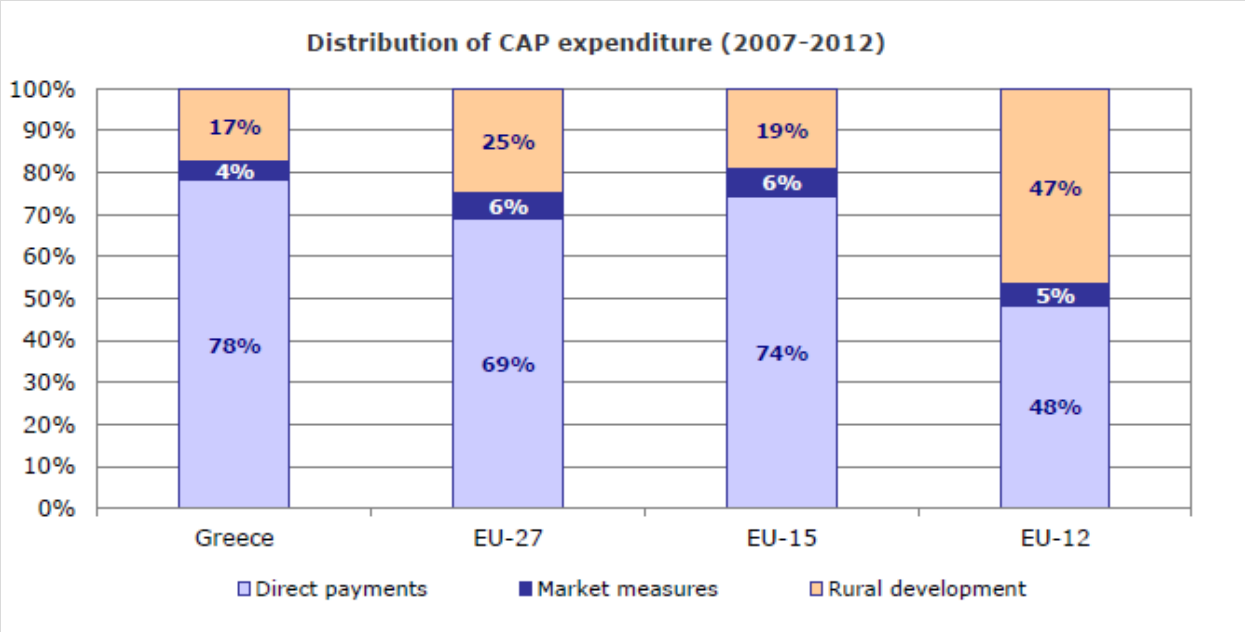


Figure 1.1. Distribution of total CAP expenditure for Greece (2007-2012), and across EU according to the funding scheme (direct payments, market measures and rural development).

Sources: http://ec.europa.eu/agriculture/statistics/factsheets/pdf/gr_en.pdf

MEMO/07/481 2007. Rural Development Plan for Greece

The implementation of Common Agricultural Policy (CAP) framework is crucial for rural development of Europe. The EU through reflection and intensive negotiations aims to develop a market-oriented CAP where a growth-oriented and an innovative rural development policy are central elements[1].

[1]http://ec.europa.eu/agriculture/publi/newsletter/lisbon/special_en.pdf

New CAP 2014-2020: The new CAP (period 2014-2020) maintains the two coexisting pillars of funding (I. Direct measures and II. Rural Development), but increases the links between them, thus offering a more holistic and integrated approach to policy support. The new policy moving from product to producer support and now to a more land-based approach.

Priorities of the Greek Presidency in the agricultural sector of EU that is an important exporter of highly quality products of high recognition.

-“Healthier animals and plants and safer agri-food chain”: covers the sector of plant and animal health, plant reproductive material, and related official controls. Although the EU applies the world’s highest food safety standards crises do occur in the food chain.

-Local farming and direct sales

-Labelling of origin for meat used as an ingredient in order to provide better information to the consumers.

-High quality

-Organic farming and labelling

The challenges should be faced are[2]

Economic:

1. Food security and globalization,
2. Declining rate of productivity growth
3. Price volatility
4. Pressures on production costs due to high input prices and the deteriorating position of farmers in the food supply chain

Environmental:

1. Resource efficiency
2. Soil and water quality
3. Threats to agricultural biodiversity

Territorial:

1. Rural areas are facing demographic, economic and social development including depopulation and business relocation

The above challenges aiming to achieve the following three long-term CAP objectives:

1. Viable food production, 2. Sustainable management of natural resources and climate action and 3. Balanced territorial development[2].

Table 1.17 The total estimated budget of EU for the period 2014-2020

MFF ceilings 2014-2020 (in billion EUR, current prices)	
Pillar 1	312.74
Pillar 2	95.58
Total CAP	408.31

The main priorities in rural polices are listed below:

1. Enhanced competitiveness of EU agriculture: encourage farmers to manage their farm productivity according to market, measures to facilitate producer cooperation, start-up aid for young farmers, bridging the gap between science and practice via Farm Advisory System, training and innovation programmes. These instruments are

aimed at helping the farm sector to adapt to new technologies, thus becoming more resource efficient, cost effective and capable of adapting to emerging challenges (tool from Pillar II).

2. More sustainable EU Agriculture: it is highlighted the necessity for improvement of the environmental performance of the Agriculture through more sustainable production methods (introduction of new feature in Pillar I, the Green Direct Payment).
3. Effective and efficient CAP through more targeted and equitable direct payments: in order to face the ageing farming population, from 2015, all young farmers entering the sector will get additional 1st pillar payment. Also a more targeted support will be provided to small and medium-sized farms.
4. Effective and efficient CAP through more strategic approach to Rural Development (RD) spending[2]

Source:[2]http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf

EU, Overview of CAP Reform 2014-2020, Agricultural Policy Perspectives Brief, No 5/December 2013

Table 1.18 The New Reformed CAP for the period 2014-2020 include the overall amounts of the Multiannual Financial Framework (MFF) for Greece (ceilings).

	Ceilings by Member State[3]							
Greece	2014	2015	2016	2017	2018	2019	2020	Total
Pillar 1 (Direct payments)		2 047 187	2 039 122	2 015 116	1 991 083	19691 29	1 947 177	12 008 814
Total EU-28		41 679 856	41 923 877	42 128 888	42 131 826	42168 635	42 205 449	252 238 531

Pillar 2 (Rural development)	601 051 830	600 533 693	600 004 906	599 465 245	598 915 722	59833 7071	597 652 326	4 195 960 793
Total EU-28	13 618 149 060	13 618 658 677	13 619 178 488	13 619 708 697	13 620 249 509	13620 80113 7	13 621 363 797	95 338 109 365
Total EU-28 (with technical assistance)	13 652 279 759	13 652 790 654	13 653 311 767	13 653 843 305	13 654 385 473	13654 93848 3	13 655 502 553	95 577 051 994

[3]*Sources:* http://ec.europa.eu/agriculture/cap-funding/budget/mff-2014-2020/mff-figures-and-cap_en.pdf

http://europa.eu/legislation_summaries/agriculture/general_framework/bu0001_en.htm

Theme 2: Agricultural Education & Training system and role of VET (Environment of VET providers offering training opportunities in agriculture, policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres)

Questions to be answered:

Strategic direction	**What strategic objectives are attributed to VET policies?**
-National LLL Strategy Lifelong Learning (LLL) strategy has been adopted by the political leadership of the Ministry of Education & Religious Affairs (Ypourgeio Ethnikis Paideias kai Thriskeumaton, YPEPTH)	

Reinforcing the actions of LLL

According to it, some of the basic reform priorities of the education, training and LLL systems are:

• Reinforcing the actions of LLL and provision of incentives aiming at increasing participation in it.

• Reinforcing the system and the services of LLL and equal opportunities as far as access to it is concerned – increasing participation by the provision of special incentives.

• Linking with the labour market more effectively.

• Upgrading technological – vocational education aiming at increasing its appeal and effectiveness.

• Reforming, modernising and decentralizing the education system – reinforcing mobility of pupils and students.

• Redefining the role of initial vocational education and training (IVET) and its content.

• Developing distance learning.

• Assessing progress in education through the implementation of systems for quality assurance – assessing the factors involved in the education system.

The Greek LLL strategy aspires to:

- Help all young people acquire the skills and competences necessary for their personal development, for future employment and for active European citizenship
- To improve the learning of foreign languages
- Secure the development of innovative-based content and pedagogical tools
- Make learning more attractive
- Improve the links between school education and the world of labour
- Effect the description of qualifications in terms of learning outcomes (jobs profiles)
- Secure the development of high quality VET pathways
- Develop the role of VET trainers in relation to labour and learning changes
- Support the integration of les favoured groups (immigrants, older learners, etc.)

Source: CEDEFOP, 2009-VET in Europe, Country Report

Linkages	How is VET linked to political agendas e.g. employment?

-Law 4186/2013: The new law on the restructuring of secondary – including vocational – education which came into effect in September 2013, opens the VET system to the economy and the job market and attempts to regulate the field from the perspective of lifelong learning. Nevertheless, the major issues facing the Greek VET system persist: closer links with the job market and economy, more vigorous involvement of the social partners, sense of social coresponsibility and consensus on vocational training matters, decentralisation and greater school autonomy, attracting more young people into vocational training, improving the quality of initial vocational training and linking it more closely to continued vocational training.

Source: http://www.cedefop.europa.eu/EN/Files/4130_en.pdf

Previous legislation framework related to VET

-Law 2009/1992: Establishment of National System of VET in Greece (Ethniko Systima Epangelmatikis Ekpaidefsis kai Katartisis, ESSEK) introducing changes at post-secondary level:

a. The Organisation for Vocational Education and Training (Organismos Epangelmatikis Ekpaidefsis kai Katartisis, OEEK) was set up with the following roles:

1. supervise the Institutes of Vocational Training (Institouto Epangelmatikis Kataritsis (IEK)

2. provide accreditation of formal training

b. The foundation of Vocational Training (Institouto Epangelmatikis Katartisis, IEK)

-Law 3191/2003: Establishment of National System for Linking Vocational Education and Training to Employment (Ethinko Systima Syndesis tis Epangelmatikis Ekpaidefsis kai Katartisis me tin Apascholisi, ESSEEKA) that provides:

-the framework for effective coordination of the systems of Initial and Continuing Vocational Training

-the recording of needs of the labor market, performed by the Employment Observatory (PAEP)

-the formation of vocational frameworks, which lead to the development of reliable initial and continuing training curricula

-it seeks to facilitate the process of meeting the manpower needs of the Greek labor market

-it creates a framework for the planning and coordination of a national policy related to VET structures and their linking with employment.

