European Union
European Regional
Development Fund

NICHE
Interreg Europe

Action Plan for the Region of Crete

Produced by each region, the action plan is a document providing details on how the lessons learnt from the cooperation will be exploited in order to improve the policy instrument tackled within that region. It specifies the nature of the actions to be implemented, their timeframe, the players involved, the costs (if any) and funding sources (if any). If the same policy instrument is addressed by several partners, only one action plan is required.

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Contents

Chapter 1: Executive Summary in Greek

Το παρόν Σχέδιο Δράσης υποβάλλεται στο πλαίσιο του έργου NICHE "Building innovative food value chains in regions" του Προγράμματος Interreg Europe.

Το παρόν Σχέδιο Δράσης:

⇒ ***Παρουσιάζει τις δράσεις και τα διαθέσιμα προγράμματα για την ανάπτυξη του επιπέδου έρευνας και καινοτομίας στον διατροφικό τομέα στην Κρήτη.***

⇒ ***Κάνει επισκόπηση της τρέχουσας κατάστασης αναφορικά με τις Ευρωπαϊκές παγκόσμιες τάσεις στον αγροδιατροφικό τομέα.***

⇒ ***Κάνει επισκόπηση της τρέχουσας κατάστασης του αγροδιατροφικού τομέα στην Κρήτη.***

⇒ ***Προτείνει τρεις δράσεις για την ισχυροποίηση της αναπτυξιακής δυναμικής της αγροδιατροφής στην περιφέρεια Κρήτης.***

Ειδικότερα, στο τρίτο κεφάλαιο αναλύεται το πλαίσιο πολιτικής. Πιο συγκεκριμένα, γίνεται αναφορά στα εξής:

Το Περιφερειακό Επιχειρησιακό Προγράμμα Κρήτης 2014-2020

Παρουσιάζεται το όραμα της Περιφέρειας Κρήτης για την ανάπτυξη του πρωτογενούς τομέα και τη διαχείριση προϊόντων, καθώς, επίσης και οι προτεινόμενες δράσεις και οι υποκατηγορίες τους σε κάθε τομέα. Σε τοπικό επίπεδο, παρουσιάζεται η στρατηγική της Περιφέρεια Κρήτης και το αναπτυξιακό της όραμα για την περίοδο 2014-2020, ενώ, ιδιαίτερη μνεία γίνεται στους άξονες προτεραιότητας που σχετίζονται με τα γεωργικά τρόφιμα.

Την Στρατηγική Έξυπνης Εξειδίκευσης Περιφέρειας Κρήτης 2014 – 2020

Προτεραιότητες που αυτή θέτει, στις παρεμβάσεις της ένωσης για τον αγροδιατροφικό τομέα καθώς και στη δημιουργία cluster για τον αγροδιατροφικό τομέα.

Το Επιχειρησιακό Πρόγραμμα «Ανταγωνιστικότητα, Επιχειρηματικότητα, Καινοτομία» 2014 – 2020

Σχετικά με την αγροδιατροφή, παρουσιάζονται οι Άξονες Προτεραιότητας, οι Θεματικοί στόχοι και οι Επενδυτικές προτεραιότητες. Στόχος είναι η διάγνωση ευκαιριών ανάπτυξης της αγροδιατροφής μέσω του ΕΠΑΝΕΚ.

Στη συνέχεια, γίνεται αναφορά στα τομεακά προγράμματα «Αγροτική Ανάπτυξη» και «Αλιεία και ναυτιλία» με συγκεκριμένες αναφορές στις βασικές αρχές των μέτρων αυτών καθώς, επίσης και στα επιμέρους μέτρα και στα πεδία εφαρμογής τους τα οποία θα συμβάλλουν στην ανάπτυξη του αγροδιατροφικού τομέα.

Μέσα από όλα τα παραπάνω αναδεικνύονται δυνατότητες αξιοποίησης αναπτυξιακών εργαλείων για την ενίσχυση και επιχειρηματική δυναμική στην αγροδιατροφή.

Στο τέταρτο κεφάλαιο γίνεται επισκόπηση της τρέχουσας κατάστασης σε τρία επίπεδα:

Το πρώτο μέρος του κεφαλαίου αφορά στην τρέχουσα κατάσταση στον αγροδιατροφικό τομέα στην Κρήτη. Αναλυτικότερα γίνεται αναφορά στη σημερινή κατάσταση του πρωτογενούς τομέα με παρουσίαση στατιστικών στοιχείων με σύγχρονα δεδομένα, ενώ, ακολουθεί η ανάλυση SWOT με τα δυνατά και αδύνατα σημεία του πρωτογενούς τομέα στην Κρήτη, καθώς επίσης και τις ευκαιρίες και τις απειλές που διαφαίνονται στο εξωτερικό περιβάλλον. Τέλος, αναλύονται τα κρίσιμα ζητήματα ανάπτυξης αφού πρώτα προσδιορίζονται οι ανάγκες του αγροδιατροφικού τομέα στην περιοχή.

Το δεύτερο μέρος του κεφαλαίου κάνει μια επισκόπηση των βασικών συμπερασμάτων που προέκυψαν από τη διεξαγωγή της έρευνας πεδίου σχετικά με την ανίχνευση σκοπιμότητας και περιεχομένου του Σχεδίου Δράσης. Η έρευνα απευθυνόταν σε μικρομεσαίες επιχειρήσεις της Περιφέρειας Κρήτης οι οποίες δραστηριοποιούνται στην αλυσίδα αξίας τροφίμων και σκοπός της ήταν να διερευνηθεί ο βαθμός στον οποίο εφαρμόζεται η καινοτομία στις επιχειρήσεις αυτές, καθώς, επίσης και η αναγκαιότητα για την ίδρυση και τη λειτουργία ενός Κέντρου Υποστήριξης Επιχειρηματικότητας (Business Support Center).

Στο τρίτο μέρος του κεφαλαίου παρουσιάζονται εν συντομία οι τάσεις στη βιομηχανία γεωργικών τροφίμων της Ευρωπαϊκής Ένωση και δίνεται έμφαση σε θέματα καινοτομίας στις εφοδιαστικές αλυσίδες στον τομέα της αγροδιατροφής και στους προσδιοριστικούς παράγοντες της καινοτομίας στον τομέα της αγροδιατροφής.

Με βάση τη διάρθρωση και το περιεχόμενο του παρόντος κεφαλαίου αναδεικνύονται δυνάμεις, οι αδυναμίες, οι ευκαιρίες και οι απειλές της αγροδιατροφής στην Κρήτη και μάλιστα υπό το πρίσμα των τάσεων στην Ευρωπαϊκή Ένωση.

Οι δυνάμεις και οι ευκαιρίες της αγροδιατροφής στην Κρήτη σηματοδοτούν πλεονεκτήματα προς περεταίρω αξιοποίηση και δημιουργία προστιθέμενης αξίας.

Οι αδυναμίες και οι απειλές της αγροδιατροφής στην Κρήτη σηματοδοτούν τρωτά σημεία που απαιτούν παρεμβάσεις προκειμένου να αναστραφεί η αρνητική δυναμική τους.

Το πλέγμα που περιγράφεται από τις δυνάμεις, τις αδυναμίες, τις ευκαιρίες και τις απειλές της αγροδιατροφής στην Κρήτη συνιστά το υπόβαθρο για το σχεδιασμό των Δράσεων που προτείνονται στο επόμενο κεφάλαιο.

Το πέμπτο κεφάλαιο παρουσιάζει το τις επιμέρους δράσεις που προτείνονται στο παρόν Σχέδιο Δράσης. Οι δράσεις συνολικά είναι τρεις και για την κάθε επιμέρους δράση ορίζεται το υπόβαθρο που συμβάλλει στη δημιουργία της. Ακολουθεί η περιγραφή της δράσης, τα εμπλεκόμενα ενδιαφερόμενα μέρη (stakeholders), οι επιμερισμοί του κόστους που απαιτούνται για κάθε δράση καθώς και οι πηγές χρηματοδότησης που μπορεί να αξιοποιηθούν για την εφαρμογή της.

Επιπλέον, ορίζεται ο αναμενόμενος αντίκτυπος που θα επιφέρει η υλοποίηση των επιμέρους δράσεων στις μικρομεσαίες επιχειρήσεις αλλά και στο επίπεδο της καινοτομίας που συναντάται σε αυτές. Τέλος, ορίζεται ο τρόπος με τον οποίο θα γίνει η παρακολούθηση των δράσεων.

Οι δράσεις που προτείνονται στο παρόν Σχέδιο Δράσης είναι οι ακόλουθες:

- Δράση 1: Κέντρο Υποστήριξης Επιχειρηματικότητας Αγροδιατροφής στην Περιφέρεια Κρήτη.
- Δράση 2: Ενίσχυση της διασύνδεσης μεταξύ του αγροδιατροφικού τομέα και του τουρισμού μέσω του Κρητικού Κέντρου Γαστρονομίας (Πιλοτική Δράση).
- Δράση 3: Επέκταση των δραστηριοτήτων του Κέντρου Κρητικής Γαστρονομίας.

Για κάθε Δράση ορίζονται τα εξής:

Ιστορικό που υπογραμμίζει την ανάγκη αυτής της Δράσης.

Ανάλυση SWOT, όπου η προτεινόμενη δράση βασίζεται.

Περιγραφή της Δράσης και των υπηρεσιών που παρέχονται στο πλαίσιο αυτής.

Ο τρόπος με τον οποίο θα παρέχονται οι υπηρεσίες και η σχετική σειρά διαδικασιών.

Κύριοι στόχοι της Δράσης και της προστιθέμενης αξίας στην περιοχή.

Οι ομάδες-στόχοι της Δράσης και οι εμπλεκόμενοι φορείς.

Το χρονοδιάγραμμα και ο σχετικός προϋπολογισμός υπό ορισμένες παραδοχές.

Οι ευκαιρίες χρηματοδότησης της Δράσης.

Ο αναμενόμενος αντίκτυπος της Δράσης στις ΜΜΕ.

Ο αναμενόμενος αντίκτυπος της Δράσης στην μέτρα καινοτομία.

Παρακολούθηση και αξιολόγηση της Δράσης.

Chapter 2: General information

Project: NICHE - Building Innovative Food Value Chain in Regions

Partner organisation: Region of Crete

Other partner organisations involved (if relevant):

Country: Greece

NUTS2 region: Region of Crete

Contact person: Mrs. Vrontaki Evaggelia

E- mail: evrontaki@crete.gov.gr

Telephone: +30 2831340757

Website: https://www.crete.gov.gr/

Chapter 3: The policy context

The Action Plan aims to impact (choose one):
- ○ Investment for Growth and Jobs programme
- ○ European Territorial Cooperation programme
- ○ **Other regional development policy instrument which are**

- The Regional Operational Programme of Crete.
- The Smart Specialization Strategy of the Region of Crete

3.1 The Regional Operational Programme of Crete

Crete is a region with unique comparative advantages to become a place of production and supply of "green" products and services of high quality.

Insularity, temperate climate, morphology and terrain, unique biodiversity, cultural heritage, customs and customs and natural people are the basis and strength of the Region of Crete.

The role of the primary sector of Crete and the processing of its products is decisive for the development of Crete and needs to be strengthened by actions that respond to the contemporary conditions that focus on the sustainable development of Crete.

The Region of Crete has drawn up a Strategic Plan for the Development of the Primary Sector and its Product Management with the involvement of all stakeholders. The vision of the Region of Crete is to make Crete a model of sustainable regional development by turning it into an island of "green" products and services that will meet the needs and requirements of the market and consumers and ensure decent and quality living of the inhabitants of Crete.

For the implementation of the Strategic Plan, its actions have been divided into two areas:
1. Product production and management of natural resources (including crop and livestock production, fisheries and natural resources).
2. Cretan Diet (including Cretan Cuisine, culture, tradition and gastronomic tourism, which are essentially based on products and activity in the primary sector).

The actions proposed in each sector have been subdivided into sub-categories concerning the individual coefficients for the development of each category:
1 / Human resources

The actions aim to:

- Recognition of people working in the agri-food sector.
- Promotion of Cretan Diet and Cretan Nutrition Culture as a cultural heritage of UNESCO.
- Recording, dissemination & rescue of Cretan Cuisine and Nutrition.
- Keeping children, parents and guardians informed of the importance of Cretan Nutrition in Health, aiming at adopting it as a healthy diet.
- Communicating the value of Cretan Diet, local products & associated certification marks of the Region (restaurants, wineries, products etc) throughout Crete.
- Training and specialization of catering and tourism professionals in the Cretan Cuisine, the use of local products and the development of gastronomic tourism services.

2 / Infrastructures

The actions aim to:

- Exploitation, protection and rational management of the natural resources of Crete.
- Promoting spatial planning and land use across the Region.
- Utilization of existing infrastructure, modernization of them and creation of new ones to meet existing needs for:
  - Updating, recording and tracking phenomena & data.
  - Research, training and education in the agro-food sector.
  - Promotion of the value of Cretan Diet and local products.
  - Production, processing and standardization of agro-food products.
  - Creation of business networks in the various sectors of the agri-food sector.
  - Creation of the organized gastronomic tourism product of Crete through the design of the "Cretan Taste Routes".