-Law 3475/2006:

-Establishment of the Vocational Lyceums (Epangelmatiko Lykeio, EPAL) aiming to combining secondary education with specialised technical and vocational knowledge and the quicker integration of graduates in the labour market.

-Establishment of Vocational School (Epangelmatiki Scholi, EPAS) which can be attended by graduates of the first class of Eniaio Lykeio or EPAL. They provide vocational training in a variety of specialties not provided in EPAL.

Investment	**What level and kind of investment is currently being deployed into VET?**

In Greece, VET is in transition. The 2013 legislation on secondary education aims to promote VET and strengthen its work-based component. The action plan for youth employment intends to better link education with work, upgrade VET, boost apprenticeship and broaden career guidance offered to young people. This comes at a time when addressing high youth unemployment and other labour market imbalances are more urgent than ever.

Committees, panels, boards and certifying bodies according to target group 2 (stakeholders)	**What kinds of committees, panels, boards and certifying bodies do exist within the VET system?**

Ministry of Education of Education and Religious Affairs:

-Responsible for VET provision in most cases (EPAL, EPAS, SEK)

-Supervises: the National Organisation for the Certification of Qualifications and Vocational Guidance (EOPPEP) (former name: EKEPIS).

-EOPPEP has a substantial role in regulating post-secondary VET (IEK) and CVET

Ministry of Labour and Social Protection has a role to play though Manpower Employment Organization:

-Manpower Employment Organization (OAED) (employment services): supervises apprenticeship schools + mandate to support apprenticeship years in vocational education (EPAL) and vocational training (EPAS, SEK).

Agriculture

-Ministry of Rural Development and Food (Ypourgeio Agrotikis Anaptyxis kai Trofimon, YPAAT)

-Hellenic Agricultural Organization “Dimitra”, includes the Organization of Agricultural Vocational Education Training and Employment (Organismos Georgikis Epangelmatikis Ekpaidefsis Katartisis kai Apascholisis, OGEEKA) that is responsible to implement CVET programmes in the Agricultural sector

Other Involved social partners that the state enables them to play a vital role in the definition and the implementation of the VET strategy and policies in relation to the past, the most important are:

-Greek General Confederation of Labour (GSEE),

-Hellenic Confederation of Professionals, Craftsmen & Merchants (GSEVEE),

-National Confederation of Hellenic Commerce (ESEE),

-Hellenic Federation of Enterprises (SEV)

	What kinds of purposes do they have?

The recent law (4186/2013) promotes VET and increases links to the labour market.

The aim is to link education and training, upgrade VET, reinforce apprenticeship, establish school-to-work programmes, and expand career and guidance for young.

In the case of Agriculture, the programmes have taken into account the new Common Agricultural Policy and aiming to increase employability. They are enriched with new modules: apiculture, tobacco, organic products and fishery relevant to the production of quality products.

	Are these purposes consistent with current policy and ‘models’?

Yes, but still the VET in Greece is under transition. There are still some changes in the organization of the system, for example in 2015 the EPAS (Vocational Schools) will be replaced by SEK (Vocational Training Schools). The legislative reform that has been made brings forward the full implementation of the changes.

Different interests of stakeholders and their organizations	**What kinds of interests are represented by the stakeholders?**

EOPPEP (supervision and certification)

-Provides CVET (by KEK) including those for people with special needs (KEK Amea): specialization in Agriculture and access to the Labour Market

YPEPTH through GGDVM:

-Second Chance Schools (SDE): completion of compulsory education

-Ministry of Rural Development and Food

Hellenic Agricultural Organization “Dimitra”, includes the Organization of Agricultural Vocational Education Training and Employment (Organismos Georgikis Epangelmatikis Ekpaidefsis Katartisis kai Apascholisis, OGEEKA)

-Provides Training of farmers and other workers in the rural sector “Green” certificates which are provided through various combinations of certifying education, distance learning, seminars, practical exercises and apprenticeship (6 EPAS) with the following specializations: 1. Agricultural Machinery or Animal production, 2. Dairy production technician and a cheese production specialist technician, 3. Greenhouse technician,

4. Wood processing and sculpturing, 5. Viticulture and Oenology and 6. Gardening technician

-Provides vocational education for “young farmers”, women entrepreneurs in primary sector

Note: for a long time the training was limited but from 2011 the organization of training activities was re-activated especially due to increased interest of people to agriculture

Private Center of Vocational Education (KEK): e.g. American Farm School of Thessaloniki

Other Involved social partners

-Greek General Confederation of Labour (GSEE), -Hellenic Confederation of Professionals, Craftsmen & Merchants (GSEVEE), -National Confederation of Hellenic Commerce (ESEE), -Hellenic Federation of Enterprises (SEV) They contribute to the description of job profiles under the supervision and approval of EOPPEP	
	How do these interests engage with current policy agendas?
They focused in the following population groups: -Training for the unemployed -Training for employees in the private sector or broader public sector -Training for socially vulnerable groups	
	Are the stakeholders contributing anything new to state of the art?
The active involvement of social partners from the market to the description of job profiles (under the supervision of EOPPEP) contribute to bridging the gap between the educational opportunities and the market needs.	
Conceptual shaping	**What educational and learning models drive national approaches to VET?**
In Greek VET system, the educational models drive national approaches to VET are described in Table 2.2. According to the new law regulating secondary education (Law 4186/2013), the aim to attract more students into VET, students now have the following options in addition to the general upper secondary school: (a) initial vocational education within the formal education system in the second cycle of secondary education at a vocational upper secondary school (day or evening school) (EPAL);	

(b) initial vocational training outside the formal education system (referred to as non-formal) in vocational training schools (EPAS, SEK), vocational training institutes (IEK), centres for lifelong learning and colleges. The structure and details are provided in Tables 2.2 and 2.3.

The job profiles developed and certified by EOPPEP aiming to be used for the development of VET programmes and standards for the recognition and certification of qualifications. These aims have not yet been achieved and the use of the profiles has remained limited.

	Which job profiles drive national approaches to VET?

In Greece according to EOPPEP the job profiles related to Agricultural production (NACE, Section A, Div. 1, 1996) are: Farmer-entrepreneur, Gardening technician, Greenhouse technician, Beekeper, Craftsman of Aviculture, Viticulture-Vinification Technician

Also the job profiles related to Agricultural production but are not classified in the NACE, Section A, Div. 1 are: Food and Beverage production technician, Craftsman of Aviculture, Dairy production technician and a cheese production specialist technician, Technical Expert upon Aquaculture, Farm Machinery Technician, Olive factory technician, Farmer-Responsible of an Agritoursitc Enterprise

Theme 2: Content of data collection:

Agricultural education system:

Existing Job profiles and tasks;

VET levels&models, requirements, lengths, courses, further advanced education, Numbers participating in education by age; sector ; status, % GDP spend on education, sectoral distribution (VET; schools; universities)

Average per capita spend on education, No. of schools, higher education, adult learning per population; average school size; teacher/pupil ratio; Educational and training policies; stakeholders and their functions

Existing job profiles

In Greece according to EOPPEP the job profiles related to Agricultural production (NACE, Section A, Div. 1, 1996) are: Farmer-entrepreneur, Gardening technician, Greenhouse technician, Beekeper, Craftsman of Aviculture, Viticulture-Vinification Technician

Also the job profiles related to Agricultural production but are not classified in the NACE, Section A, Div. 1 are: Food and Beverage production technician, Craftsman of Aviculture, Dairy production technician and a cheese production specialist technician, Technical Expert upon Aquaculture, Farm Machinery Technician, Olive factory technician, Farmer-Responsible of an Agritoursitc Enterprise

Table 2.1 Job profiles in primary sector in Greece according to VET approach.

Job title according to EOPPEP (01 Agriculture, Hunting and Forestry according to NACE division)		Corresponding EQF level
Farmer-entrepreneur		EQF 3
Paths		
1st	EPAL + 6 months practical experience	
2nd	IEK + 3 month of practical experience	
3rd	“Young farmers”: EPAS or IEK or SEK	
4th	General Lyceum-SEK (theory)	
5th	EPAS[1] and IEK	
Greenhouse technician		EQF 4
Paths		
1st	IEK, post secondary	
2nd	EPAL/EPAS-1 year practical experience	
3rd	Lyceum - 2 years practical experience – vocational training school (Sholes Epaggelmatikis Katartisis, SEK)	
4th	IEK Post lower secondary - 2 years practical experience- vocational training school (SEK)	
Beekeper		EQF 3
Paths		

1st	Lower secondary programmes – Agricultural holders – 2 years of relevant professional experience - vocational training school (theory) (SEK)
2nd	EPAS – 1 years of relevant professional experience - vocational training school (SEK)
3rd	Post secondary, IEK specialization Beekeper
Gardening technician	No reference
Paths	
1st	Lower secondary programmes (compulsory education) – 5 years of professional experience –vocational training school (SEK)
2nd	General programme (Lyceum) – 3 years of professional experience-vocational training school (SEK)
3rd	EPAL-2 years professional experience - vocational training school (SEK)
4th	EPAS-1 year professional experience (relevant to the specialization)
5th	General programme (Lyceum) - Post secondary (IEK)
Craftsman of Aviculture	
Paths	
1st	IEK, post secondary of relevant specializations
2nd	EPAL, EPAS – 6 months of professional experience
3rd	IEK Post lower secondary - 2 years practical experience
4th	Lower secondary programmes (compulsory education) – 4 years professional experience - vocational training school (SEK)
5th	Elementary school – 6 years professional experience - vocational training school (SEK)
Viticulture-Vinification Technician	No reference
Paths	
1st	Compulsory education and-5 years professional experience-vocational training school (SEK)
2nd	General programme (Lyceum) or EPAL, EPAS (irrelevant specialization) - 3 years professional experience - vocational training school (SEK)

3rd	EPAL, EPAS with relevant specialization – 2 years of professional experience- vocational training school (SEK)
4th	Post secondary, IEK – 1 year of relevant professional experience
5th	Post secondary, IEK specialization Viticulture-Vinification Technician

[1]*EPAS: next year will be replaced by SEK*

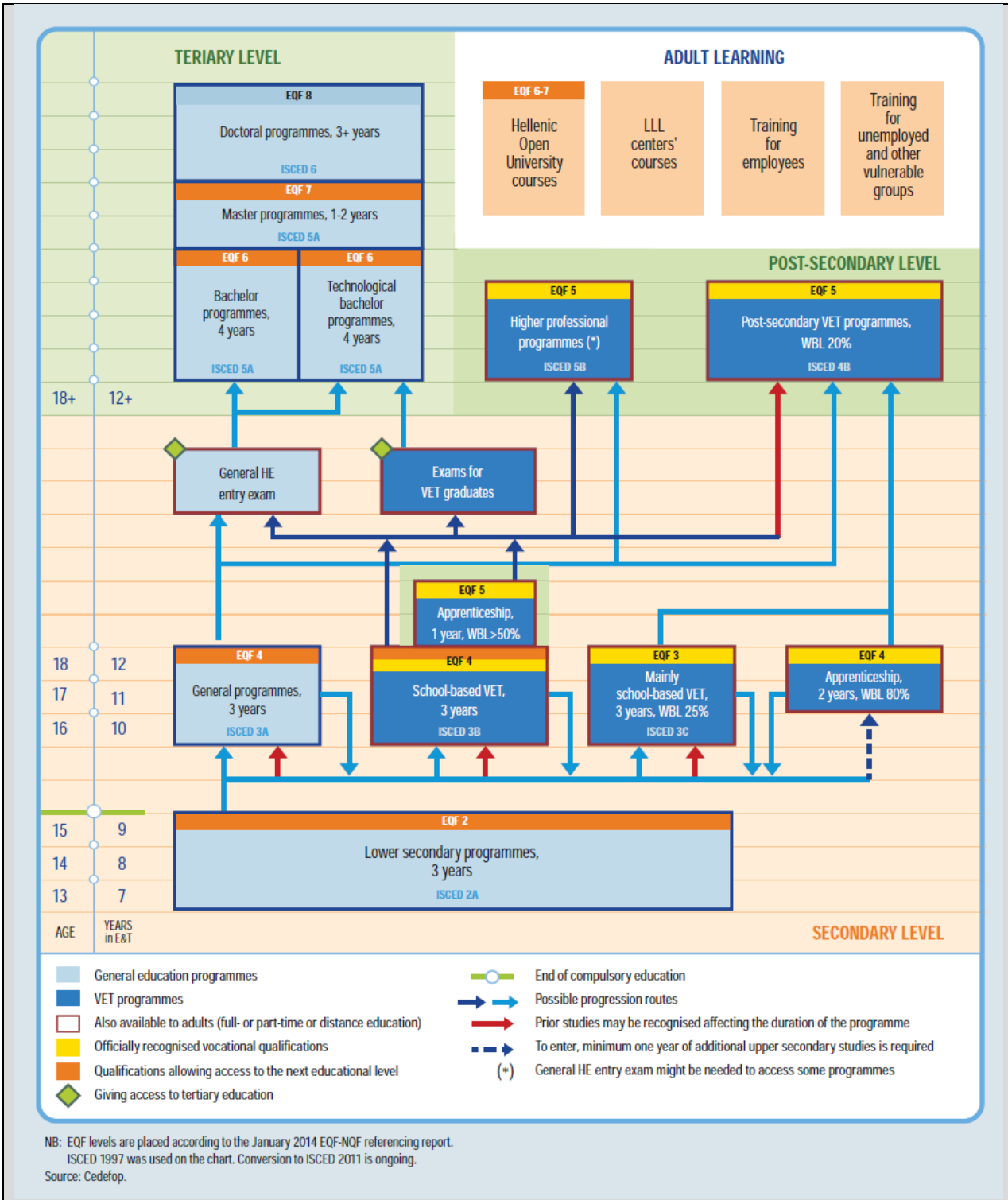
Note: In case it is requested, a more detail description is feasible

Source: http://www.eoppep.gr/index.php/el/search-for/professional-outlines

VET in the Greek Education and Training System (in general)

VET system in Greece is in transitional level

The sectoral distribution of Greek Educational system (VET, schools, universities) is described in Figure 2. The Education in the field of Agriculture is structured according to this figure and expands to all levels of National Educational system (VET prorammes and higher education).



NB: EQF levels are placed according to the January 2014 EQF-NQF referencing report.
ISCED 1997 was used on the chart. Conversion to ISCED 2011 is ongoing.
Source: Cedefop.

Figure 2.1 The structure of educational system of Greece.

Source: Cedefop, http://www.cedefop.europa.eu/EN/Files/8076_en.pdf

http://www.cedefop.europa.eu/EN/Files/4130_en.pdf

Classification of National VET programmes

In Greek VET system the following levels exists in the National Educational System,

According to the new law regulating secondary education (Law 4186/2013), which aims among other things to attract more students into VET, students now have the following options in addition to the general upper secondary school:

(a) initial vocational education within the formal education system in the second cycle of secondary education at a vocational upper secondary school (day or evening school);

(b) initial vocational training outside the formal education system (referred to as non-formal) in vocational training schools (SEK), vocational training institutes (IEK), centres for lifelong learning and colleges.

Table 2.2 Educational and learning models drive national approaches to VET.

Initial formal vocational education: vocational upper secondary schools (EPAL)			
Law 3879/10			
Name	Requirements	Duration	Certification qualification and awarding
Vocational upper secondary school (EPAL)	Lower secondary leaving certificate	3 years +1 “apprenticeship year” (optional)	EOPPEP (+OAED)
Non-formal vocational education: vocational upper secondary schools (SEK, IEK, LLC, EPAS)			
Law 3879/10			
Name	Requirements	Duration	Certification qualification and awarding
Vocational Training schools (EPAS, SEK)	Lower secondary leaving certificate	3 years (day or evening school), final year apprenticeship	EOPPEP (curricula developed by GSLL)
Programmes in post-secondry	EPAL graduates	5 semsters (4 theory +laboratory, 1200	EOPPEP

VET schools (IEK)		teaching hours in the specialization) Practice training or apprenticeship of 1050 h	
Tertiary levels VET programmes in higher professional schools			
Programmes offered by colleges			

Source: http://www.cedefop.europa.eu/EN/Files/4130_en.pdf

Table 2.3 Overview of VET

Level	Equivalent in ISCED	Minimum duration	Maximum duration	Average duration
Post Lower secondary	2	1 year	1 year	1 year
Upper secondary	3	2 years	3 years	2 years (EPAS, SEK) 3 years (EPAL)
Post secondary	4	2 years	2 years	2 years (IEK)

Source: VET in Greece

Although the lower secondary education (Gymnasio-ISCED level 2) is part of compulsory education, there is post lower secondary IVET implemented in Vocational Educational Institutes (Institouta Epaggelmatikis Kataritsis, IEK), targeted at graduates of lower secondary education (Gymnasio or Second chance school) providing training in the field of Agriculture.

Table 2.4 Numbers participating in education by age, sector, status, % GDP spend on education

Number of attendees at all levels of education for the academic years 2006-2007	
Pre-primary, primary education (ISCED 0-1)	785 261
Lower secondary education (ISCED 2)	344 698

Upper secondary general education (ISCED 3)	234 792
Upper secondary vocational educational and training (ISCED 3)	88 721
Post secondary vocational education and training for school year (ISCED 4)	Fall semester (public IEK) 18 208 Spring semester (public IEK) 17 855
Tertiary education (ISCED 5-6)	637 705
Funding spend on Education	
%GDP of public expenditure on education and training for 2005	3.11
%GDP spend on education[1] (year 2005)	22.0

[1]The annual expenditure on public and private educational institutions per pupil/student compared to GDP per capita relates the resources (e.g. expenditure for personnel, other current and capital expenditure) being devoted to education in public and private educational institutions to the overall economic welfare of a country. It is based on full-time equivalent enrolment. The use of GDP per capita allows the comparison of levels of economic activity of different sized economies (per capita) irrespective of their price levels (in PPS). Source: Eurostat, Online Data Code: tps00069

Table 2.6 School units, educational institutions, teaching staff and pupils-students, by education level

	2010/11	2011/12
Secondary general education		
Lower and upper secondary education		
Scholl units	3 345	3 217
Teachnig staff	78 876	73 756
Pupils	579 225	569 298
Secondary technical-vocational and ecclesiastical education		
Scholl units	622	628

Teachnig staff	19 814	18 248
Pupils	114 290	122 353
Higher vocational education		
Schools	16	16
Teaching staff	391	290
Students	4 041	4 419
Tertiary education		
Technical and ecclesiastical education		
Educational institutions	15	15
Schools	61	61
Teaching staff	10 279	7 217
Students	113 238	120 153
Universities		
Educational institutions	22	22
Schools	63	63
Teaching staff	12 626	11 113
Students	168 478	177 296

Source:Hellenic Statisitcal Authoriy, 2013. Greece in Figures.

Table 2.7 Lifelong learning in Greece by areas

Lifelong learning[1] %	Total (2012)
Thinly-populated areas	1.3%
Intermediate urbanised areas	2.1%
Densely populated areas	4.5%
Total average of country (MS)	2.9%

Source: Eurostat, online data code: tsdsc440

[1]Lifelong learning refers to persons aged 25 to 64 who stated that they received education or training in the four weeks preceding the survey (numerator). The denominator consists of the total population of the same age group, excluding those who did not answer to the question 'participation in education and training'. Both the numerator and the denominator come from the EU Labour Force Survey. The information collected relates to all education or training whether or not relevant to the respondent's current or possible future job.