3 / Production systems and management

The actions aim to:

- Development and utilization of quality production systems based on the comparative advantages of the Region.
- Orientation in the production of products demanded by the international and national markets.
- Development and implementation of integrated management systems for quality local production.
- Development, promotion and adaptation of integrated management systems in organic production with designation of origin and geographical indication.
- Exploitation of crop production in animal production.
- Linking plant to livestock production and pastures.

4 / Research, Innovation and Development

The actions aim to:

- Production of local traditional and new products incorporating new technologies and health& safety conditions.
- Identifying nutritional labels that differentiate local products.
- Exploiting new technologies for:
  - The production, management, processing, standardization and distribution of products.
  - Maintain traceability for final consumers.
  - Monitoring environmental changes and their impact on the production process.

5 / Systems of identification, standardization, traceability and market control
The actions aim to:

- Creation of the Regional Label "Crete" and preparation of specifications and procedures for certification of a range of products and services of the agro-food sector (products, Cretan cuisine, visiting wineries, etc.).

6 / Product promotion and promotion systems.
The actions aim to:

- Promotion of gastronomy as a central tourist resource of Crete.
- Promotion of Crete as a gastronomy destination through cooperation with the tourism stakeholders.
- Design and implementation of organized marketing strategy at the regional level for the promotion of local products and the creation of brand name "Crete".
- Exploitation of the information and communication technologies to promote the products of the agro-food sector.
- Promoting local products to tourists and special target groups (exporters, travel agents of gastronomy tourism, gastronomy journalists).
- Linking customs, history, biodiversity and local conditions to the local products of Crete.
- Collection and effective dissemination of information on the gastronomic "events" of Crete throughout the year.
- Promotion of exports by applying modern methods and technologies.
- Establish continuous market research systems for adapting and applying modern methods to promote local products.

3.1.1 The developmental vision and the strategy of the Region of Crete for 2014 - 2020

The vision of the development plan for Crete under the NSRF 2014-2020 is: "Dynamic and Sustainable Crete". "Dynamic" in the sense of having an integrated exit strategy from the crisis, by investing and strengthening the interconnections and the export character of the "Dynamic sectors: agri-food, culture, tourism, environment, knowledge economy". "Sustainable" on terms, economic, environmental and social. "Sustainable in terms of economic": a sustainable development based on the characteristics of the region, a sustainable value of "culture - Cretan diet", where there is a strong background to enhance extroversion and increased competitiveness. "Environmentally sustainable": protection and enhancement of natural and cultural resources. "Socially sustainable": inclusive growth while addressing poverty and strengthening the weaker social groups.

The agri-food sector in the Regional Operational Programme of Crete for 2014 - 2020

The main development needs that the Region of Crete is supposed to cover during the 2014-2020 programming period, as well as the opportunities presented in the agri-food cluster, are developed briefly by thematic objective.

- Thematic Objective 1: "Strengthening Research, Technological Development and Innovation"

With a key development tool, the Smart Specialization Strategy (RISCrete), the Regional Operational Plan (ROP) of Crete 2014-2020 will seek to promote business innovation in established and emerging sectors by exploiting research results through targeted actions targeted at both stakeholders' knowledge and entrepreneurs (applied research programs, first generation, specialized services and pilot applications). At the same time, the creation of a culture of innovation in the business world and the citizens of Crete will be pursued, and the creation of clusters and networks of regional scope to enhance the competitiveness of the tourism-culture-environment-agri-food sectors will be supported. Coordinated implementation of the above will be pursued by an effective regional innovation mechanism.

- Thematic Objective 3: "Improving the competitiveness of small and medium-sized enterprises and the agricultural sector and the fisheries and aquaculture sector"

In the agri-food sector, the Region of Crete has created some powerful advantages since it has recognized quality agricultural products that are available in the country and in international markets. The Cretan diet, which is the model of the Cretan Diet, is an "intangible cultural heritage" with strong promotional dynamics.

The main weaknesses are found in the small business scale, limited product standardization and fragmentation of promotional policies, while the systematic penetration of local products into tourism businesses is still limited.

Due to the small size of business activity and the lack of organized networks and clusters, the demand for R&D is particularly low, while the number of knowledge intensive businesses in the sector remains limited. At the same time, the conditions for coordinated utilization of the Cretan Diet have not been created, with the result that the multiplier effects from its exploitation remain limited.

Priority Axes of the Regional Operational Program for Crete 2014-2020 related to agri-food

- PRIORITY AXIS 1: Enhancing the competitiveness, innovation and entrepreneurship of Crete.

It is proposed as a "Smart Development Axis", which aims to create an innovation ecosystem by implementing actions that support RISCrete.

The axis will seek to:

i. To promote business partnerships and, as a matter of priority, knowledge providers, in order to exploit the R&D results produced by the research institutes of the Region, as well as to direct the researchers towards the established needs of the enterprises.
ii. Supporting new innovative businesses through a comprehensive package of measures (ensuring the necessary seed capital, incubators etc).
iii. Supporting businesses to strengthen the processes of producing competing products that can penetrate international markets.

❖ PRIORITY AXIS 4: Promoting employment and adapting workers to change.

It is intended to upgrade the workforce with new skills as well as to stimulate entrepreneurship within the RISCrete priorities. Under the axis, actions are planned:

- Advisory guidance and subsidy for the creation of new enterprises in the areas of the Regional Strategy of Smart Specialization.
- Training, counseling, guidance on upgrading the workforce and entrepreneurs by adapting them to the needs arising from the implementation of Axis 1 actions.

3.1.2 Priority Axes, Objectives, Desired outcomes and Actions within the Regional Operational Programme of Crete.

Priority Axis:

I - Developing entrepreneurship with Sectoral Priorities.

Thematic objective:

01 - Strengthening research, technological development and innovation.

Investment priority:

1b – Promoting business investment in research and innovation, developing links and synergies between businesses, research and development centers and the higher education sector, in particular by promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters of operators and open innovation through smart specialization, as well as support for technology applied and validated research, pilot actions, product validation actions, advanced production and first generation capabilities, especially in key technologies, and dissemination of generic technologies.

Specific objective:

1.1 – Increasing business initiatives and partnerships to develop innovative entrepreneurship in line with the national research innovation strategy for smart specialization (RIS3 strategy).

Desired outcomes:

The results of this specific objective are expected to be:

- Shifting to economic growth based on knowledge and sustainable specialization.
- Improving the competitiveness and the productivity of Greek firms through the production, dissemination and integration of new knowledge and innovation and the linking of academic research with the economy.
- Developing excellence in research and aligning research and innovation with business demand.

PriorityAxis:
I - Strengthening the competitiveness, innovation and entrepreneurship of Crete.
Thematicobjective:
01 - Strengthening research, technological development and innovation.
Investmentpriority:
1b - Promote business investment in research and innovation, develop links and synergies between businesses, research and development centers and the higher education sector, in particular by promoting investment in product and service development, technology transfer, social innovation, eco-innovation , public service applications, demand stimulation, networking, clusters of operators and open innovation through smart specialization, as well as technical support logic and applied research, pilot projects, early product validation actions, advanced manufacturing capabilities and first production, especially in key technologies, and dissemination of enabling technologies.
Specific objective:
1 - Increasing the participation of private enterprises in RTDI activities in the priority areas of the "Smart Specialization" strategy.
Desiredoutcomes:
It seeks to promote innovation in the local economy through:
A) Supporting research centers and universities for:

(a) Directing their research into challenges of the regional economy sectors, a priority of RISCrete.

(b) Complementing infrastructures that promote innovation and the provision of specialized services to businesses.

B) The orientation of their research on the established needs of the enterprises of Crete in the priority areas of RISCrete.

C) R&D support for research and development of innovative products - processes in selected areas of RISCrete and with the cooperation of knowledge-based organizations.

D) Creating an innovation culture through the exemplary reward of researchers, undergraduate and postgraduate students, and businesses that have taken initiatives to promote innovation in the Region.

E) The creation of clusters, networks and other clusters of enterprises and knowledge and technology organizations in priority areas of the "Smart Specialization" regional strategy.
Through the cooperation of knowledge and entrepreneurship organizations, we will seek to the following:

- Utilization of existing technologies and the development of new ones.
- Increasing the ability to absorb business know-how.
- Enhancing comparative industry benefits.
- The creation of economies of scale and accumulation.
- To highlight the "green growth" dimension and to improve the environmental footprint of businesses.

PriorityAxis:
I - Strengthening the competitiveness, innovation and entrepreneurship of Crete.
Thematicobjective:
03 - Improving the competitiveness of small and medium-sized enterprises and of the agricultural and fisheries and aquaculture sectors.

Investmentpriority:
3a - Promote entrepreneurship, in particular by facilitating the economic exploitation of new ideas and supporting the creation of new businesses, including through business incubators.
Specific objective:
4 - The growth of start-ups in the priority areas of the "Smart Specialization" strategy.
Desiredoutcomes:
It is intended to increase the number of start-ups exploiting new knowledge for:
- The production of products and services in emerging areas of the regional economy.
- Reorienting traditional industries with the production of high added value products through the provision of a comprehensive package of measures such as:
  - The provision of specialized services.
  - Providing space for installation and first-time operation in a business incubator.
  - Access to financial funds.
  - Granting aid.

PriorityAxis:
I - Strengthening the competitiveness, innovation and entrepreneurship of Crete.
Thematicobjective:
03 - Improving the competitiveness of small and medium-sized enterprises and of the agricultural and fisheries and aquaculture sectors.
Investmentpriority:
3c - Support the creation and expansion of advanced capabilities to develop products and services.
Specific objective:
5 - Increasing investment in areas of high added value.
Desired outcomes:

- Strengthening the position of businesses in Crete on the domestic and international markets through the implementation of investment projects that strengthen the process of producing competitive products with high added value. Businesses that promote high value added business with priority in the areas of the "Smart Specialization" regional strategy are boosted.
- Strengthening the outward-looking business with the aim of placing Crete's products on international markets.
- Companies are supported for:
  - Certification and standardization of products and processes using brand-names that highlight their quality and identity.
  - Implementation of targeted marketing actions in international markets
- Aid for export-related operations will involve aid linked to the establishment and operation of distribution networks for enterprises in third countries. The actions will mainly focus on promotional actions to stimulate business outreach (participation in fairs), advice on business support and actions to improve the competitiveness of end products / services.

PriorityAxis:
IV - Promoting Employment and adapting workers to change.
Thematicobjective:
08 - Promoting sustainable and quality employment and supporting labor mobility.
Investmentpriority:
8iii - Self-employment, entrepreneurship and the creation of new businesses, and especially innovative micro, small and medium-sized enterprises.
Specific objective:
20 - Improvement of employment in the areas of the Regional Strategy of Smart Specialization.
Desiredoutcomes:
Aid for business creation is sought in the context of Axis 1 actions, in particular in the areas of the Regional Strategy for Smart Specialization.

PriorityAxis:
IV - Promoting Employment and adapting workers to change.
Thematicobjective:
08 - Promoting sustainable and quality employment and supporting labor mobility.
Investmentpriority:
8v - Adapting workers, businesses and entrepreneurs to change.
Specific objective:
21 - Improving the skills of the workforce to support the priorities of the Regional Strategy of Smart Specialization.
Desired outcomes:
It seeks to adapt the workforce of Crete to labor market needs in priority areas of RISCrete (traditional and emerging sectors of the local economy).

3.2 The Smart Specialisation Strategy of the Region of Crete

The concept of smart specialisation suggests a strategy and a global role for every national and regional economy, including both leader and less advanced territories and promotes cooperation between the regions.

Smart specialisation is about focusing on the identification of each country/region's competitive advantages in specific market sectors or parts, getting relevant public and private stakeholders involved through a bottom-up procedure and creating a vision for the future. It emphasises on strategic priorities, implements an action plan and includes sound monitoring and Assessment mechanisms.

The concept of smart specialisation has also been promoted by the Communication Regional Policy contributing to smart growth in Europe 2020. In this document, the Commission promotes planning of national - regional research and innovation strategies for smart specialisation, as a way to receive more targeted support by the EU Structural Funds (ESIF) and as an important tool for the consolidation of synergies between Horizon 2020 and the EU Structural Funds in favour of additional growth and scientific excellence.[1]

National/regional research and innovation strategies for smart specialisation (RIS3) are integrated, place-based economic transformation strategies that are created around the following 5 axes which:

1. Focus policy support and investments on key national/regional priorities, challenges and needs for knowledge-based development, including ICT-related measures.
2. Build on each country's/region's strengths, competitive advantages and potential for excellence.
3. Support technological as well as practice-based innovation and aim to stimulate private sector investment.
4. Get stakeholders fully involved, through a bottom-up procedure which has constant entrepreneurial discovery as a key feature, and encourage innovation and experimentation.
5. Provide qualitative and quantitative evidence and include sound monitoring and assessment systems which are supported by appropriate indicators.