Table 2.8 Adult learning per population (year 2012)

Participation rate in education and training (last 4 weeks) by age			
AGE/GEO	European Union (28 countries)	European Union (27 countries)	Greece
From 25 to 34 years	15.3	15.3	6.9
From 25 to 49 years	11.1	11.1	4.0
From 25 to 64 years	9.0	9.0	2.9
From 25 to 74 years	8.1	8.1	2.5
From 35 to 44 years	8.9	8.9	2.4
From 45 to 54 years	7.4	7.4	1.6
From 50 to 74 years	4.4	4.5	0.6
From 55 to 64 years	4.4	4.5	0.7

Source: Eurostat, online data code: trng_lfse_01

Table 2.9 Training and education in agriculture (2010)

Farm managers with agricultural training		
Basic training	3.2%	EU-27 22.2%
Full training	0.3 %	EU-27 6.9%
All training	3.5 %	EU-27 29.1%
Farm managers with practical experience only	96.5 %	EU-27 70.9%

Source: Eurostat, online data code

Theme 3: Current topics in agriculture (farmers` environment)

Questions to be answered:

Innovation & Management	**What kinds of current topics can be identified in agriculture and are of interest for the farmers in the near future?**

Important topics in Agriculture in the near future

1.Fostering knowledge transfer and innovation in agriculture, forestry, and rural areas

2. Enhancing farm viability and competitiveness of all types of agriculture in all regions and promoting innovative farm technologies and sustainable management of forests

3. Promoting food chain organisation, including processing and marketing of agricultural products, animal welfare and risk management in agriculture

4. Restoring, preserving and enhancing ecosystems related to agriculture and forestry

5. Promoting resource efficiency and supporting the shift towards 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

Source: EU, Overview of CAP Reform 2014-2020, Agricultural Policy Perspectives Brief, No 5/December 2013

http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf

Requirements / Needs	**What do farmers need to survive in the near future and how can ACT and VET establishments support this?**

-Adaptation to the changing situation that the new CAP brings where the farmer is an entrepreneur (production techniques, good agricultural practices, promoting their products, basic principles of plant and animal production in order to adapted better to the change), ability to cooperate with other farmers, basic logistic skills, basic computer skills, basic marketing knowledge.

-Use and protection of agricultural biodiversity and connection with the production of products of high quality

-Recognize the advantages of their products

-Be able to export: this meaning to be aligned the international standards for food quality and requirements in order to export

-More Efficient use of resources water, fertilizers

-Ensure food safety and provide traceability of the production chain (crop production, animal production)

	More specific: Which requirements / skills needs by farmers drive national approaches to VET?

Entrepreneurship & business management skills,

Communication skills, strong judgment,

Explore new opportunities through the rural development measures (new reformed CAP), combination of cultivation schemes

Choosing the proper cooperates (suppliers, buyers)

Select competent workers

Cooperate with older people, learning from their experience in some matters but introduce the new features in the same time

Marketing/promotion/networking skills

Promote the products to urban areas of the country or abroad.

Recognize and Underline the advantages of the products according to the consumer needs: food safety, quality, label, good design of the product, establish network with market players.

Technology skills

Precision techniques (precision agriculture) for efficient use of resources (water, fertilizers)

Sustainable/Organic cultivation skills

Emphasis to the protection and use of local biodiversity Food security and quality, traceability of the productive chain, implementation of new protocols

Theme 3: Content of data collection:

Required skills for innovation & management in agriculture articulated by VET policy makers, *VET providers & agencies, farmers (employers & employees) as well as labour services and prop. other important players in agriculture*

Responsible Actors in the field of Agricultural Education	Provide	Pathways
YPAKP/EKEPIS National Centre for the Accreditation of Vocational Training Structures and Accompanying Support Services (EKEPIS). (renamed EOPPEP)	CVET provided by KEK including those for people with special need (KEK Amea)	Specialisation-Access to the Labour Market
YPEPTH through GGDVM: -Second Chance Schools (SDE)	Completion of compulsory education	Education and training
Ministry of Rural Development and Food-Organization of Agricultural Vocational, Training and Employment (OGEEKA) (KEK Dimitra) (a part of ELGO-DIMITRA)	Training of farmers and other workers in the rural sector	"Green" certificates which are provided through various combinations of certifying education, distance learning, seminars, practical exercises and apprenticeship.
Private KEK (e.g American Farm School of Thessaloniki)	CVET programmes	Certificates of attendance can be taken into account during staff selection
Agricultural Universities and Technological Educational Institutes (tertiary level)	Law 3879/10 (ΦΕΚ 163A/21-9-10).	

Theme 4: Education and Training needs: first interpretation of the collected data on national level - conclusion

Questions to be answered:

Needs	**What kinds of current needs (in between skills, VET, job profiles) in innovation & management can be identified?**

A first description of current need that could in innovation and management are provided in table 4.1. The examples used are based to the job of farmer-entrepreneur (it will be considered a family farmer) and to greenhouse technician (it could be considered the industrial farmer)

Theme 4: Content of data collection:

Current needs (skills, VET, job profiles) in innovation & management

Table 4.1 Current needs in innovation and management for family farmer and industrial farmer.

It is used as an example the job profile of Farmer-entrepreneur and Greenhouse technician

Job profiles according to EOPPEP (01 Agriculture, Hunting and Forestry)	
Farmer-entrepreneur a. Plant Production (general) (sub-division organic cultivation) b. Animal Production (general) (sub-division organic cultivation)	
Entrepreneurship & business management skills,	Communication skills, strong judgment, Explore new opportunities through the rural development measures (new reformed CAP), Combination of cultivation schemes, different biological cycle of the selected crop, escalation of the yielding time (for more one than one crops) Choosing the proper cooperates (suppliers, buyers),

	Select competent workers (there is a case to be also immigrants, so additional communication skills will be required in case the bridge a possible communication gap knowledge of language is limited) Cooperate with older people, learning from their experience in some matters but introduce new ideas in the same time Combine knowledge from Crop and Animal production Organize the farm as an independent unit (e.g. crop production to feed its animal units-use the manure of the animal to fertilize the soil) this will permit the re-use of resources and very good knowledge in order to avoid
Marketing/promotion/networking skills,	Promote the products to urban areas of the country or abroad. Recognize and Underline the advantages of the products according to the consumer needs: food safety, quality, label, good design of the product, establish network with market players.
Technology skills	Precision techniques (precision agriculture) for efficient use of resources (water, fertilizers)
Sustainable/Organic cultivation skills	Emphasis to the protection and use of local biodiversity Food security and quality, traceability of the productive chain, implementation of new protocols (e.g. AGRO 1 & 2), Rotation on a regular basis (legumes-cereals) Take advantage of the strong points of every area (microclimate) and be careful the weak points of the area
Greenhouse technician	
Entrepreneurship & business management skills,	communication in the mother tongue, communication in foreign languages, ICT/digital competences, numeracy and competences in mathematics, science and technology, and learning to learn

Marketing/promotion/networking skills,	-
Technology skills	Read and interpret design and layout plans Test and use and of the equipment (precision agriculture), efficient use of available resources Remove any waste material from site in an environmentally safe and sensitive manner
Sustainable/Organic cultivation skills	Although the knowledge of the good agricultural practices is noticed there is no reference about the sustainable management or organic cultivation skills, Food security and quality, tracebility of the productive chain, implementation of new protocosl of production

7. Template literature review: Recommendations for policy documents:

Please list here several literature/websites (media) you found/used within your research according to the themes 1-4, especially white papers and which you find relevant and you intend to approach. For each identified media, please provide a short description (abstract of the content) and your justification.

Partner: TEIA and AK Country (or EU-wide): GREECE (EL) and EU_____

Name of Publication	Reference / URL	Abstract
Theme 1:		
EU, January 2014, Greece Member State Factsheets, European Commission	http://ec.europa.eu/agriculture/statistics/factsheets/pdf/gr_en.pdf	The main figures related to Greek Profile are summarized. The following tables and graphs with short comments are provided: 1. Key data 2. Population and Economy 3. Financial Aspects 4. Economic Accounts 5. Agricultural Trade 6. Farm Structure Key messages: -Medium-Small agricultural holdings -Ageing agricultural population -Significant territory of rural areas
Eurostat Pocketbooks 2013, Agriculture, forestry and fishery statistics, European Comission	http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-FK-13-001/EN/KS-FK-13-001-EN.PDF	This reference provides selection of topical data and information for the European Union (EU) and its Member States. It covers some of the most popular data within the domain of agriculture, forestry and fisheries statistics base on data from Eurostat. Key messages: -Overview about the situation in Agriculture in Europe
Eurostat, online data	http://epp.eurostat.ec.europa.eu/	Data for different variables and useful indicators Key messages: -Raw data from estimate the situation iEuropean

Hellenic Presidency of the Council of the European Union, Informal Meeting of Directors of Rural Development, Athens 31-03-2014	http://athens2014.agrotikianaptixi.gr/index.php/top-menu	Organization of Informal meeting of Directors of Rural Development, Athens, Greece, where the priorities of the future agriculture were presented Key messages: (according to the agenda) -Local identity and quality as a competitive advantage -Strengthening rural entrepreneurship by connecting local production with other activities -Contribution of rural entrepreneurship in job creation, social cohesion
EU, Rural Development in the EU Statistical and Economic Information Report 2013	http://ec.europa.eu/agriculture/statistics/rural-development/2013/full-text_en.pdf	Statistics of agriculture in Europe
Multiannual Financial Framework 2014-2020 and the financing of the CAP A budget for the Common Agricultural Policy	http://ec.europa.eu/agriculture/cap-funding/budget/mff-2014-2020/mff-figures-and-cap_en.pdf http://europa.eu/legislation_summaries/agriculture/general_framework/bu0001_en.htm	The financial framework of new CAP
Theme 2:		
Cedefop, 2009. Greece. VET in Europe-Country Report 2009	http://www.cedefop.europa.eu/EN/Information-services/vet-in-europe-country-reports.aspx	Provides an overview of the VET system in Greece where for the knowledge society, 2. Policy development and prio provision of learning outcomes, 4. The initial vocational ed education and training for adults, 6. Training VET teachers market needs, 8. Guidance and counseling for learning, ca human resources and 10. National VET statistics-allocatio

	http://libserver.cedefop.europa.eu/vetelib/eu/pub/cedefop/vetreport/2009_CR_GR.pdf	Key messages: -VET system in Greece is in transition and there is an imp alignment VET approaches
Eurostat, online data	http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/main_tables	Data for different variables and useful indicators related to
Cedefop 2014, Vocational education and training in Greece	http://www.cedefop.europa.eu/EN/Files/8076_en.pdf	This report provide an insight into the VET situation in Gre
Theme 3:		
EOPPEP, 2014. List of job profiles description.	http://www.eoppep.gr/index.php/el/search-for/professional-outlines (references in Greek, only English abstract)	It is provided the list of the job profiles that have been des Agriculture are: Farmer-entrepreneur, Gardening technicia Responsible of an Agritoursitc Enterprise Key messages: -Professional outlines (learning outcomes, list of skills and
EU, 1996. NACE Rev. 1. Statistical Classification of Economic Activities in the European Community	http://datalib.chass.utoronto.ca/other/E0032_en.pdf	Technical description of the economic activities in EU Key messages: -Useful for the definition of the activities of Agriculture in E
Cedefop 2014, Vocational education and training in Greece	http://www.cedefop.europa.eu/EN/Files/4130_en.pdf	This report provide an insight into the VET situation in Gre Key messages: -Transitional stage, reform of legislative framework -Low implementation at the moment