Priority setting within RIS3 focuses on the sectors that show potential for growth or/and specialisation of the local economy and are able to draw the interest of knowledge and research

[1] See http://ec.europa.eu/regional_policy/sources/docoffic/official/ communic/comm_en.htm and http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents

stakeholders and of the entrepreneurial world. Choosing a limited and properly evidenced number of priorities is a crucial issue for a smart specialisation strategy. These priorities should concern those sectors where an area can realistically hope to excel/advance. In addition to specific technological or sectoral priorities, it is important to pay attention to defining horizontal-type priorities, referring to the diffusion and application of Key Enabling Technologies (KETs), as well as social and organisational innovations.

The underlying rationale behind the Smart Specialisation concept is that by concentrating knowledge and linking it to a limited number of priority economic activities, countries and regions can become competitive in the global economy.

The concept of "smart specialization" is smart for two main reasons:

- Firstly, it links research and innovation with economic development in novel ways such as the entrepreneurial discovery and the setting of priorities by policy makers in close cooperation with local actors. (bottom-up process)
- Secondly, this process is carried out with an eye on the outside world, forcing regions to be ambitious but realistic about what can be achieved while linking local potential to sources of knowledge and added value chains.

The Smart Specialisation Strategy of the Region of Crete is divided in 6 Modules that form a rational planning structure:

- Module 1: Analysis of the Region's productive system and of its research and innovation potential
- Module 2: Creation of a vision and of strategic objectives for smart specialisation within the Region
- Module 3: Limited number of priorities for regional development
- Module 4: Appropriate policy mix and costed action plan
- Module 5: Proposal for the implementation of an effective and realistic governance structure for RISCrete
- Module : Incorporation of a constant monitoring and assessment mechanism for RISCrete supported by an appropriate indicator mix

3.2.1 Priorities of the Regional Smart Specialisatiion Strategy

The vision of the development plan for Crete within NSRF 2014-2020 is the following: Dynamic and Sustainable Crete. Dynamic in the sense of the presence of an integrated strategy to exit the economic crisis, with investments and enhancement of interconnections and of the export-oriented character of the Dynamic Sectors of regional economy: agri-food, cultural, touristic, environmental, knowledge-based. Sustainable as far as economy, environment and society is concerned. Sustainable in terms of economy: the aim is to achieve sustainable development based on the Region's characteristics, that is, the enduring value of culture - Cretan nutrition where there is a solid base for boosting extroversion and increased competitiveness. Sustainable in terms of environment: protection and enhancement of natural and cultural resources. Sustainable in terms of society: inclusive development combined with ways of combating poverty and support of weaker social groups.

The Smart Specialisation Strategy of the Region of Crete embraces the vision of Crete's developmental plan for the 2014-2020 period: Dynamic and Sustainable Crete because it has been planned to represent:

1. An integrated proposal for the regional economy's exit from the crisis, aiming at enhancing the potential of innovation and scientific knowledge, in an attempt to boost the competitiveness of the well-established branches and to expand the productive base of Crete towards new emerging high added value sectors.
2. A legal framework for tackling important environmental problems and challenges for Crete, in terms of sustainable development and the creation of new jobs, by enhancing the potential of innovation and scientific knowledge.

In particular, the Smart Specialisation Strategy of the Region of Crete aims at using the potential of innovation and scientific knowledge in order to:

(a) revitalise the agri-food complex so as to adapt to climate change, strengthening of export branches and promotion of the value of Cretan nutrition which is Crete's intangible cultural heritage.

(b) achieve the consolidation in the international market of a competitive cultural - tourism complex, with unique and original features

(c) reduce Crete's dependence on conventional forms of energy

(d) shift towards the sustainable use of the island's natural resources

(e) make the best of the sea's possibilities

(f) develop world-class educational and training activities for its human capital which will rely on Crete's educational web

(g) develop production activities of high added value in emerging sectors which will rely on Crete's educational web

The breakdown of the innovation system of the Region of Crete reveals the following four sector/ branch complexes which could become priorities for the Regional Smart Specialisation Strategy for Crete:

1. The agri-food complex
2. The cultural-touristic complex
3. The environmental complex and
4. The knowledge complex

In particular:

The agri-food complex is composed of activities linked to Crete's primary sector and, rearing/growing, processing/formulation and distribution/commercialisation of agricultural products which:

1. Have always contributed greatly to the gross output of Crete. These products include olive oil, vegetables and dairy products.
2. Help shape the Cretan nutrition model. These products include, apart from those mentioned above, aromatic plants, honey and wine.
3. Are included among the emerging sectors of primary production (e.g. high nutritional value seafood) As far as the agri-food complex is concerned, the Regional Smart Specialisation Strategy seeks to use scientific knowledge and innovation in order to create modern productive sectors which will produce high added value food that has high nutritional value and is internationally competitive, of high quality and safe.

3.2.2 Priorities - interventions in the agri-food complex

The developmental priorities in the agri-food sector are shaped according to the strengths of Cretan production and the guidelines of the Ministry of Rural Development and Food for rural development within the Partnership Agreement. The basic aim is to revitalise the agri-food complex, to adapt to climate change, to promote the value of Cretan nutrition and to strengthen the export sectors. In view of the above, it is imperative to shift towards high quality and branded products. The intervention should focus on well established products, olive oil, vegetables, and dairy and cheese products and on new low production products that nevertheless have high commercial exploitation potential.[2]

Research, technological development and innovation issues as well the easier access to ICT's, are specified in terms of competitiveness of the SME's of the agricultural and fishery sector. The objective is to boost knowledge-intensive and technologically advanced entrepreneurship in the agri-food sector. The agri-food complex is directly linked to environmental issues and especially to crop selection and promotion (and processing). The products should have low carbon footprint, as the typical Mediterranean crops (vine, olive tree) and livestock (sheep and goat) production do.

Employment, investment in education and lifelong learning and social inclusion may partially be oriented towards the agri-food sector's fields, to create an effective human capital able to promote the priorities of the sector.

Area of Intervention: Improving the competitiveness of food and of agricultural products of plant/ animal origin in international markets.

[2]See McKinsey (2011). Greece 10 Years Ahead - Defining Greece's new growth model and strategy. The study has identified a series of agricultural products which are produced in Crete and have significant developmentprospects.

Indicative Priorities:

1. Development and improvement of propagating material and creation of methods & technologies to verify product authenticity and to specify geographical origin.
2. Precision agriculture adopted to the country's characteristics (climate and business structure).
3. Implementation (before and after) of collection techniques that improve/ preserve the quality of agricultural products (vegetables and fruits) and development of tools for a nomenclature of their qualitative characteristics.
4. Dissemination of new cultivation practices (irrigation, use of fertilisers, crop protection) that reduce production costs.
5. Management of diseases in livestock and agricultural production 6. Development of integrated organic production and farming systems that are adapted to the island's characteristics.
6. Improvement of the reproductive capacity of animals raised in Crete (local and imported breeds).
7. Exploitation of Crete's biodiversity (creation of a genetic material database for the preservation of Cretan plant species, research in order to document, identify and use endemic plants and animals of Crete etc).
8. Use of discarded agricultural products for the production of animal feed of high nutritional value.
9. Development of smart hydroponic greenhouses with the use of KETs and ICTs.
10. Improvement of quality, durability, health and safety of foods.
11. Development and use of control and detection methods for organic, chemical and natural hazards in food.
12. Development of new food preservation techniques.
13. Development of innovative packaging technologies (active and intelligent packaging - new materials - traceability).
14. Development of new seafood products.
15. Use of modern production methods for the development, production and commercialisation of new innovative products which will be based on Cretan traditional nutrition.
16. New food products with fewer harmful nutrients and food products suitable for consumers with specific dietary habits or dietary disorders.
17. Smart supply chain systems.
18. Adoption of protocols for reducing production costs and enhancing the quality of Cretan cheese products.
19. Development of specialised markets and upgrade of local products' marketing strategy.

Area of Intervention: Understanding and Promoting the association of Cretan nutrition with health and well-being.
Indicative Priorities:

1. Development of internationally competitive pharmaceutical products and functional foods/ cosmetics that are based on the biodiversity of Crete.
2. Collection of data on the nutritional value and Health claims of Cretan traditional products.
3. Registration and promotion of Health claims on Cretan products.
4. Research on the association of Cretan nutrition with health and well-being.

Area of Intervention: Improvement of the value chain's cohesion and establishment of interconnections with other chains.
Indicative Priorities:
1. Boosting cooperation between farms and manufacturing firms.
2. Improving the interconnection between the chain of the agroalimentary complex and the other RIS3 complexes.
3. Improving the interconnection between the chain of the agroalimentary complex and Universities / Research Institutions.
4. Critical mass creation in specific parts of the value chain.

Area of Intervention: Skills development of human capital.
Indicative Priorities:
1. Development of professional knowledge and skills that support entrepreneurial activity in advanced parts of the agricultural and food processing sector.
2. Enhancement of the research skills of the human capital and easier access of businesses to them.

3.2.3 The creation of a cluster in the agri-food complex

Given the current entrepreneurial structure of the sector, the implementation of priorities requires the creation of a robust and competitive cluster with an effective administration that would coordinate the provision of services, the mobilisation of producers and SME's and encourage further networking. The existing informal clusters should constitute the basis of the new effort.

The cluster's main objective is to enhance innovation and entrepreneurship, to coordinate and boost a sector which has an international comparative advantage, through the use of scientific knowledge and state-of-the-art technologies supplied by research and educational institutions of Crete, in order to manufacture new products and provide new services of high quality and increased added value.

At the same time, the object will be to develop strong international collaborations through the active participation in selected European projects. This objective will be pursued in the context of extroversion, exchange of best practices and promotion of collaborations with similar international initiatives in the fields of open innovation, clusters, innovation centres, regional development policies and smart specialization strategies.

In particular, the cluster will exploit all initiatives that have been developed to this day aiming at:

- Helping Crete become the Silicon Valley of Mediterranean biodiversity and nutrition by highlighting the characteristics and the image of Cretan nutrition and by creating new food products through the development of a powerful research technical support network which would rely on the potential of the regional R&D complex.
- Creating a traditional products and recipes atlas (information and specifications of quality, production, tradition, connection to current cultural elements and the Minoan civilisation) that would eventually lead to the publication of a quality-plus Quality Charter of local high-quality products of the Region.
- Supporting the creation of versatile farms with local varieties that use processing methods based on traditional elements and on state-of-the-art scientific knowledge. These farms will be knowledge and labour intensive and will be open to the public offering guided tours. At the same time, they will inform visitors on the agricultural tradition of Crete since the Minoan era and will provide them with recreation opportunities.
- Supporting the creation of a network of mentors for the farmer and of people who receive training on farming and agricultural products' processing. The mentors would operate as rural angels along the line of business angels. This mechanism could be combined with an agronetcafé system for the connection of the farmers' offices to the rural portal of the Region of Crete.
- Enhancing the local production's brand name and establishing a reliable programme for the promotion of agricultural products and services to the international markets. At the same time, the cluster will promote interconnectivity between local products and their countries of destination.
- Establishing a closer connection of the agri-food complex to Tourism and Crete's cultural values, through the enhancement of the Cretan Nutrition Local Pact, in order for this element to be visible on the FACADE of Tourist Destinations of Crete and to inform visitors. Enrichment of Cretan nutrition with Minoan cultural elements, folk elements and their legends. Embracing Greek Breakfast on behalf of the Tourism Enterprises of the Region.

In order for the cluster to meet its objectives, it will encourage the creation of platforms for scientific, technological and financial support and of other networking tools, it will support collective training actions and it will contribute in the upgrading of the entrepreneurial environment of the sector.

Chapter 4: Overview of the current situation

Part 1: The current situation in the agri-food sector in Crete

4.1 The current situation of the primary sector in Crete, relative to the other Regions of Greece

In this part of the Action Plan we present recent indicators and statistical data for the current situation in the primary sector of Crete.

Main indicators for agriculture

Eurostat offers some aggregate data for 2014. The data is available at "Analysis of NICHE-specific Macro- and Micro- Economic Data from 7 selected European Regions".
According to the Annual values of 2014 of Eurostat, Crete's share is 10.2% on the national agricultural gross value added. Moreover, Crete's share of total regional gross value added from agriculture is 6.6%.[3]
Regarding the relative weight of Crete, its shares in Greece are the following:
12.5% of the total country's utilized agricultural area (hectare)
12.5% Number of farms
11.5% Labour Force directly employed (annual working units)
8.3% Agricultural Input (€ million)
10.2% Agricultural Gross Value Added (€ million)
Agricultural Output (€ million):
Crop: 9.7%
Animal: 34.3%
Services: 9.7%
Total: 9.4%

Moreover, according to the Hellenic Statistical Authority (ELSTAT), regarding the results of the Farm Structure Survey of the year 2016, there is a decrease at Country level, compared with 2013, both in the total number of holdings and the utilised agricultural area (UAA). More specifically, areas under vineyards, annual crops, "other" areas, as well as irrigated areas decreased, whereas a slight increase was observed in areas under tree crops. Furthermore, in 2016 compared with 2013, a decrease is observed in the total number of livestock holdings for all animal categories. A decrease was recorded in the number of heads for sheep and goats, an increase for pigs and poultry, while no change was actually recorded for bovine animals. As regards employment, in 2016 an increase was recorded in paid labour schemes (permanent and seasonal workers) compared with 2013, while a decrease was observed in family and other

[3] These shares are excluding Fishery and Forestry.