Theme 4:		
Summary Report of the Global Forum and Expo on Family Farming (4-6 March 2014, Budapest, Hungary) - *Request from the Hungarian delegation*	http://register.consilium.europa.eu/doc/srv?l=EN&t=PDF&gc=true&sc=false&f=ST%207890%202014%20INIT	Key messages: -The importance of the family farmer is highlighted -2014 is the Year of Family Farming around the world
EOPPEP, 2014. List of job profiles description.	http://www.eoppep.gr/index.php/el/search-for/professional-outlines (references in Greek, only English abstract)	It is provided the list of the job profiles that have been de of Agriculture are: Farmer-entrepreneur, Gardening tech Responsible of an Agritoursitc Enterprise Key messages: -Description of job profiles according to VET approaches

8. Template “key players” in agricultural VET:

Contents: Name, function, URL, role and interpretation of influence (e.g. policy, lobby, labour union, chamber etc.)

Please identify and list here important “key players”who may be important to contact within the project and to invite to the focus groups.

Partner: ____TEIA_____ Country (or EU-wide): __GREECE_____

Theme: _____

Name	Function	Address/URL	Role	Influence
Antonis Premetis	Farmers-Entrepreneurs		Representative of group of farmers	Labour
Evaggelos Vergos / Mylonas Ioannis	VET provider	http://www.afs.edu.gr/	Responsible of VET, American Farm School	Implementation
Vaso Tsiachta	VET provider	http://10epal-thess.thess.sch.gr/	Teacher Professional School	Implementation
Doganis Kiriakos	Supervisor of VET provider	http://www.ogeeka-dimitra.org.gr/	Supervisor	Implementation / Policy

National Report:

Partner: **IFSAT Foundation** Country: **the Netherlands**

Theme 1: National Agricultural Profile **Questions to be answered:**	
Economics	What economic benefits are attributed within the agricultural economic agenda of the country?

- The **Ministry of Agriculture, Nature and Food Quality** was formerly named the Ministry of Agriculture of the Netherlands. On 14 October 2010, when the Rutte cabinet took office, the department was merged with the Dutch Ministry of Economic Affairs to form the new Ministry of Economic Affairs, Agriculture and Innovation.

- **Dutch national agricultural POLICY:**
Letter of Secretary for agriculture Sharon Dijksma to parliament of 01.12. 2013: [on the implementation of the CAP as of 2014/2015:]
The government aims at increasing the sustainability and development of the agricultural sector and its adaptation to social needs [within the CAP].
The last line of the letter reads:
The CAP will thus contribute to the modernization, development and sustainability of Dutch agriculture and horticulture.

- On National Agricultural policy:
The Ministry of Economic Affairs, Agriculture and Innovation stands for an enterprising Netherlands with a view to sustainability. We are committed to excellent business climate.
- **by creating the right conditions and give entrepreneurial space to innovate and grow**
- **by focusing on our natural and social environment**
- **by encouraging cooperation between researchers and entrepreneurs**

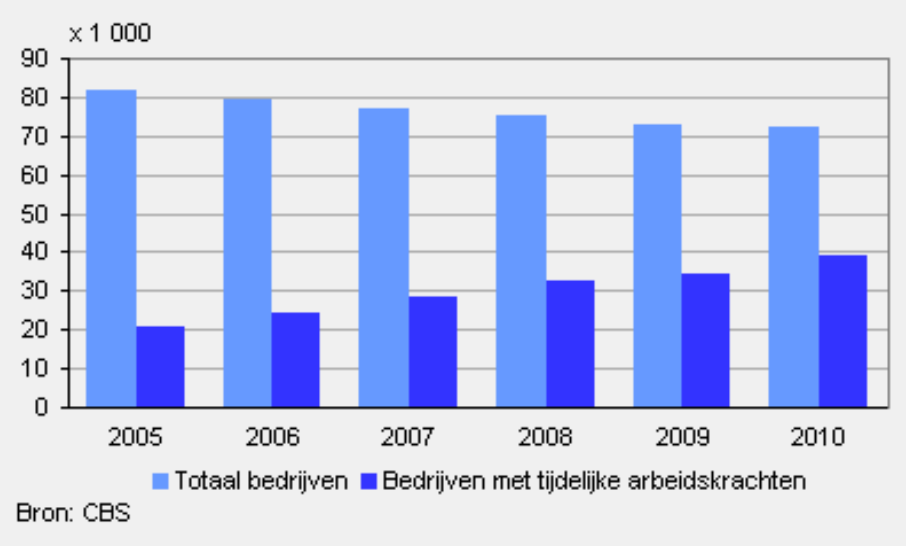
In this way we extend our leading positions in agriculture, industry, services and energy and we continue to invest in a strong and sustainable Netherlands.

Sources:
http://nl.wikipedia.org/wiki/Ministerie_van_Landbouw,_Natuur_en_Voedselkwaliteit
http://www.rijksoverheid.nl/onderwerpen/landbouw-en-tuinbouw/documenten-en-publicaties/kamerstukken/2013/12/06/kamerbrief-over-implementatie-gemeenschappelijk-landbouwbeleid.html
http://www.rijksoverheid.nl/ministeries/ez

Employment & Education	How is the general situation in employment .....

-. **Employment**

The number of agricultural enterprises (primary production of agriculture and horticulture) and their employment is given in the following tables. (All data from the agricultural survey 2010):

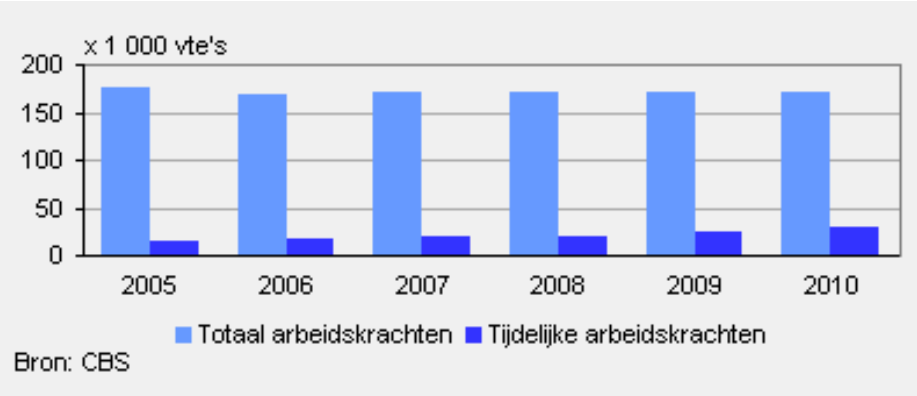


Total enterprises **Enterprises with temporal labour**

NB.: the table shows that in 5 years the number of Dutch Agricultural Enterprises decreased from about 82.000 to 72.000, a loss of 12%.
Dutch Agricultural census in 1980 counted 200.000 businesses. In 30 years the number decreased with 64 %.
In Belgium a similar decrease can be found:

Belgium	1980	1990	2000	2010
Number agric. enterprises	113.883	87.180	61.926	42.854
%	100	76,5	54,4	37,7

This companies create about 170.000 fte's (vte's in Dutch) of labour annually:



Total labour (of which) Temporal labour

The conclusion is that the total amount of labour in terms of FTE's is stable but the amount of temporal labour is sharply increasing. It will be noted that this temporal labour is mostly needing very few skills. A lot of this work is harvesting, often in horticulture, and instruction for this kind of work does not need more than a few hours in general.

Labour market.

Agriculture employment opportunities.
During the survey period employment opportunities were researched. This was done by assessing the websites, including the national vacancy platform (nationale vacature bank), offering employment.
The following was found:

http://www.nationalevacaturebank.nl/vacature/bladeren/Landbouw-Bosbouw-Visserij/agrarisch+medewerker/1.5

This site offered 130 vacancies of which 55 were classified as 'productive / executive'.

Only 5 of these were labelled 'agricultural co-worker', but a closer look revealed that actually only 1 vacancy was for a level 4 production worker / co-manager in a specialised pepper production unit.

The others jobs were:

- Tree worker
- Tree nursery assistant
- Quality inspector
- Landscape gardener

Actually, landscape gardeners or public garden assistants are by far the biggest group sought after.

Another site: http://www.agriwerker.nl/vacatures-agrarisch/landbouw

offers vacancies in the following sectors:

- Arable farming: 11 vacancies, 2 of which are in actual production, 3 are abroad (Norway, Germany, France) and the others are specialist, seed production, consultancy and management.
- Flower bulbs production: 2
- Field Vegetable production: 5 (including 2 seed production vacancies abroad, same as above)
- Tree growing: 2
- Landscape gardening: 3

A grand total of 20 vacancies.
http://www.vacatures.nl/landbouw offers 87 vacancies of which 8 are labelled "agriculture": all of these are for level 5 or level 6 functions with 1 exception: agriculture mechanic. There is no actual vacancy in primary production sector.

Conclusion: the number of vacancies in primary production of agriculture is very low as compared with the labour requirements. This has to be understood as the result of 2 conditions:

7. Agriculture is a rural business, run by a close knit society, where vacancies are not reported to the job agency as law requires but advertised by word of mouth will nearly always be filled from within the regional network.
8. Fluctuations in labour needs caused by the rhythm of seasons and conditions are catered for by temporal labour or by agricultural contractors.

.....and how are employees and farm employers educated?

- Farming is primarily a family business. So, a son [or daughter] who will at some point take over the family farm will have at least a level 4 education from one of the AOC's. But many farmers have a higher education.