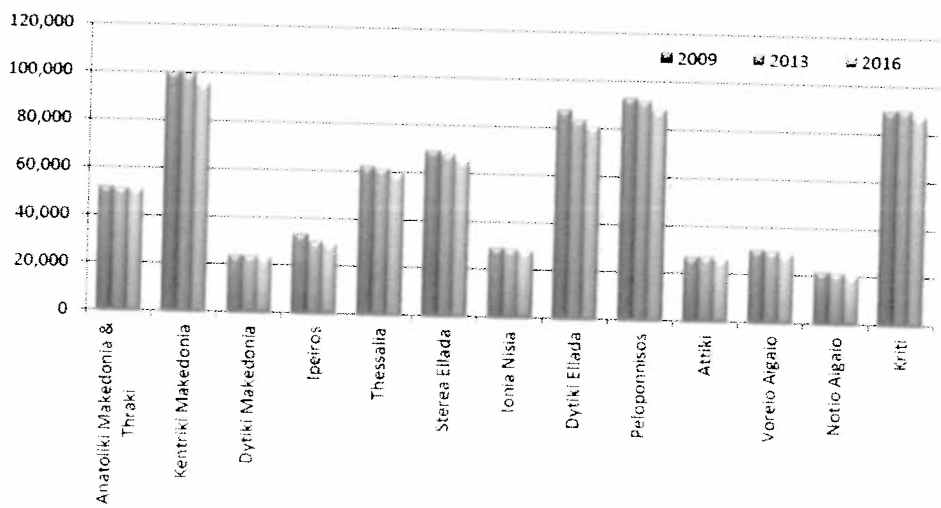
forms of labour. It should be noted that family labour force accounts for the majority of the work days in agriculture.

Number of holdings and utilised agricultural area (UAA)

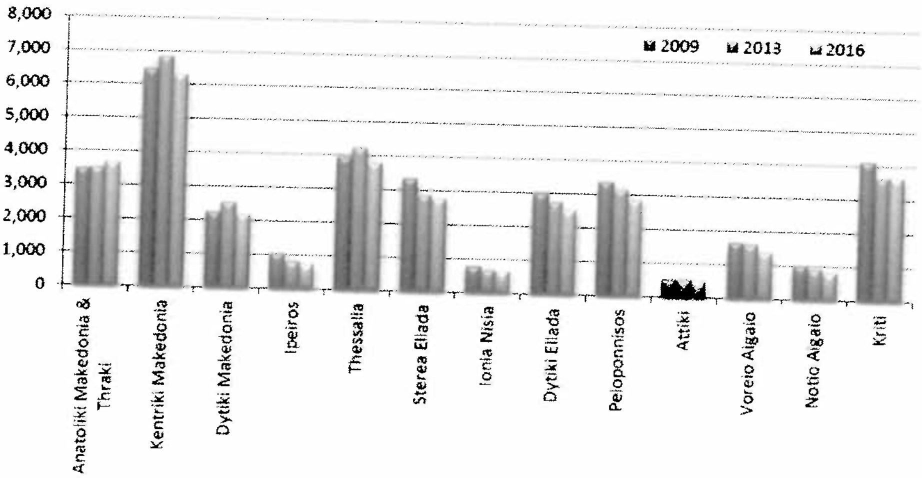
In 2016 compared with 2013, at Country level, a 3.5% decrease is observed both in the total number of holdings and in the number of holdings with utilised agricultural area (UAA). More specifically, the number of holdings was 684,902 in 2016 and 709,449 in 2013, whereas the holdings with UAA amounted to 678,702 in 2016 and 703,535 in 2013.

The UAA, at Country level, decreased by 6.8% in 2016 in comparison with 2013. More specifically, the total utilised area amounted to 31,526 thousand stremmas (1 stremma = 0.1 ha) in 2016 and 33,815 thousand stremmas in 2013. In 2016 the biggest number of holdings with UAA is recorded in Kentriki Makedonia (95,187), followed by Peloponnisos (88,221) and Kriti (86,961), while the largest areas are recorded in Kentriki Makedonia (6,289 thousand stremmas), followed by Thessalia (3,756 thousand stremmas) and Kriti (3,641 thousand stremmas).

Graph 1: Numbers of holdings with utilised agricultural area, by NUTS 2 Region
2009 Agricultural – Livestock Census and 2013 and 2016 Farm Structure Surveys



Graph 2: Utilised agricultural area, by region
2009 Agricultural – Livestock Census and 2013 and 2016 Farm Structure Surveys



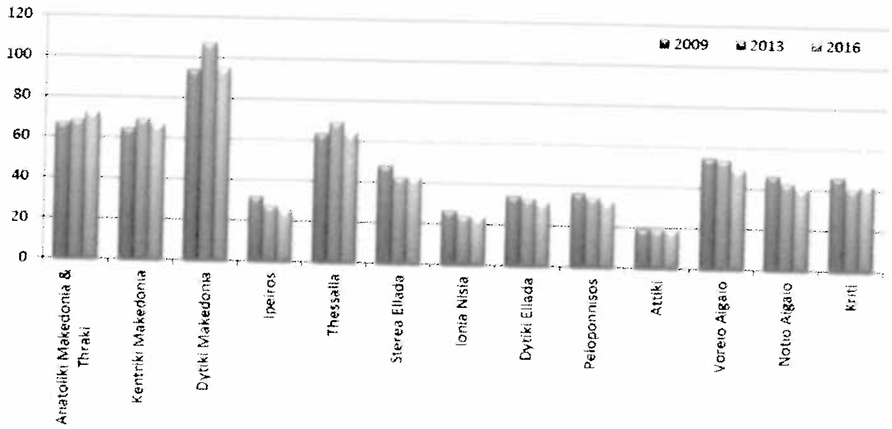
It should be noted that in 2016 compared with 2013, as regards the number of holdings with UAA per region, the biggest decrease is observed in Voreio Aigaio (5.9%), Notio Aigaio (4.6%), Kentriki Makedonia (4.1%) and Peloponnisos (4.1%). In 2013 compared to 2009, the biggest decrease was observed in Ipeiros (9.4%) and Dytiki Ellada (4.5%), whereas an increase was observed only in Attiki (0.8%) and Kriti (0.4%)

With respect to the UAA per region, in 2016 compared with 2013, the biggest decrease is observed in Dytiki Makedonia (14.9%) and Voreio Aigaio (14.0%), while an increase is recorded in Anatoliki Makedonia and Thraki (4.3%) and Kriti (0.7%).

The average UAA per holding presents a decrease (3.3%) in 2016 in comparison with 2013. More specifically, in 2016 the average UAA amounted to 46.45 stremmas per holding, while in 2013 to 48.06 stremmas. The largest average UAA per holding in 2016 is found in Dytiki Makedonia (94.43 stremmas), while the smallest average UAA per holding is recorded in Attiki (18.51 stremmas).

Graph 3: Average utilised agricultural area of holdings, by NUTS 2 Region

2009 Agricultural – Livestock Census and 2013 and 2016 Farm Structure Surveys



Production type of the holdings

As regards the production type of the holdings, in 2016, 82.2% of the holdings were agricultural, 15.4% are mixed and 2.4% are livestock farms, whereas in 2013, 81.1% of the holdings were agricultural, 16.3% were mixed and 2.6% were livestock farms. More specifically, in 2016, there were 562,965 agricultural holdings with 20,973 thousand stremmas of UAA, 105,709 mixed holdings with 9,886 thousand stremmas of UAA and 16,227 livestock holdings with 666 thousand stremmas of UAA. In 2016 in comparison with 2013, the number of mixed holdings recorded a decrease of 8.4%, agricultural holdings decreased by 2.2% and so did livestock holdings by 12.1%.

With regard to the UAA of the above holdings, in 2016 compared with 2013, the UAA of mixed holdings decreased by 15.7%, the UAA of the agricultural holdings increased by 0.3% and the UAA of the livestock holdings decreased by 43.8%.

Land use

Available survey data on the distribution of the UAA by basic categories of land use indicate that in 2016 compared with 2013, at Country level, the number of holdings with annual crops decreased by 5.2%, with vineyards (grapes and raisins) by 5.1%, with areas under trees by 1.0%, and with "other" areas by 5.0%.

It is observed that in 2016 the largest areas under annual crops are located in Kentriki Makedonia (4,979 thousand stremmas), followed by Anatoliki Makedonia and Thraki (3,062 thousand stremmas) and Thessalia (2,883 thousand stremmas). The largest areas under vineyards (grapes and raisins) are found in Peloponnisos (168 thousand stremmas), followed by Kriti (123 thousand stremmas) and Dytiki Ellada (118 thousand stremmas). The largest areas under trees are found in Peloponnisos (2,064 thousand stremmas), followed by Kriti (1,484 thousand stremmas) and Kentriki Makedonia (978 thousand stremmas). Furthermore, in 2016, the areas under annual crops accounted for 51.9% of the UAA, the areas under trees for 27.0%, vineyards for 2.3% and the "other" areas for 18.8% of the UAA.

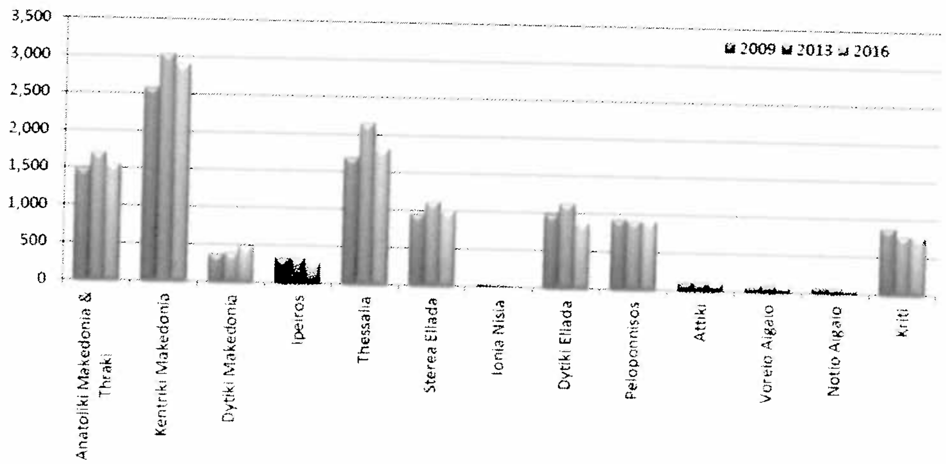
Irrigation

The irrigated UAA in 2016, compared with 2013, recorded a decrease of 8.7%. In 2016 compared with 2013, the number of holdings with irrigated land decreased by 12.8%. More specifically, in 2016 the total irrigated land of the Country amounted to 10,749 thousand stremmas, representing 50.6% of the total UAA, excluding rough grazing land, while in 2013 it amounted to 11,779 thousand stremmas, representing 50% of the corresponding total UAA

According to Graph 4, in 2016, most of the irrigated areas are located in Kentriki Makedonia (2,886 thousand stremmas), followed by Thessalia (1,800 thousand stremmas) and Anatoliki Makedonia and Thraki (1,538 thousand stremmas).

Graph 4: Holdings with irrigated areas, by NUTS 2 Region

2009 Agricultural – Livestock Census and 2013 and 2016 Farm Structure Surveys



Livestock capital

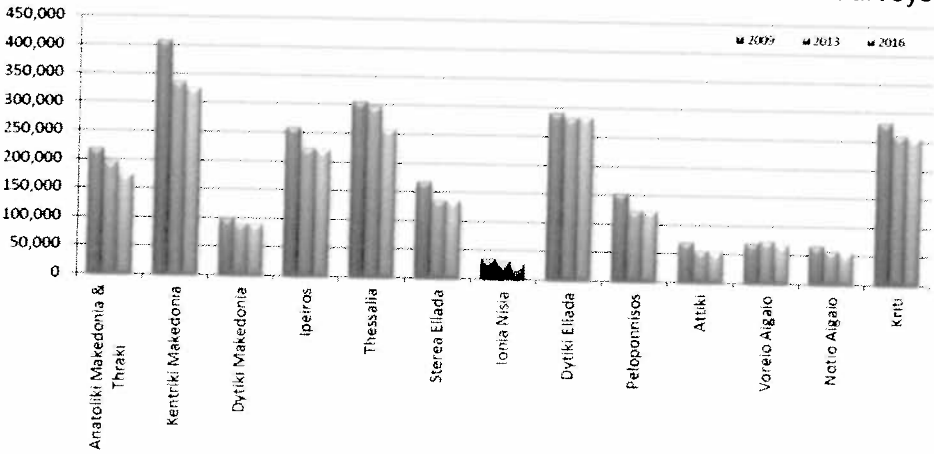
In 2016 compared with 2013, number of holdings with cattle decreased by 7.5%, with sheep by 8.9%, with goats by 6.2%, with pigs by 5.9% and with poultry by 6.6%, while in 2013 compared with 2009, the number of holdings with cattle decreased by 4.7%, with goats by 4.6%, with pigs by 2.0% and with poultry by 12.1%, while the number of holdings with sheep increased by 2.7% (Table 8b - Annex).