- There are hardly any trained workers in primary agricultural production. Trained workers will have a level 2 or 3 education, often from an apprenticeship training program provided by the AOC's.
There is plenty of irregular and seasonal labour which is almost all for unskilled workers.

Theme 1: Content of data collection:

Demographic profile
(size, population and its development, climate, economic status)

1. Agriculture provides about 170.000 fte's of labour; this number has hardly changed since 2005.
2. The Netherlands enjoy a mild sea climate.
3. The Netherlands possesses the most efficient agricultural sector in the European Union : with only 1.6% of its active population, this small country produces 8% of the EU's agricultural output, and rivals with France at the international level for second place behind the USA among agro-exporting countries.

Agriculture and economics in general
(economic indicators)

- Agriculture generates 2,8% on the Dutch GNP with 1,5% of the labour force.
- The Netherlands is the 17th largest economy of the world. GDP per capita is roughly € 32,000 which puts it in the top 15 of richest nations in the world.

Economical importance of agriculture
(investments in agriculture, GDP (output value, gross value), number of employees in general (people in paid work), working hours; development of the sector; Food – consumption and prices, agricultural budget in general; production, markets & prices: equipment (crop protection, fertilizers, seeds, machinery) and animal feed; crop products; animal products; Agricultural external trade, role of national production in international context)

See above for general data

Resources used in agriculture
(status % used acreages, importance of bio-energy and renewable primary products, status farming production methods and techniques)

Land use in the Netherlands

Land use in the Netherlands, by category and by areas occupied, is shown in Table below. Agricultural use is the largest by far, taking-in nearly 70 % (23.260 km2) of the total land area. Buildings, residential areas, semi-built up land and areas for transport (roads and railways) occupy nearly 5000 km2, and forests and recreational areas cover some 4800 and 900 km2, respectively.

Table 1
Land use in the Netherlands (1977-2000; in km²)

	1979	1985	1989	1993	1996	2000
Total	**37.283**	**37.334**	**39.858**	**41.028**	**41.526**	**41.528**
Agriculture	24.252	23.974	23.991	23.755	23.508	23.260
Forest and nature	4.543	4.500	4.505	4.517	4.612	4.835
Recreation	675	782	760	809	827	889
Buildings and residential areas	2.674	2.885	2.905	3.027	3.150	3.183
Traffic and transport	1.263	1.328	1.306	1.331	1.340	1.130
Semi built-up land, quarries, etc.	531	452	414	440	436	486
Non-inland waters	1.749	1.737	4.182	4.175	4.174	4.170
Inland Waters	1.595	1.677	1.794	2.973	3.479	3.574

Source: Agricultural Economics Research Institute & Central Bureau of Statistics, The Netherlands

Source: http://www.un.org/esa/agenda21/natlinfo/countr/nether/land.pdf

Total surface of NL is 41,543 sq km of which 7,650 sq km is water. Total land: 33,893 of sq km which 23.260 sq km is for agricultural use. Off this 25,08 % (= 58360 ha) is in

use as **arable land.** (source: CIA factbook at: https://www.cia.gov/library/publications/the-world-factbook/fields/2097.html)
The only land not in use one could find in the country is land awaiting building, extention of habitat.

Land use in Agriculture, changes from 1995 - 2004:

	1995/1997	1999/2000	2003/2004
Agricultural area	2300520	2256640	2223310
Greenhouses	12816	13483	15252
Orchards	32167	27901	29166
Forest	306369	311799	315672
Water	774805	777493	777141
Urban area	465484	489787	508289
Infrastructure	100094	100503	101763
Nature	160451	175102	182083

Source: http://www.zfl.uni-bonn.de/research/earsel/special-interest-group-on-land-use/323-329_hazeu.pdf

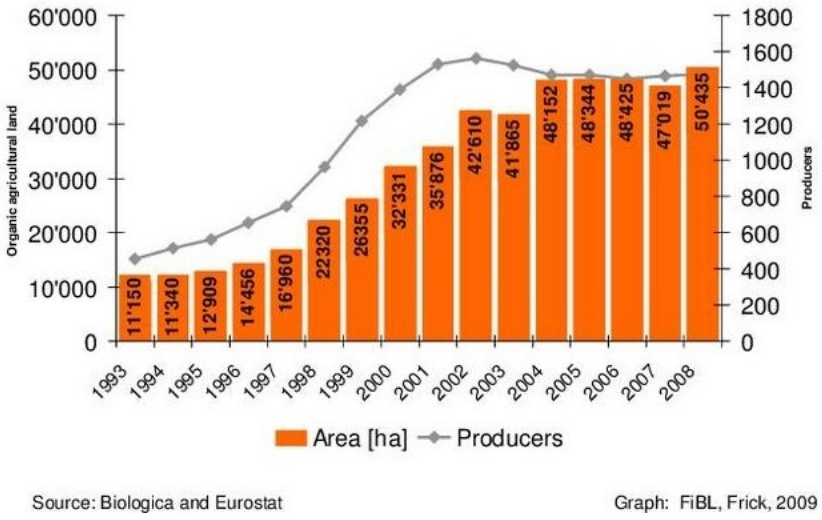
Conclusion: Urban ares saw a rise of about 9% in this decade, mostly lost by agriculture.

Organic Agriculture

Organic Agriculture in the Netherlands 2008: Key figures

Land under organic management	50.435	ha
Share of total agricultural land	2,6	percent
Growth 2007/2008	7,3	percent
Number of farms	1473	
Share of all farms	1,9	percent
Growth 2007/2008	0,5	percent

Development of organic land and farms (1993-2008)



Source: http://www.organic-europe.net/country-info-netherlands.html

Sustainable agriculture: problems, policies and actions Recently, a study initiated jointly by the Netherlands' Ministries of Spatial Planning (VROM) and of Agriculture (LNV) resulted in a number of actions aimed at improving sustainable soil use under agriculture. One of these actions, the National Stimulation Programme on Agro-biodiversitiy and Sustainable Soil Use (SPADE) has started recently to collect scientific knowledge on biodiversity, soil organic matter and soil compaction, and the practical application thereof by farmers. In other action programmes shallow drainage of soils is addressed in order to prevent peat oxidation. Projects like these are accompanied by field-level awareness-raising campaigns on sustainable soil use. Key element of these campaigns is to address measures to improve soil biodiversity and water quality while concurrently maintaining high levels of productivity.

Agricultural structure
(Initial investments; soil market; Farm structures, legal forms and types; branches incl organic farming, bioenergy, "farm forestry" and acqua-culture; employees, trainees, next generation of "farm followers", education system; social policy/sociological point of view; political frameworks; role of rural areas)

The best possible description of the situation I could find is given in the UN report: Agriculture and sustainable development in the Netherlands that can be found at: http://www.un.org/esa/agenda21/natlinfo/countr/nether/agriculture.pdf

EU-policies and subvention vs. National agricultural budget

State secretary for Agriculture wrote a public letter on December 6, 2013 to Parliament on this subject: it can be found at: http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/12/06/kamerbrief-over-implementatie-gemeenschappelijk-landbouwbeleid.html

The government outlines its view on the new EU agricultural policy as follows:

The government believes that the new European agricultural policy is to ensure that companies innovate more, focus more on the market, are less dependent on income support and that sustainability of the agricultural sector is strengthened. The payments will be focused on two goals:
1. Strengthening competitiveness combined with sustainability and innovation.
2. Remuneration for social performance, for example in the areas of nature, landscape, animal welfare and health.

Theme 2: Agricultural Education & Training system and role of VET (Environment of VET providers offering training opportunities in agriculture, policy-makers, more specifically ministries, labour institutes, and professional associations, and research centres)

Questions to be answered:

Strategic direction	What strategic objectives are attributed to VET policies?
- **Agricultural VET** will have to prepare future farmers	
Linkages	How is VET linked to political agendas e.g. employment?

- The Dutch accreditation organization for agriculture VET is **Aequor**.* Aequor is the Centre of Expertise for the Dutch food and environment sectors. Aequor connects agribusiness with vocational education and ensures that educational programmes are targeted to what the labour market demands. Aequor creates a demand-driven qualification structure on behalf of its social partners. (www.aequor.nl)

-AOC's are semi-autonomous institutes with government funding. The legal structure is mostly a Foundation. In the board of these you may find representatives of farmers associations and unions, government and authorities. It is their purpose to make sure that the eduction provided caters of the needs of the agricultural community.

* Aequor is one of 16 Centres of Expertise. In the course of 2014, for financial reasons, these will all be closed and 1 centre will be established for all functions. 1600 staff will be reduced to 400.
The new organization is called SBB: www.s-bb.nl

From: www.Aequor.nl

Agribusiness and related vocational education facilitator

Aequor is the Centre of Expertise for the Dutch food and environment sectors. Aequor connects agribusiness with vocational education and ensures that educational programmes are targeted to what the labour market demands. Aequor creates a

demand-driven qualification structure on behalf of its social partners. We would be happy to use our knowledge and experience collaborating with you.

Demand-driven education

One of our key tasks is the development and maintenance of the qualification structure for Dutch secondary vocational education. We do that in close collaboration with our partners in education and business. Together, we ensure that people are trained to be employees prepared for the future. With our partners, we have described the occupations in the food and environment sectors and formulated future-proof qualification files for these occupations. The parties in the triangle of business,education centre of expertise determine the content and ensure the implementation, while the Dutch Ministry of Economic Affairs facilitates.

Professionalised on-the-job training

On-the-job training is an essential part of vocational education in the Netherlands. Aequor supports companies with the creation of an optimal learning climate for their students and for their existing personnel. Our business consultants advise and coach companies to methodically and professionally teach students. In the Netherlands, only companies that meet certain quality requirements and that are recognised as practical work placement companies, may host interns. These recognised work placement companies are registered in Aequor's public index.

International focus

The labour market is becoming increasingly international. Aequor encourages the international
mobility of youth during their training as well as knowledge exchange between educational
institutions in vocational education. Our ambition is to become the contact point for the international harmonisation of educational programmes. We take part in international projects with a national impact that focus on exchange, collaboration and harmonisation of
educational requirements.

What can we do for you?

Aequor wants to contribute to sustainable development of people in labour organisations outside of the Netherlands as well.