As regards the number of animals, comparing 2016 with 2013, a decrease of 5.3% and 3.1% is observed in sheep and goats, respectively, an increase of 0.2% and 9.0% in pigs and poultry, respectively, while the number of cattle remains practically the same.

Available survey data on the number of animals by region indicate that Kentriki Makedonia remains one of the largest livestock regions of the Country, with all categories of animals. The largest number of cattle is recorded in Kentriki Makedonia (168,859). The largest population of sheep (1,741,529) and goats (509,514) was recorded in Kriti. Finally, Dytiki Ellada is at the top of the list as regards the number of pigs (139,980) and Ipeiros as regards poultry (9,829,539).

According to Graph 5, in 2016, the largest number of livestock units is recorded in Kentriki Makedonia (324,670), followed by Dytiki Ellada (282,414) and Thessalia (256,606). The smallest number of livestock units is recorded in Attiki, Voreio Aigaio, Notio Aigaio and Ionia Nisia.

Graph 5: Distribution of livestock units, by NUTS 2 Region
2009 Agricultural – Livestock Census and 2013 and 2016 Farm Structure Surveys



In 2016 compared with 2013, at Country level, a decrease of 6.9% is recorded in the number of holdings and a 4.3% decrease in the number of livestock units, whereas in 2013 compared with 2009, a decrease of 6.2% is recorded in the number of holdings and an 11.0% decrease in the number of livestock units. Between 2013 and 2016, the largest decrease is observed for Ionia Nisia (21.5%) followed by Anatoliki Makedonia and Thraki (19.8%) and Peloponnisos (15.5%), whereas Dytiki Ellada and Kriti present an increase (4.8% and 3.7%, respectively).

Employment in agriculture

In 2016 compared with 2013, at Country level, a decrease is recorded in the number of family labour force, as well as in the seasonal workers, while an increase is observed in the number of permanent workers (regularly employed) and the other forms of labour (mutual assistance and piece rate work). Specifically, the number of owners and their household members who worked in the holding decreased by 4.1% and seasonal workers also decreased, slightly, by 0.4%, The number of permanent workers increased by 35.2% and that of “other workers” (mutual assistance and piece rate work) increased by 2.5%.

Regarding the country level analysis on average, as regards the number of work-days, and comparing 2016 with 2013, the work-days of owners and household members decreased by 7.3% and that of “other workers” by 3.9%. On the contrary, the work-days of permanent workers increased by 43.5% and of seasonal workers by 7.6%.

At the In 2016, the family labour force represents 40.5% of the total labour force in agriculture. Seasonal workers accounted for 30.9% of the total, “other workers” for 27.4% and permanent workers for 1.2%. Furthermore in 2016, the family labour force held 82.3% of the total number of work-days in agriculture, while the work-days of seasonal workers accounted for

10.2%, the work-days of permanent workers for 5.6% and of the other employees for 1.8% of the total number of work-days. As regards the labour scheme of the family labour force, in 2016, 880,277 out of 1,168,324 (75.3%) owners and household members are employed exclusively in agriculture, 24,940 persons (2.1%) are employed mainly in agriculture and 263,107 persons (22.5%) are secondarily employed in agriculture. In 2016 compared with 2013, the family labour force employed exclusively and mainly in agriculture decreased by 6.2% and 37.5%, respectively, while the family labour force employed secondarily in agriculture increased by 9.7%.

4.2 The SWOT analysis of the primary sector of Crete

SWOT analysis is a tool for strategic planning used to analyze the Strengths and Weaknesses of the Intervention Area under consideration, as well as the Opportunities and Threats that exist. In the current study, the assessment of the current situation is carried out by using the SWOT analysis tool for the intervention area.

4.2.2 Strenghts

The strenghts of the primary sector of Crete are presented below:

- Particularly favorable production conditions due to the mild climate, the terrain and ecosystems of the island
- Rich natural resources and biodiversity
- Increase in utilized agricultural area between 2000 and 2010 by 3.6% (11.8% of the country's total UAA)
- Central geographical location of Crete in the Mediterranean
- Easy access (international airport, ports)
- Advantage in the recognition of the Cretan dietary pattern
- Products of high nutritional value
- Large consumption of local agricultural products by consumers
- High global demand for quality agricultural products that does not seem to be affected by the economic crisis
- Significant contribution of agricultural products to exports
- Major production in olive oil, grapes, vegetables and cheese products
- High production differentiation and uniqueness in some products
- The area in organic farming and the number of growers steadily increase
- Operation of universities and research institutes that are a factor of growth in the primary sector (7 innovation and training infrastructures and 3 rural development infrastructures in Crete)
- A significant number of Geographical Indication Products (PDO and PGI)
- Favorable conditions for additional employment of young people in the agricultural sector

- From 2008 onwards the number of people occupied in the sector remains over 45,000 people
- Numerous (untapped) workforce - graduates of technical and university schools
- In a country level, it maintains high employment rates in the primary sector and high participation of the primary sector in the total GDP of the country compared to the other countries of the European Union
- Know-how in wine marketing, with organized producers
- Existence of rich aromatic flora that contributes to the quality of beekeeping products
- Growth trend of low-input agriculture in the region and across the country and reduction of greenhouse gas emissions
- High level of sectoral specialization in the horticultural sector, on a pan-European scale
- Familiarization of the rural areas of the region with the Integrated Local Development Programs
- Implementation of investment projects in the primary sector (livestock farming)
- Exploitation of mountainous and less-favored areas for livestock production
- Significant margins for competitiveness in meat production
- Livestock raising trend for sheep, cattle and pigs
- Large coastline of Crete that favors the proper development of fishing and marine cultivation
- Large biodiversity of marine species and organisms and therefore a wide variety of harvests of fish

4.2.3 Weaknesses

The weaknesses of the primary sector of Crete are presented below:

- High production costs and low labor productivity
- Small size of farms and businesses
- Significant import volume resulting in a negative trade balance
- Lack of liquidity and bank lending
- Weak cooperation between local producers
- An unequal relationship between plant and animal production
- Fragmentation of properties and special soil relief which in many cases increases the energy costs of cultivation processes
- Dependence of farm income on CAP direct payments which until recently have been decoupled from cultivation
- Problematic demographic composition of rural areas
- Incomplete transporation and communications infrastructure in remote and sparsely populated areas
- Inter-regional inequalities which are intensifying due to insularity
- Low degree of processing and organization of marketing of agricultural products - lack of adequate network for promotion and distribution of agricultural products

- The percentage of farmers over the age of 55 is quite high (close to the European average)
- Crop percentage of farmers without formal training
- Lack of lifelong learning and vocational training in agriculture
- Low percentage of qualified young farmers (relative to the EU average 27)
- Lack of standard facilities (crops, livestock, processing, etc.) with the aim of demonstrating good agricultural and animal husbandry practices
- Inadequate control and implementation of quality production rules (especially in geographical indications)
- Low degree of integration of innovation at local and national level
- Insufficient synergies to integrate innovation and promote knowledge in rural development
- High consumption and significant losses of irrigation water
- No mechanisms for linking local products to the tourist market
- Incomplete information on the new CAP and technical support to producers
- Problems of certification of agricultural and livestock production
- Old fleet and uncontrolled fishing conditions
- Old-age and low-education fishermen, who are not organized

4.2.4 Opportunities

The opportunities of the primary sector of Crete are presented below:

- Excellent Renewable Energy Sources
- Large amounts of open-air crops and horticulture (biomass) are available for energy production
- Emerging return of young people to agriculture
- High demand for quality agricultural products and high margins for market expansion
- Consumer preference for highly nutritional products, organic products and sensitivity to environmental protection and food safety
- Consumers' belief in local products
- Institutional framework for the adoption of quality systems on the farm and creation of a register of certified holdings and businesses
- Utilization of new technologies (irrigation systems, traceability, e-commerce, etc.) for the benefit of productivity and market needs
- Expression of interest for entrepreneurial activity in the primary sector, as a professional alternative
- Strengthening exports of products of animal and plant origin already growing at regional level
- Ability to work in the primary sector throughout the year
- Exploitation of educational structures and certified training structures to upgrade the knowledge and skills of human resources
- Positive impacts of the agricultural sector on other sectors (processing, tourism) - possibility of interconnection with alternative forms of tourism (gastronomic tourism)

- Diversity and focus on product strategy and marketing
- Using new technologies for promoting, advertising and marketing products
- Deepening Euro-Mediterranean cooperation in production practices
- Focus on innovation promoted under the new 2014-2020 programming period and EU additional aid for innovation partnerships between research centers, universities, farmers, producer groups and processors
- A significant proportion of agricultural land in protected areas and areas with environmental restrictions (Natura 2000), where agriculture and livestock farming is moderate, leading to the production of certified organic farming and livestock products
- Significant margins of competitiveness in meat products and certification of livestock production
- Maintaining population in island and coastal areas (mainly frontier), engaged in maritime activities.
- Considerable scope for fish farming development
- The apparent increase in consumption of fishery products through the change in dietary habits
- Interaction with the tourism sector in coastal fishing areas and the strengthening of fishing tourism activities

4.2.5 Threats

The threats of the primary sector of Crete are presented below:

- Economic recession which has an impact on all sectors of economic activity, employment and demand
- Reduced per capita consumption due to reduced income
- High fuel prices and input cost volatility
- Increasing competition from low-cost third countries as well as from neighboring countries (such as Turkey)
- Liberalization of markets and lack of competitiveness on basic export products
- Reduction of aid as provided for in the new CAP
- Difficulties in expanding and modernizing many viable farms and failing to achieve economies of scale
- Lack of state agencies and services, lack of coordinated policies towards integrated development of the agricultural sector
- Absence of social capital and lack of trust in the development of partnerships and networking
- Difficulty in implementing research results at a business level
- Risk of degradation of mountainous and less-favored areas and possible aggravation of demographic aging
- Adverse effects of climate change

- Concentration of a large number of coastal economic activities affecting the marine environment - risk of a reduction in some fish stocks due to climate change / fishing pressure / pollution of coastal areas from domestic and industrial waste water.
- Further population aging of residents / workers in the fisheries sector
- Increased competition in the international environment and from amateur fishing

4.3 Identification of needs - critical development issues

The previous analysis of the primary sector in the Region of Crete highlights both its role and its importance in the local economy, with multiple benefits but at the same time major structural problems. It is true that agriculture and livestock farming continue to be a key area of productive activity, despite the decline in its contribution to the island's total gross added value. Moreover, as mentioned above, the trade balance of agricultural products is negative, while the primary sector is characterized as labor intensive with low added value, non-specialized knowledge and obsolete practices. However, its role in social cohesion, the environment, culture and the economy is indisputable.

The dominant feature and primary factor in shaping the this sector in the economy is the degree of competitiveness, which is low. The consequence of low competitiveness is manifested at relatively higher prices than imported products, in relation to demand, import-export balance and producer incomes. The parameters that determine low productivity and competitiveness are mainly found in the following:

- The sovereignty of family-owned farms and holdings in relation to business forms of management.
- The weaknesses of agricultural cooperatives to cope with the increased demands of domestic and international competition and to play a decisive role in the marketing and distribution of products.
- High production costs in both agriculture and livestock.
- The low educational level of people occupied in the sector.
- The low percentage of trained farmers, the lack of advisory structures, and farmers' lack of information / information initiatives, which would have contributed to the shift to organic farming, rational resource management, environmental protection and, in general, differentiation.

The second important feature is the structure of production, ie the relation between plant / animal production. The imbalance in this relation continues to exist, with adverse effects on added value, agricultural income and, in particular, the trade balance.

In this context, the strategic developmental objectives for the primary sector of Crete are structured in 4 axes:

1. Increase competitiveness through:

- Reduction of production and disposal costs
- Improve and maintain quality, hygiene and safety

- Partnerships and collectivity
- Turning supply into products and selling methods that meet demand
- Reversing the drifting trends
- Strengthening the technical infrastructure of the primary sector
- Implementing innovative practices and supporting innovation
- Reversing the relationship between plant and animal production
- Organized and systematic projection, with integrated programs based on creating a strong image for Cretan products.

2. **Protection and conservation of the natural environment through:**
    - Rational management of water resources
    - Rational use of chemical inputs
    - Application of environmentally friendly, cultivation methods and livestock farming
    - Combating overgrazing and rational management - improving pastures
    - Identifying and viewing the natural environment.
3. **Development of human resources through:**
    - Improving the age composition of the rural population
    - Training in primary skills
    - Improving the level - volume of technical support and advisory services
    - Raising awareness of the rural - mountainous population.
4. **Integrated Rural Development through:**
    - Improving the quality of life in rural areas through economic, social and cultural upgrading
    - Development of secondary and tertiary sector activities
    - Training in secondary and tertiary production skills
    - Strengthening technical infrastructure
    - Mitigation of inequalities at the level of microregions (peripheral units)
    - Encouraging - facilitating the entry of women into the labor market
    - Strengthening the relations of rural areas with urban centers and developed tourist areas.

Part 2: Field Research Conclusions

The conclusions of the field research outline the findings regarding the detection of the feasibility and the content of the Action Plan which will be developed as part of the NICHE project – "Building innovative food value chains in regions". The survey addressed businesses in the Region of Crete that operate in the food value chain and its purpose was to investigate the extent to which innovation is applied to these businesses as well as the necessity for the establishment and operation of a Business Support Center.

The questionnaire included closed-ended questions, multiple choice questions, and degree of appreciation questions (excellent, too, etc.). The questionnaires answered were 100, a sample which came from sending questionnaires via email to selected businesses. In addition, to complete the desired number of questionnaires, a survey was also conducted by telephone on the sample companies. Overall, the questionnaires sent via e-mail were 285 and the telephone contacts used in the survey were over 500.
The majority of the companies (43%) that participated in the survey stated that they produce, process or trade olive oil and olive products. In addition, 32% of the companies were wineries and the 11% trade sweets, pastries etc. It is also noted that the majority of enterprises are not certified with the "Crete" trademark, and the activity outside the borders of Crete is also limited. Emphasis is also put on developing strategies for introducing new products and low pricing.

Concerning the application of innovation, it is clear from the elaboration of the questionnaires that during the years 2015 - 2017 the majority of enterprises did not introduce some kind of innovation in its activities.

More specifically, regarding product innovations (goods or services), 78% of respondents answered negatively to the corresponding question, while only 22% gave a positive answer. Product innovations, when implemented, were mostly developed by the companies themselves. In addition, the innovations that introduced were new only for the company that implemented them, and they did not constitute an innovation for the whole of the market in which

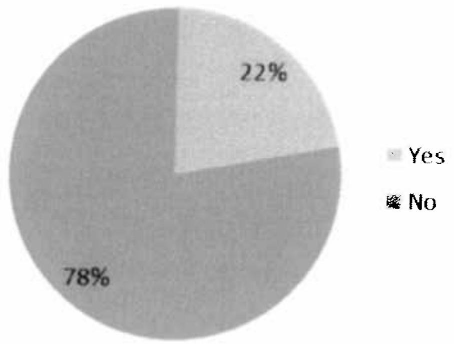
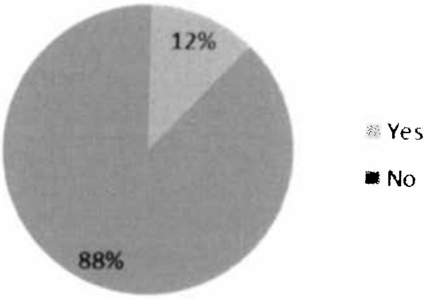


Chart 1: Product innovation rates.

they operate.



The same trend is observed for process innovations for which 88% of respondents answered negatively to the question whether between the years 2015-2017 a process innovation was applied to the enterprise. A small percentage (12%) responded positively. The process innovations applied again, by the companies themselves.

Chart 2: Process innovation rates

With regard to the innovative activities that the companies implement, it is noted, the majority of them is related to the purchase of machinery, equipment, software, and buildings. These innovative activities aim at the production of new or significantly improved products or processes. The second most common innovative activity is the staff training which aims to the development and introduction of new or significantly improved products or processes. Consequently, it appears that the largest amount of financial resources in 2017, was spent by the companies on the purchase of machinery, software and building equipment, while enterprises claim that they estimate that the costs for innovative activities in 2018, compared to 2017, will remain the same. The year 2019, the companies that participated in the field research, said that they expect to increase the level of innovation that they implement by spending more money for innovation activities.

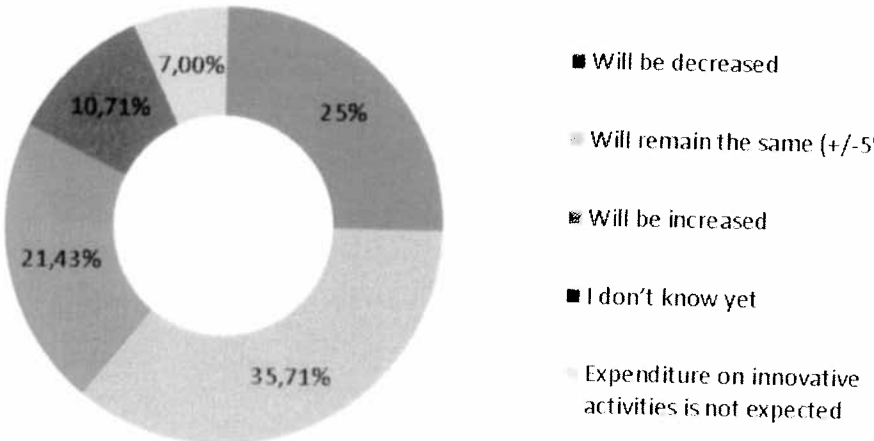


Chart 3: Expenditures on innovation for 2018 compared to 2017

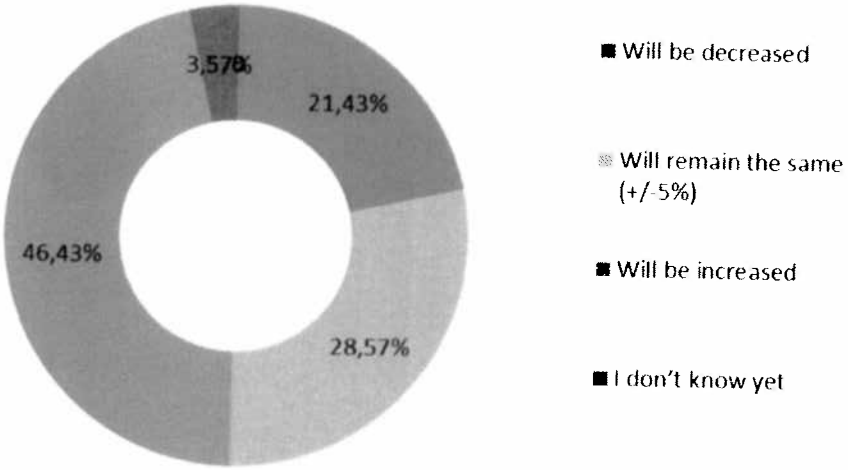


Chart 4: Expenditures on innovation for 2019 compared to 2018.

One of the main objectives of the field research was to derive an overview of the extent to which companies enter into collaborations to develop innovative activities, and furthermore, what are their sources of information on new products, services and procedures that they can adopt and implement. Data processing shows, that the main and most important sources of information, are the conferences and in which companies take part, as well as their suppliers. However, it is noted that there is not a large proportion of companies that enter into partnerships with other companies or organizations to develop innovations.

In the question, whether enterprises received any public financial support for the implementation of innovative activities, the majority of the responses were negative, while companies that received public financial support stated that this was mainly provided through NSRF, ministries and other general government agencies. It was noticed that none of the innovative activities that were finally introduced was the result of collaboration with Universities, TEIs or Research Centers.

Marketing innovations were implemented by 31% of businesses, while 69% responded negatively. At this point, the smallest deviation between the positive and the negative percentages is observed, which suggests that the companies operating in the food value chain pay particular attention to this area. Marketing innovations consist primarily of aesthetic changes and new promotion media or techniques.

It is interesting to mention that during 2015-2017, only 7% of the firms responded to the questionnaire, reported that collaborated with other businesses or organizations for innovation activities. Moreover, none of the innovative activities that were finally introduced was the result of collaboration with Universities or Research Centers.

The main factors that are an obstacle for enterprises in implementing innovative activities are:

- Lack of private funds for innovation
- High innovation costs
- Lack of qualified staff in their business

Moreover, in order to investigate the necessity of implementing a business support center for enterprises in the food value chain in the Region of Crete, as well as the interest of enterprises in the actions that this will provide, the participants in the research were asked to evaluate a series of indicative actions. The actions that scored the highest in the evaluation, indicating the companies' interest in their implementation, are the following:

- Information on international trends in new or significantly improved food products (product innovations)
- Information on international trends in new materials, technologies, and processes of production, maintenance, standardization and distribution of food (process innovations)
- Organization of participation in conferences and trade fairs in Greece and abroad
- Training of staff specifically for the development and/or introduction of new or significantly improved products and processes (eg export methods, marketing, preparation for participation in exhibitions, etc.)

Regarding the question whether companies are willing to spend an amount of money to get some of the services of the business support center (rated as important, very important and extremely important), the majority of companies have replied that it is unable to predict the exact amount of money and that this will be evaluated as soon as the services are provided. These services will be evaluated in terms of their content and according to the needs of the company at the time, it will be decided whether there is a possibility to spend a sum of money, as well as the exact amount. It is noticed that companies are lagging in developing new innovations in their products, services and communication policy, and, where these innovations are developed, are adopting existing innovations that have been applied by competing businesses first.

In summary, there is need to promote valuable local products that are of high quality and value that, as it turns out, could be significant through technical innovation services that SMEs cannot support by themselves solely. The Business Support Center, according to the respondents' replies, will be a positive element for business networking as well as the exchange of experiences and good practices by providing the necessary resources for the development of innovation in the value chain of businesses in Crete. The actions to be planned and implemented will have as their primary objective the promotion of small-medium enterprises in the food value chain as well as the integration of innovation into the companies' philosophy. By presenting the benefits of adopting innovative activities and guiding companies in this direction, what will ultimately be achieved by the Business Support Center, will be to help to increase the competitiveness and efficiency of local businesses.

Such actions certainly do not only have a positive impact on the directly concerned businesses but, also, on the island's economy, which benefits from the existence of sustainable businesses that have the potential to contribute economically and socially to a wider context.

Finally, as far as the evaluation of the questionnaire is concerned, the companies that answered these questions stated in their majority that it took 20 minutes to complete it and its overall understanding was considered satisfactory.

Part 3: Trends in the EU agri-food industry

Below are summarized current trends in the EU agri-food industry. These trends highlight emerging opportunities for innovation related in products and processes within the relevant markets.

Key Messages:[4]

The main developments in the last 20 years that have had and probably will have positive and/or negative impacts on the competitiveness of the EU agri-food supply chains on international and domestic markets are:

- Diet changes (because of rising incomes in developing countries and growing urban population) towards higher-valued food products are likely to favour the EU's well developed food processing industry, but might lead to import substitution through the expansion of food processing capacities in emerging countries and thus to new competitors (especially from the BRICS).
- New technologies and an increasing level of technology and mechanization in agricultural production are likely to benefit the EU's food supply chain due to its relatively good accessibility to necessary capital. Considering this trend, agricultural employment is expected to further decrease, especially in developed countries.
- Growing price volatility may enhance the relative competitiveness of the EU, since EU producers and consumers might be less affected by an increase in the price risk of agricultural production, since they have better access to bank loans than competitors from developing countries.
- Expansion of private food standards in combination with R&D, fostering the diversification of food products, allows enterprises, with the essential research and quality control infrastructure as well as the necessary amount of market power (main-ly large EU and US conglomerates), to create global brands and use branding to in-crease their value added.
- Proliferation of public food quality standards and safety regulations like the EU quality schemes, e.g. PDO/PGI certification, are most likely to create import barriers and restricted niche markets with high and sometimes unrealizable food quality requirements for foreign competitors, thus favouring domestic (EU) and local enterprises.
- Public demand for traceability and transparency across the supply chain might in-crease the competitiveness of the EU due to good institutional as well as infrastructural conditions for effective logistics and tighter vertical integration and co-ordination.

[4] These stylized facts have been aggregated form the COMPETE project and are available at http://www.compete-project.eu/publications.html

- Higher openness of agri-food markets due to trade liberalization will probably in-crease agricultural exports from competitive EU enterprises, but might lead to domes-tic market share losses for uncompetitive EU food companies to non-EU players (especially from the BRICS).
- Increasing demand of consumers for organic food products might favour competitors from developing countries, since the production is less technology based and more cost-saving for them, allowing them to increase their exports on the European Single Market, if they are able to meet the quality requirements and have reasonable trade access.

Innovation in agri-food supply chains

According to OECD, innovation is the implementation [i.e. the introduction on the market and the consequent actual economic use] of a new [to the firm] or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. Innovation activities are then all scientific, technological, organizational, financial and commercial steps which actually lead to, or are intended to lead to, the implementation of innovations. Some innovation activities are themselves innovative, others are not novel activities but are necessary for the implementation of innovations. Innovation activities also include R&D that is not directly related to the development of a specific innovation.[5]

When it comes to defining innovation, the most common and well established definitions regard exclusively process and product innovations. A product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics. A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

New information and new approaches to collecting data suggest the emergence and relevance of extending this narrow definition of innovations to include also marketing and organizational innovations.

First, a marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing:

- Product design: e.g. changes in product form and appearance, taste and flavour of food and beverage products;
- Product placement: e.g. new sales channels such as franchising or exclusive retailing;

[5]OECD, 2005. Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data. OECD/EuropeanCommunities

- Product promotion: e.g. different media, techniques, personalized information systems;
- Pricing: e.g. pricing strategies following the products' demand.

Marketing innovations can improve the success of new products as well as market research, and contacts with customers can play a crucial role in product and process development through demand-led innovation.

Second, an organizational innovation includes the implementation of a new organizational method in a firm's business practices, workplace organization or external relations.