- On request, we are happy to tell you more about the Dutch vocational education infrastructure and if desired, we can look at whether such a demand-driven structure is desirable and achievable in your country.
- We advise and support parties with the development and maintenance of a national (sectoral) qualification framework.
- We provide support with setting up national sectoral collaborations that can later map out the sector's requirements for qualified people and formulate an educational demand.

Who do we serve?

- Flower and garden centre sector: florists, garden centres
- Animal care: zoos, kennels, veterinary practices, children's farms, pet retail trade livestock and horse breeders; companies for beef cattle, pigs, poultry, livestock trade, horse breeders and riding stables

- Green Spaces: (landscape) gardeners, municipalities, forestry companies, contractors, environmental consultancy agencies, recreation companies
- Plant culture: arable and market gardening companies, agricultural contractors, wholesalers, biological-dynamic farms
- Food and beverages industry: businesses for processing or producing vegetables and fruit, bread and confectionery, chocolate, soft drinks and dairy products.

The function on the homepage of SBB is given as:

> The labour market and vocational education and training constitute the foundation for the Co-operation Vocational Education, Training and the Labour Market (SBB). They work together on themes such as the VET qualifications structure, examination, work placement and the offer of training programs. With that, SBB optimizes the connection between education and the labour market, the goal of which is: delivering sufficient and well-qualified professionals.

Furthermore is written:
Vocational education is based on two factors: education and industry. The main objective of education is to train people for a sustainable place in the labour market and in society as a whole. Industry deploys professionally qualified employees and makes an important contribution to the content and quality of offered training programmes.
Education and industry are brought together in the Foundation for Cooperation on Vocational Education, Training and the Labour Market (SBB). The SBB is the main organisation charged with creating this compatibility. Its work includes themes with a cross-regional and cross-sector focus.

Educational partners of SBB:

The Netherlands Association of VET Colleges
The 'MBO Raad' is the Netherlands Association of VET Colleges. The association represents all government-funded colleges for secondary vocational education and training and adult education in the Netherlands.

On behalf of its members, the MBO Raad promotes the collective interests of the sector, supports common activities of the colleges and acts as an employers' organisation. The association negotiates labour conditions for the sector with the trade unions and signs collective labour agreements. The MBO Raad plays a major role in the remodelling of vocational education to competence-based vocational education and training.

The executive committee of the MBO Raad is elected by MBO Raad members and consists in six members and a chairperson. The MBO Raad employs approximately 70 staff at its office in Woerden, in the province of Utrecht.

More information: www.mboraad.nl

The AOC Council
The AOC Council is the sector organisation for all the AOCs in the Netherlands. AOCs offer a broad range of courses relating to plants, animals, greenery,

flowers, nutrition, nature, recreation and the environment. The 13 AOCs offer green training at vmbo (pre-vocational secondary education) and mbo (senior secondary full-time vocational education) level, as well as adult education at around 100 locations across the country. Vmbo-green training is also provided by a number of comprehensive schools with green departments. These are represented in the AOC Council by the Vereniging Buitengewoon Groen.
More information: www.aocraad.nl

General Union of Education (AOb)

The Algemene Onderwijsbond (General Union of Education) is the largest trade union in the Dutch education sector. It looks after the interests of all personnel in the education sector (membership is open to teachers, administrative and ancillary staff), ranging from pre-primary education to higher vocational education. Workers at universities are not organised through AOb. Currently, the AOb has approximately 82,000 members.
More information: www.aob.nl

NRTO

The NRTO is the overall sector organisation for private training and education agencies in the Netherlands. The NRTO is a discussion partner for the political sector, Ministries, education, social organisations and the media.
More information: www.nrto.nl

Investment	What level and kind of investment is currently being deployed into VET?
-A series of mergers have considerably reduced the number of AOC's between 1990 and 2005. During this period many new buildings are erected [and others closed]. Since then changes are few and very few new investments have been made.	
Committees, panels, boards and certifying bodies according to target group 2 (stakeholders)	What kinds of committees, panels, boards and certifying bodies do exist within the VET system?
- Aequor is the accrediting body for Agricultural VET → SBB.	
	What kinds of purposes do they have?
See above	
	Are these purposes consistent with current policy and 'models'?
Yes.	
	What kinds of interests are represented by the stakeholders?

Different interests of stakeholders and their organizations	
	How do these interests engage with current policy agendas?
	Are the stakeholders contributing anything new to state of the art?
Not visibly... but all is 'under [re-]contruction'.	
Conceptual shaping	What educational and learning models drive national approaches to VET?
	Which job profiles drive national approaches to VET?

The EQF has been further developed and adapted into the NLQF. The main reason if this is a better description of the competences and the context in which these are implemented. All information available at www.nlqf.nl

From this site:

Dutch Qualification Framework (NLQF)
Whether you are:

- an individual who wishes to follow an education or training programme
- an employer who wishes to recruit people or
- a provider who offers education or training programmes

The Ministry of Education, Culture and Science commissioned the development of the Dutch Qualifications Framework (NLQF) which was constructed in close cooperation with experts and stakeholders in the field of education and training. The National Coordination Point NLQF (NCP) is an independent body which is responsible for the development and implementation of the NLQF.
The Dutch Qualifications Framework (NLQF) is a new way of describing Dutch qualification levels. It is a systematic organisation of all existing qualification levels in the Netherlands, from Level 1 basic education to the Master's degree at level 8. Qualifications are classified in NLQF levels and are given a level indication. The framework consists of an Entry Level followed by 8 levels, Level 1 being the least complex and Level 8 the most complex.
The NLQF aims to facilitate students and labour market mobility by providing an insight into the levels of all qualifications recorded by the National Coordination Point NLQF in the NCP register. The NLQF provides transparency in that it facilitates a comparison of qualification levels nationally and, thus, national mobility.
The NCP records Government-regulated qualifications (The qualifications of the Ministries of Education Culture and Sciences; Healthcare, Welfare and Sports and Economics Affairs; Food and Natural and Living Environment) in the National Coordination Point (NCP) Register of qualifications. All other qualifications are first assessed and level-determined by the NCP and then recorded in the Register.
The Dutch Qualifications Framework offers providers of qualifications which are not regulated by the Government the possibility of having such training programmes and qualifications classified at a level of the NLQF. Procedures and criteria for this process

are in place.
The NLQF is referenced to the European Qualifications Framework (EQF). EQF aims to enable qualifications
from different countries within Europe to be compared by means of a single reference framework to which they are all referenced. Thus, EQF will contribute to greater transparency in the education systems of EU countries, thereby increasing the international mobility of individuals. Currently 31 European countries are contributing to the implementation of the EQF by linking their own national qualifications frameworks to it.
However, there are many things the NLQF does NOT do. NLQF is not a revision of the Dutch education system. An NLQF level indicator does not give an entitlement to a title or a degree. The right to enter and transfer to education sectors is not regulated by NLQF.
Descriptors of NLQF:

- Context
- Knowledge
- Application of Knowledge
- Problem solving skills
- Learning- and development skills
- Information skills
- Communication skills
- Responsibility and independency

NLQF for the employer

What is the value of NLQF for an employer?
NLQF provides employers with a tool that enables them to:

- clarify the NLQF level required to fill job vacancies in terms of learning outcomes, thus facilitating staff recruitment;
- establish staff training programmes and track the occupational and personal development of individual staff;
- get an insight into current qualifications levels and their relationship, nationally and internationally, thus facilitating labour mobility.

In effect an employer can use NLQF to compare the level of qualifications or training in the Netherlands. But NLQF offers more. Because NLQF is referenced to the EQF (European Qualifications Framework) it enables employers to establish the equivalent qualification level in the Netherlands of a foreign or European qualification.

NLQF for the education and training provider

What is the value of NLQF for you as an education and training provider? NLFQ provides education and training providers with a tool that enables them to:

- compare levels of qualifications in terms of learning outcomes
- think in terms of learning outcomes as building blocks for qualifications
- communicate more easily with the labour market and create a better match between education and training programmes and labour market needs.

Providers offering Government-regulated qualifications* can request a review of the level at which they were generically classified at the outset when the NLQF was established. Currently, review requests are only possible for VET Level 4. Providers of qualifications which are not Government-regulated may request a classification into one of the levels of the NLQF and, thus, be also referenced to an EQF level.

NLQF for the employee

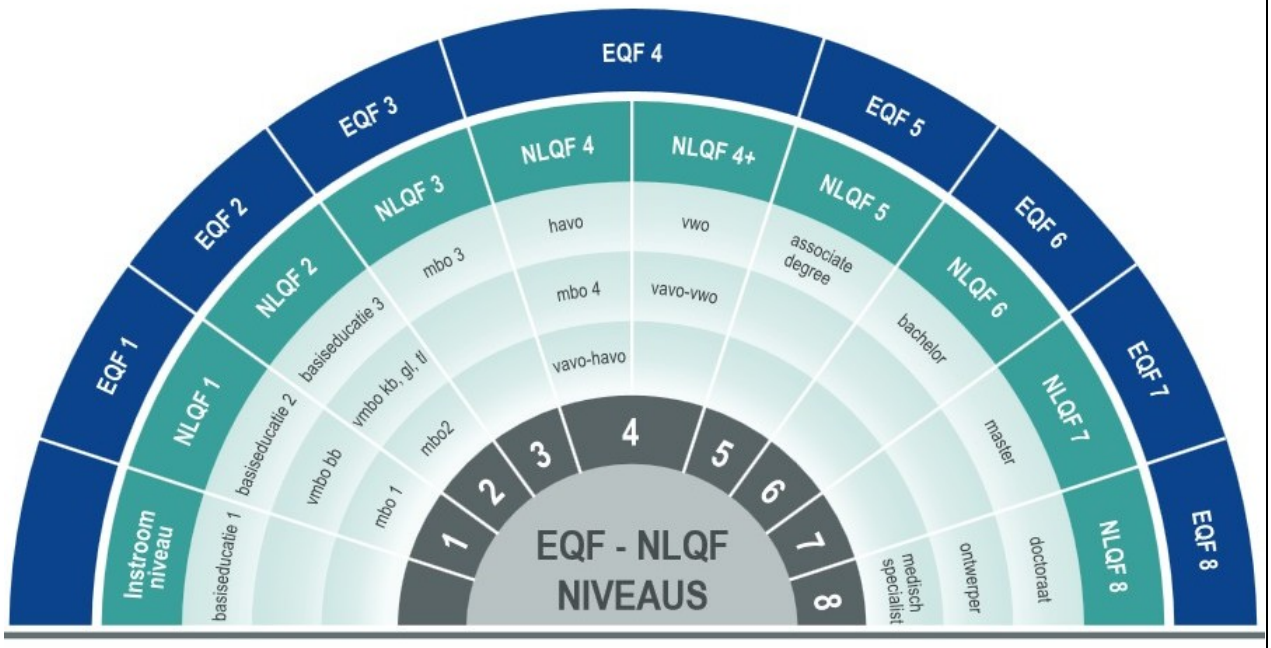
What is the value of NLQF for an employee? NLQF is the Dutch Qualifications Framework which shows the value of Dutch qualifications and education and training programmes compared to one another and, through its being referenced to the European Qualifications Framework (EQF), compared to those elsewhere in Europe. It was not possible to make these comparisons before the emergence of NLQF, national qualifications frameworks in other countries and the EQF. Using these tools employees are now able to:

- identify what training programmes are available at what levels throughout Europe and
- compare an education or training programme you may be following with other such programmes in The Netherland and / or in other European countries
- compare the levels of education and training programmes offered by, for example, a VET college, a University of Applied Science or a University in The Netherlands and / or abroad
- make a more informed choice of an education or training programme in The Netherlands or in another European country
- decrease the investment in education and training.