Innovation studies that focus on the primary sector in general and the agri-food in particular include relatively little empirical evidence.[6] With the aim of exploring to what extent innovation activities take place also in the agri-food sector and how this influences competitiveness, it becomes necessary to define innovation in this domain.
When defining innovation in the agri-food domain different dimensions should be dealt with. In addition to the types of innovations included in the OECD definition (product, process, market and organizational innovations), innovations in the agri-food sector also include new types of fodder, new feeding systems, new types of packaging, new types of conservation, new additives, new flavours, new consumer products introduced continuously on the market, and new types of logistics. Therefore, innovation in the agri-food sector is not necessarily easily incorporated in the traditional, manufacturing-oriented conceptual and empirical classification of innovation.

Furthermore, typical characteristics of agricultural and food products such as their nutritional benefits and perishability, have consequences for the focus in particular of productinnovation and organizational innovations. The quality of inputs from agriculture is crucial for food products, which makes vertical integration with farmers and sometimes also with breeding companies important for the innovation process.[7]

The innovation process itself differs greatly from sector to sector in terms of development, rate of technological change, linkages and access to knowledge, organizational structures and institutional factors. Also within the agri-food industry, differences among sectors reveal heterogeneity in the way innovation is adopted and used.

Drivers of innovation in the agri-food sector

[6] Christensen, J.L., Dahl, M.S., Eliasen, S.Q., Nielsen, R.N., Østergaard, C.R., 2008. Innovation in Agriculture, Forest and Fishery : knowledge sourcing and innovative capabilities, DRUID 25th celebration conference on entrepreneurship and innovation. CBS, Copenhagen.
[7] Grunert, K.G., Harmsen, H., Meulenberg, M., Kuiper, E., Ottowitz, T., Declerck, F., Traill, B., Göransson, G., 1997. A framework for analysing inovation in the food sector in: Traill, B., Grunert, K.G. (Eds.), Product and process innovation in the food sector. Blackie Academic, London.

In the context of the agri-food sector the innovation pattern, at the firm level, is the result of factors that can be analysed according to two different perspectives. First, innovation can be studied as a process of development and change.[8] In this sense, the innovative process is directly influenced by the level of expenditure in R&D and by the way this activity is carried out (for example, by means of internal or external structures), and by the "technological" characteristics of the innovations, such as the degree of uncertainty related to their effectiveness and to market success, the level of tacitness of knowledge, the degree of appropriability of innovation, and the capacity to accumulate know-how within the organization.[9]

Secondly, innovation can be analysed as the firm's ability to satisfy the needs and preferences of its potential customers, using its own resources, skills and capacities.[10] In this sense, innovation is correlated to the market orientation of the firm and its marketing activities. In the food sector this approach to innovation is particularly important as it deals with the adoption of new technologies that allow firms to respond to higher quality standards, with new ways to present more traditionalproducts, with product diversification, with new and different functions to be embodied in food products.[11]

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[8] See Grunert et al. (1997).
[9] Christensen, J.L., 2008. Knowledge-sourcing for product innovation in the food and drinks industry, in: Rama, R. (Ed.), Handbook of innovation in the food and drink industry. Haworth Press, New York/London, pp. 297-322.
[10] Traill, W.B., Meulenberg, M., 2002. Innovation in the food industry. Agribusiness 18, 1-21.
[11] Capitanio, F., Coppola, A., Pascucci, S., 2010. Product and process innovation in the Italian food industry. Agribusiness 26, 503-518.

Chapter 5: Actions

5.1 Action 1: Agri-Food Business Support Centre in the Region of Crete

5.1.1 Background

This Action intends to meet the challenge of Cretan SMEs in food sector to improve their competitiveness through innovation related activities.

More specifically, the Action addresses the need for:

- Promoting business investment in research and innovation, developing links and synergies between businesses, research and development centers and the higher education sector, in particular by promoting investment in product and service development, technology transfer, demand stimulation, clusters of stakeholders.
- Promoting entrepreneurship in the food value chain in Crete, in particular by facilitating the economic exploitation of new ideas and supporting the creation of new businesses, including startups and spin-offs.
- Supporting the creation and expansion of advanced capabilities to develop products and services in the food value chain in Crete.

The background of this Action is based on the fact that technology has already substantially reshaped the business models, value chains and efficiencies in the food sector. The challenge is the rise of a new wave of innovation (product, process, organizational, marketing) to meet the relevant demand for food and expectations for sustainability expressed by consumers.

Taking into consideration the role that innovation may have in giving response to the food sector, this sector has been identified as a key sector to apply existing research and innovation knowledge, according to the Smart Specialization Strategy of the Region of Crete. The relevant actions will support local products of high quality and attach to them high value. Yet, given that the relevant market is dominated by SMEs, these current challenges cannot be met by any individual enterprise but require coordinated actions.

Action 1 is strongly motivated by the Foodovation Centre at North West Regional College and Business Support Centre, as a good practice and core lesson learned through the NICHE Project.

This Action is composed by 10 services (see section 5.1.2). The background of each service is given below:

The background of some services (1-1, 1-2, 1-3, 1-4, 1-5, 1-6) is the need to support the transfer of technology and know-how in the entire value chain of food in Crete, (production, packaging, food processing).

The transfer of technology and know-how as well as the increase of the absorptive capacity for innovation by local SMEs will contribute to the increase in the adoption of research and innovation solutions by food sector companies.

There are services (1-1, 1-2, 1-3, 1-4) that have been designed for strengthening the innovation potential of local SMEs with respect to Processing, Packaging, Branding and Certification.

There are also services (1-5 and 1-6) that have been designed for developing the exchange and learn from experiences among regions sharing similar challenges, opportunities and areas of smart specialization.

The above services meet the challenge to encourage the development and internationalization of highly nutritious products by the relevant Cretan SMEs, as well as to enhance their competitiveness in the international market.

The background of some other services (1-7, 1-8) of the Action is the fact that although the Region of Crete appears to have strong comparative advantages on qualitative local agri-foods as well as high level research institutions, there is a lack of sufficient cooperation between these two sectors.

This situation reflects the challenge to promote a structure that will support the establishment of an innovation ecosystem to increase the current level of collaboration between the regional agri-food SMEs and the R&D actors. These services will also support the identification of new opportunities to transfer existing research and knowledge into the market.
This close collaboration between the regional agri-food SMEs and the R&D actors will allow the exploitation of the research and innovation capacities and resources. The challenge is to unlock these existing capacities and guarantee that the existing research and innovation are used and translated into innovative products and processes.

The background of some other services (1-9, 1-10) of the Action is the need to support the exploration of new mechanisms to transfer research and innovation towards the production of new food products and services by existing and new business. Moreover, the relevant challenge considers consumers' experience, behavior and insights, as inputs within the quadruple helix model.

The strengthened culture and absorptive capacity for innovation, build through the above services, will enhance the food sector entrepreneurship and promote startups and investments in the relevant value chains.

The Region of Crete is willing to adapt the Good Practice of the Foodovation Centre at North West Regional College and Business Support Centre (BSC) at Northern Ireland, according to the special Cretan needs and context.

The Foodovation Centre aims at supporting entrepreneurs, artisan food producers and small and medium enterprises to develop new food and drink products for the market. The Centre is in response to the needs of the local economy as a one-stop-shop for those looking to capitalise on their innovative food and drink ideas.

Hence, the focus of the proposed Centre in the Region of Crete will be to raise awareness over healthy nutrition and develop new products, within the food and drink sectors, with export potential.

Moreover, the proposed Action is further grounded on the following SWOT analysis:

Strenghts	Weaknesses
▪ Presence of an internationally acclaimed educational and research potential which could develop and disseminate innovations in many sectors ▪ Important concentration of research potential in relation to the size of the Region ▪ Robust research reams oriented towards marine technologies' research and development ▪ Important concentration of cultural and natural resources that can boost the creation of new sustainable developmental activities ▪ Rich natural resources and biodiversity ▪ Significant contribution of agricultural products to exports ▪ High production differentiation and uniqueness in some products ▪ High global demand for quality agricultural products that does not seem to be affected by the economic crisis	▪ Small number of knowledge-intensive businesses ▪ Limited cooperation between businesses and research institutions and thus, low networking level between the entrepreneurial world and knowledge institutions (clustering) ▪ Lack of innovation culture ▪ Low technological demand from the well-established sectors of the economy (primary and tourism) ▪ Weak cooperation between local producers ▪ Low degree of processing and organization of marketing of agricultural products - lack of adequate network for promotion and distribution of agricultural products ▪ Crop percentage of farmers without formal training ▪ Lack of lifelong learning and vocational training in agriculture ▪ Low percentage of qualified young farmers

▪ Operation of universities and research institutes that are a factor of growth in the primary sector (7 innovation and training infrastructures and 3 rural development infrastructures in Crete) ▪ Know-how in wine marketing, with organized producers ▪ Significant margins for competitiveness in meat production	(relative to the EU average 27) ▪ Inadequate control and implementation of quality production rules (especially in geographical indications) ▪ Low degree of integration of innovation at local and national level ▪ Insufficient synergies to integrate innovation and promote knowledge in rural development
Opportunities	**Threats**
▪ Systematic mobilisation of entrepreneurs and knowledge institutions in the context of the entrepreneurial discovery procedure as the main precondition for meeting the objectives of the smart specialization strategy ▪ Growth of the ecological and organic products market, strict environmental regulations and increased environmental awareness ▪ Exploitation of educational structures and certified training structures to upgrade the knowledge and skills of human resources ▪ Diversity and focus on product strategy and marketing ▪ Using new technologies for promoting, advertising and marketing products ▪ High demand for quality agricultural products and high margins for market expansion ▪ Consumer preference for highly nutritional products, organic products and sensitivity to environmental protection and food safety ▪ Expression of interest for entrepreneurial activity in the primary sector, as a professional alternative ▪ Positive impacts of the agricultural sector on other sectors (processing, tourism) - possibility of interconnection with alternative forms of tourism (agro tourism,	▪ The prolongation of funding restrictions for entrepreneurs by the financial institution ▪ Delay in bringing forward reforms to streamline and support innovation ▪ Strong international competition for traditional Cretan products

gastronomic tourism) ▪ Significant margins of competitiveness in meat products and certification of livestock production	

5.1.2 Action description

The services of the Action constitute a platform for creating synergies between different local, national and international scientific and food-related stakeholders. The relevant added value will be materialized through exploiting and widening R&D capabilities related to food value chains in the national and international business environment.

The Action supports connections of those related to the food value chain so as to raise awareness for food-related innovations and promote the development of local, national and international networks. The relevant added value will be materialized through providing know-how on issues related to food products and services to enhance local food-related SMEs' innovations.

- We propose that this role will be materialized through the following services:
  - 1-1 Information on international trends in radical new or significantly improved food products (product innovations).
  - 1-2 Information on international trends in new materials, technologies and processes of production, maintenance, standardization and distribution of food (process innovations).
  - 1-3 Information on international trends in the organization and implementation of food production, preservation, standardization and distribution processes (organizational innovations).
  - 1-4 Information on international trends in food promotion and pricing (marketing innovations).
  - 1-5 Staff training specifically for the development and / or introduction of new products and processes.
  - 1-6 Organization of bilateral meetings on the occasion of international conferences, trade fairs and exhibitions.
  - 1-7 Strengthening cooperation between companies for planning and performing collaborative activities.
  - 1-8 Promote partnerships with Higher Education Institutes and Research & Technology Centres, to design new joint R&D projects and transform research results into marketable products and services.
  - 1-9 Identification of new (internal and external) markets for products of Cretan Diet.
  - 1-10 Expert advice on the development of new businesses within the food value chain.

❖ Forms of action – How will the services be provided:

A1-1 The Action will initiate the interface for the cooperatin between all the related stakeholders (see 5.1.3) and promote them the need for innovations ~~is~~ in the food value chains in Crete.

A1-2 Then, the trends in the global and EU food value chains will be identified so as to realise the position of the respective value chains of Crete.

A1-3 The comparisons will signal areas and topics for the development of innovations in the food value chains of Crete.

A1-4 In parallel, the SMEs will be motivated through workshops ~~in~~ to widen their strategy horizons through the culture of innovation. The analogous workshops for the R&D institutions will aim to direct research efforts towards specific fields in the relevant value chains.

A1-5 This collaborative initiative will lead to the design of certain R&D projects for the food value chains in Crete.

A1-6 Accompanying publications will raise the awareness to a wider audience of relevant SMEs.

The operation of the suggested Action will be based on a series of processes beginning with the identification and prioritization of ideas for agri-food related business innovations.
The identification will arise by international trends and good practices as well as by local needs.
The chosen projects will be then delegated to expert partners under the close monitoring by the experts of the Business Support Center.

❖ Main objectives and added value to the region: The main objective of this Action is the rise of a new wave of innovation (product, process, organizational, marketing) to meet the relevant demand for food as well as consumers' expectations for sustainability. The added value of this Action is the coordination of services so as to address challenges that cannot be met by any individual enterprise.

<u>Especially for services 1-1, 1-2, 1-3, 1-4, 1-5, 1-6:</u>
Their main objective is to support the transfer of technology and know-how in the entire value chain of food in Crete.

<u>Especially for services 1-7, 1-8:</u>
Their main objective is to promote the establishment of an innovation ecosystem to increase the current level of collaboration between the regional agri-food SMEs and the R&D actors.

<u>Especially for services 1-9, 1-10:</u>
Their main objective is to promote the food sector entrepreneurship as well as to support the exploration of new mechanisms to transfer research and innovation towards the production of new food products and services by existing and new business.