NLQF for the student

What is the value of NLQF for students? NLFQ provides students with a tool that enables them to:

- get a clear picture of your current position in terms of education and training levels you have achieved thus far
- compare the levels of Dutch qualifications more easily
- make a more informed choice as a result of this insight
- plan your further education and training more easily.



The relationship between EQF and NLQF in diagram.

A 130p. document describing the relationship EQF – NLQF can be downloaded from: http://www.nlqf.nl/images/downloads/NLQF/20122202_Referencing_document_the_Netherlands_NLQF_EQF.pdf

Theme 2: Content of data collection:

Agricultural education system:

Existing Job profiles and tasks;
VET levels&models, requirements, lengths, courses, further advanced education,
Numbers participating in education by age; sector ; status, % GDP spend on education
Sectoral distribution (VET; schools; universities)
Average per capita spend on education
No. of schools, higher education, adult learning per population; average school size; teacher/pupil ratio;
Educational and training policies; stakeholders and their functions

The agricultural education in NL is structured in 4 layers:

1. Agricultural University Wageningen (WUR): Scientific education at BSc, MSc. and PhD level in a wide range of subjects. WUR also coordinates all agricultural research in the country.
2. The Higher Agricultural Colleges who provide a practise oriented BSc education and training (level 5). Most well known are Hogeschool HAS in Den Bosch, Van Hall Larenstein on various locations, Christelijke Agrarische Hogeschool and STOAS in Dronten and InHolland in Delft.
3. The [13] AOC's, Agricultural Education Centres, who provide a series of practical educations at levels 2, 3 and 4 for a wide range of professions, from dairy farmer to greenkeeper, from biodynamic vegetable grower to equine specialist. Most courses can be taking in college based education as well as during apprenticeship programs.
4. Schools with a program VMBO Groen (=green). These post primary school for learners 12 – 16 years are providing a preparatory course for AOC's. Some schools have only a Green course, most have other directions (building, technology, electricity) as well. These courses should be classified as 'nearly level 2'.

Fig. 13 AOC's and regional distribution over the Netherlands.

Agricultural education is provided at levels 2 up to 7. In VET, levels 2 till 5, the content for the studies is provided in curricula which include competences and learning outcomes.

All the results of a learner (test, reports, assessments, placement feedback and work assessments) through the year are collected in a "portfolio of evidence". This at the end of the study year will be assessed against the competences as described for that particular moment in the education plan and the outcome of this decides on the progression into the next year. This can also be made conditional in the sense that a few competences have not be convincingly demonstrated yet, but with scope for improvement progression into the next semester can be agreed conditionally.
The final certificate is given when the 'portfolio of evidence' and the 'thesis' or 'diploma-work' both have received a pass or better.

Theme 3: Current topics in agriculture (farmers` environment)

Questions to be answered:

Innovation & Management	What kinds of current topics can be identified in agriculture and are of interest for the farmers in the near future?

- Sustainability of Agriculture enterprises and production vs. Intensive agriculture,
- Effects of globalisation on production and markets,
- Technological developments
- Agriculture as energy producer (agrification)
- Bio based economy

Requirements / Needs	What do farmers need to survive in the near future and how can ACT and VET establishments support this?
	More specific: Which requirements / skills needs by farmers drive national approaches to VET?

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Basically competences addressing the issues as mentioned above:

- Sustainability of Agriculture enterprises and production vs. Intensive agriculture,
- Effects of globalisation on production and markets,
- Technological developments
- Agriculture as energy producer (agrification)
- Bio based economy

These have to do with mastering new technologies, ability to decide on introduction and application on farm, adapting to changing situations [technical, economic and social], understand connection between enterprise and the world outside up till global level. In short: management competences and learning competence.

Theme 3: Content of data collection:

Required skills for innovation & management in agriculture articulated by VET policy makers, VET providers & agencies, farmers (employers & employees) as well as labour services and prop. other important players in agriculture

See box above

<u>Theme 4: Education and Training needs: first interpretation of the collected data on national level - conclusion</u>

Questions to be answered:

Needs	What kinds of current needs (in between skills, VET, job profiles) in innovation & management can be identified?

See 2 boxes above

Theme 4: Content of data collection:
Current needs (skills, VET, job profiles) in innovation & management **See 3 boxes above**

7. Template literature review: Recommendations for policy documents:
Please list here several literature/websites (media) you found/used within your research according to the themes 1-4, especially white papers and which you find relevant and you intend to approach. For each identified media, please provide a short description (abstract of the content) and your justification.

Partner: IFSAT Country (or EU-wide): NL (with European connotations)

Theme: _____The future of agriculture_____

Name of Publication	Reference / URL	Abstract
AGRICULTURAL ECONOMIC REPORT 2012 OF THE NETHERLANDS	http://edepot.wur.nl/221780	This report offers an English summary of the Landbouw-Economisch Bericht 2012. It presents a survey of the economic state of Dutch agribusiness. First, attention is paid to general economic and political developments and to the development of the agricultural complex. Next, the report deals with the rural area and with environmental issues. Following a description of the production structure and production factors in agriculture, profitability and income formation in the various sub sectors are analysed.
LEI report Dutch Agriculture to 2020	http://jelmermommers.nl/wordpress/wp-content/uploads/2011/08/LEI-De-agrarische-sector-in-Nederland-naar-2020.pdf	What are the prospects of the agricultural sector in the Netherlands until 2020? Which developments and uncertainties should be taken into account and how do they affect policy? After presenting a reference scenario to describe the results, the report adds some sensitivity analyses. These refer to variants related to agricultural and trade policy, the oil price and the derogation of the Nitrate Directive
Ministry on CAP in the future	http://www.rijksoverheid.nl/documenten-en-publicaties/kamerstukken/2013/12/06/kamerbrief-over-implementatie-gemeenschappelijk-landbouwbeleid.html	The Dutch government's view on the new EU agricultural policy

8. Template “key players” in agricultural VET:

Contents: Name, function, URL, role and interpretation of influence (e.g. policy, lobby, labour union, chamber etc.)
Please identify and list here important “key players”who may be important to contact within the project and to invite to the focus groups.

Partner: IFSAT Country (or EU-wide): NL (with European connotations)

Theme: _____

Name	Function	Address/URL	Role	Influence

To follow.

9. Analysis of the national reports and policy-documents according to differences and commonalities in VET, emerging jobs and articulated skills gaps between the partner countries

9.1 Data analysis: Country Reports

Completing the Country Report template requires interpretation and synthesis of the types of data collected. Both the data collected and the Reports and other content (e.g. website material) acquired need to be interpreted using the method content analysis.

9.1.1 Content analysis Procedures

Content analysis typically takes the form of scanning or inspection of qualitative data derived from a range of sources, here reports, in terms of either an ante-post (pre-determined) or ex-post (retrospectively applied) structure. In the *ante-post* (pre-determined) case, the analyst will be looking for things like the frequency of occurrence of an item of content, and the ways in which the item reflects the key research questions being addressed by ACT. In the *ex-post* (retrospective) case, the data are scanned without a pre-determined structure in order to build up a meaningful 'clustering' of the frequency and type of elements discussed. A key aim of the exercise is then to build a 'map' of interconnections between the different content elements. A picture of the frequency and type of elements occurring will be built up manually by inspection.

For both ex ante and ex post approaches the standard method – for both the initial design of classification frameworks and for analysis of the data themselves - is to use item analysis. Item analysis works by getting together a criterion group (which in this case, for practical purposes is likely to be the project team). They then work together to produce a structure (identifying key items or dimensions they think are important criteria in analysing the data) and, using this structure, individually assess the data by rating relevant items of text according to the dimensions agreed. Those items achieving consensus are retained and used to draw conclusions, and those items generating a wide degree of divergence are discarded. [6]

The analysis uses the coding frame integrated in the national report template which specifies:

- The research themes considered
- The constructs against which the particular item of content needs to be analysed
- The criteria which define the item in terms of the construct used

Conclusion

[6] For further details on analysis methods, see: 'Miles and Huberman' 'Qualitative Methods' (1998) ARTICULATE Guidelines on evaluating learning applications (Tavistock Institute, 1996). Ackroyd, Stephen and Hughes 'Data Collection in Context' (1981)

There are great differences between the agricultural farm structures and training of the workers within the EU. More than half of the farms in the EU are very small and only farm a very small area. Only a few very large farms farm about half of the agricultural area. Family labour predominates throughout the EU. In view of the different training paths within the EU there are also major differences in the qualifications of the farm managers.

Nonetheless there are several trends in agriculture which affect more or less all farmers in Europe. One of the most important challenges will be a deep-reaching structural change in the next years. Advancing concentration leads to fewer and larger farms, to greater specialization and focussing of lines of business.

Trends:

- Structural change
- Image
- Environment
- Political circumstances
- Globalization
- Food secure
- Technical progress
- Business farmers