- Target group: Enterprises related to the Cretan Diet and Cretan Herbs, Exporters' association of Crete, the Agronutritional Cooperation of the Region of Crete, the cluster Wines of Crete and other clusters (eg olive oil, cheese etc).
  Here we refer to the primary target groups. Further groups will be identified and targeted to participate upon the launch of the Action.

Regarding the SWOT analysis of this Action, we present some key arguments:

Strenghts	**Weaknesses**
▪ Cretan products are of high nutritional value ▪ Presence of an internationally acclaimed educational and research potential which could develop and disseminate innovations in the food sector ▪ Realization of the need to meet consumers' demand for sustainable production and responsible consumption	▪ Weak cooperation between local producers ▪ Limited cooperation between businesses and research institutions and thus, low networking level between the entrepreneurial world and knowledge institutions (clustering) ▪ Low degree of integration of innovation at local and national level
Opportunities	**Threats**
▪ Systematic mobilisation of entrepreneurs and knowledge institutions in the context of the entrepreneurial discovery procedure as the main precondition for meeting the objectives of the smart specialization strategy ▪ High global demand for quality agricultural products that does not seem to be affected by the economic crisis	▪ Strong international competition for traditional Cretan products ▪ Non proper organization and structure of the proposed Centre ▪ Weak promotion of the services of the Action to the interested stakeholders

Regarding the organizational structure for the services of this Action, there are three scenarios:

According to the first (basic) scenario, the proposed Agri-Food Business Support Centre will operate under the Region of Crete. This implies that the proposed Centre will be an interface with a broad coverage by the Region of Crete. In this scenario, the services will be provided to each interested SME in the food sector of Crete by the Region of Crete.
The main advantage of this scenario is that the Centre will be under the umbrella of the Region of Crete and hence, it will have access to a broad set of opportunities for building relevant initiatives and linking with ongoing projects.
The main disadvantage of this scenario is the relatively narrow operations run under a public authority.

According to the second scenario, the proposed Centre will become part of the Agronutritional Cooperation of the Region of Crete or another equivalent entity. Hence, the services described above will be provided by the Agronutritional Cooperation which will have the duties to promote cooperation with Research and Development institutions and other interested partners. In this scenario, the services will be priced and sold to each interested SME in the food sector of Crete. The main advantage of this scenario is that the Centre will run under a more specific and related entity.
The main disadvantage of this scenario is that the Centre will face higher risk for granted resources.

According to the third scenario, the proposed Centre will be initiated by the cooperation between the Education, Research and Technology institutions of Crete, and the Chambers of Crete. In this scenario, the business model of the proposed Centre will be further studied.
The main advantage of this scenario is that the Centre will be able to run as an innovation driven institution
The main disadvantage of this scenario is that the Centre will face higher risk for granted resources.

5.1.3 Stakeholders involved

Firms: Firms related to the Cretan Diet and Cretan Herbs, the cluster Wines of Crete.
Business Associations: Chambers, Exporters' association of Crete, the Agronutritional Cooperation of Region of Crete.
Research and Development Institutions: The National Agricultural Research Foundation - Hellenic Agricultural Organization DIMITRA, the Foundation for Research and Technology – Hellas, the University of Crete, the Technical University of Crete, the Technological Educational Institute of Crete, the Mediterranean Agronomic Institute of Chania.

Roles and synergistic responsibilities will be designed under mutual interest within an enriched quadruple helix model towards the introduction of innovation into the regional food value chains. Hence, each stakeholder will be assigned with tasks and responsibilities according to its field of expertise and know-how.

More specifically:
The stakeholders of the first type (Firms) will participate in Actions: A1-1, A1-2, A1-3, A1-4, A1-5.

The stakeholders of the second type (Business Associations) will participate in Actions: A1-1, A1-2, A1-4, A1-6.

The stakeholders of the third type (Research and Development Institutions) will participate in Actions: A1-1, A1-3, A1-4, A1-5.

Here we refer to the primary stakeholders. Further stakeholders will be identified and invited to participate upon the launch of the Action.

5.1.4 Timeframe

- Phase 1: Preparation (six months)
- Phase 2: Pilot operation (one year)
- Phase 3: Finalization of processes, structures, personnel

5.1.5 Budget

Type of cost	Amountin Euro
Staff costs *The category includes costs for personnel employed for the implementation of the Action. These costs are related to (a) the regular staff employed by the organization; b) any temporary staff required for the implementation of the Action and is employed either under a fixed-term contract (full-time or part-time) or under a contract for the lease of a project.*	220.000,00
Costs for Research and Development *This category includes costs for research activities carried out by the organization through a service contract (subcontracting).*	80.000,00
Costs for innovation services *This category includes costs for advisory and support services in the field of innovation. Advisory services include assistance and training in the fields of knowledge transfer, acquisition, protection and exploitation of intangible assets, use of standards and regulations.*	60.000,00
Equipment *This category includes costs for furniture, PCs and electronic equipment, telecommunication equipment, software.*	20.000,00
Costs for consumables and other costs *This category includes costs for telecommunication fees, rentals, repairs / maintenance, electricity fees, heating, water supply, promotion and advertisement, hosting, prints, books, supplies of laboratory consumables, publications and announcements.*	20.000,00
Travel and accommodation *This category includes costs for domestic and foreign travel expenses.*	20.000,00
Costs for participation in trade fairs	60.000,00

This category includes costs for rental, installation and management costs of a stand for the organization's participation in a trade fair.	
Total	480.000,00

Assumptions for the budget:
The budget has been scheduled for three years.
The amount of money for each type of cost will be symmetrically shared within the three years:
The personnel cost for one employee per year is 20.000 euros.

5.1.6 Funding

This Action is expected to be funded by the Regional Operational Programme of Crete (2014-2020) and part of cost will be funded with own budget of Region of Crete.

Priority Axis: I - Developing entrepreneurship with Sectoral Priorities
Thematic objective:
01 - Strengthening research, technological development and innovation.

Investment priority:
1b – Promoting business investment in research and innovation, developing links and synergies between businesses, research and development centers and the higher education sector, in particular by promoting investment in product and service development, technology transfer, social innovation, eco-innovation, public service applications, demand stimulation, networking, clusters of operators and open innovation through smart specialization, as well as support for technology applied and validated research, pilot actions, product validation actions, advanced production and first generation capabilities, especially in key technologies, and dissemination of generic technologies.

5.1.7 Expected impact on SMEs

The above Action is expected to promote the commercial use of the identified research and innovation capacities and resources, which, in turn, is expected to increase the absorptive capacity and the development potential of innovations in SMEs of the agri-food value chain in Crete.

The open innovation approach in the food sector, bringing together all the relevant stakeholders under a quadruple helix model, assures the perpetuation of a systemic support to the innovation applied to this sector's SMEs. These SMEs will also have the opportunity to explore new mechanisms to transfer and apply innovative approaches in products, processes, organizational structures and marketing.

This is expected to contribute towards increasing the number of the related SMEs producing innovative products and services as well as increasing employment in innovative activities. More specifically, according to the self-indicators, we expect 11 % of enterprises to use innovative tools and at least 25 SMEs to engage in Research and Development efforts towards innovative products/services and processes.

Overall, the relevant SMEs will have support towards the competitiveness and the internationalization of their products, by enhancing their standardization, processing, certification and promotion.

5.1.8 Expected impact on innovation level

The aforementioned analysis describes how the Action is expected to improve the regional policies and business initiatives supporting the introduction of innovation (product, process, organizational, marketing) into the food value chains in the Region of Crete.

The Action is expected to increase business initiatives and partnerships to develop innovative entrepreneurship in line with the smart specialization strategy of the Region of Crete, as well as to develop entrepreneurship through new innovative ideas as a priority in the agri-food sector of Crete.

Moreover, involvement in the relevant activities should have a positive impact on the SMEs in the food sector. The Agri-Food Business Support Centre can work as a way to encourage the SMEs to internationalization and closer cooperation with other actors.

This Action is expected to have notable impact on innovation level. Quadruple helix –model of the group enables new kind of communication between the actors. The network will also ease finding project partners for innovative projects.

The relevant expected impacts on SMEs will in turn contribute towards the main objective of the NICHE project which is to achieve an average 15% increase in the adoption of research and innovation solutions by food sector companies in Crete by 2020.

5.1.9 Action monitoring

Following the approach of OECD, innovation is the implementation of a new [to the firm] or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.[12]

[12] OECD, 2005. Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data. OECD/EuropeanCommunities

The monitoring of the Action will be materialized through measuring the innovation performance in a sample of SMEs of the agri-food sector in Crete, through the use of the following indicators during 2020:

Product innovations during 2018-2019: A product innovation is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.

Process innovations during 2018-2019: A process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

Organizational innovations during 2018-2019: An organizational innovation includes the implementation of a new organizational method in a firm's business practices, workplace organization or external relations.

Marketing innovations during 2018-2019: A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

The expected impact on SMEs will be measured through the number of SMEs collaborating with other SMEs, the number of SMEs collaborating R&D institutes, the number of innovative products resulting from these collaborations.

The Action will also be monitored through the number of workshops organized, the number of publications issued, and the number of publications delivered.

The monitoring of the Action will depend on the chosen scenario regarding the organizational structure of the Business Support Center. The stakeholders of the NICHE project in the Region of Crete will contribute to the monitoring of this Action.

5.2 Action 2: Strengthening the link between agri-food and tourism through the Cretan Gastronomy Center (Pilot Action)

5.2.1 Background

The background of this Action is based on the fact that tourism in Crete is a key pillar for economic growth but it is mainly based on beach tourism, without strong links between the coastal resorts and rural areas of Crete.[13] Hence, the cultural reserves of Crete have not been linked with tourism effectively. Rural tourism (ecotourism - natural tourism; agrotourism, geotourism; cultural tourism; religional tourism; gastronomic tourism; wine tourism) is a less developed market with high developmental potentials. Yet, the exploitation of this potential presumes the establishment of links between the wide business model of beach tourism with Cretan Diet through the relevant firms.

The Cretan Gastronomy Centre (CGC) will become the interface for these links. The CGC is the result of an Interreg Greece – Cyprus Programme, in 2013, functioning as a body under the Region of Crete. The CGC was created to support and promote the Cretan Diet and gastronomic tourism through its thematic exhibition "corners" and culinary events, housed in a neoclassical building in a traditional village called Argiroupolis, at the Regional Unit of Rethymno.

The Region of Crete is willing to test the model and adapt the Good Practice of the Donegal County Council (IE partner) called "Donegal's Atlantic Coastal Trail", adapted according to the special Cretan needs and context. Donegal's Atlantic Coastal Trail is an innovative food and marine tourism project focused on marine leisure and seafood experiences, which advances rural, coastal and island economic development in County Donegal.

Here, instead of the seafood and marine leisure activities, the focus for the CGC will be on inland food-culture routes, in order to create a new innovative product, linked also to thematic and alternative tourism like in Donegal, also in areas with great dynamics but somehow unexplored.

Moreover, the proposed Action is further grounded on the following SWOT analysis:

Strenghts	Weaknesses
▪ Crete is an international tourist destination (brand name). It is the Region with the	▪ No mechanisms for linking tourism with the rural areas of Crete

[13] For the key figures of tourism and Crete as well as its economic contribution, see http://www.insete.gr/en-gb/SETE-Intelligence/Statistics/Statistical-Data and http://www.insete.gr/portals/0/meletes-INSETE/01/2018_SymvolhTourismou-2017_EN.pdf from the Greek Tourism Confederation (SETE).

highest concentration of 4 star and 5 star hotels in Greece ▪ Important concentration of cultural and natural resources that can boost the creation of new sustainable developmental activities ▪ Products of high nutritional value ▪ High global demand for quality agricultural products that does not seem to be affected by the economic crisis ▪ High production differentiation and uniqueness in some products ▪ The area in organic farming and the number of growers steadily increase ▪ A significant number of Geographical Indication Products (PDO and PGI)	▪ Low technological demand from the well-established sectors of the economy (primary and tourism) ▪ Low tourist spending per visitor
Opportunities	**Threats**
▪ Consumer preference for highly nutritional products, organic products and sensitivity to environmental protection and food safety ▪ Positive impacts of the agricultural sector on other sectors (processing, tourism) - possibility of interconnection with alternative forms of tourism (gastronomic tourism) ▪ High demand for quality agricultural products and high margins for market expansion ▪ Expression of interest for entrepreneurial activity in the primary sector, as a professional alternative ▪ Significant margins of competitiveness in meat products and certification of livestock production ▪ Interaction with the tourism sector in coastal fishing areas and the strengthening of fishing tourism activities ▪ Systematic mobilisation of entrepreneurs and knowledge institutions in the context of the entrepreneurial discovery procedure as	▪ The prolongation of funding restrictions for entrepreneurs by the financial institution ▪ Strong international competition for traditional Cretan products

the main precondition for meeting the objectives of the smart specialization strategy ▪ The potential of emerging productive sectors ▪ Growth of the ecological and organic products market, strict environmental regulations and increased environmental awareness ▪ Constant increase in the demand for special forms of tourism.	

5.2.2 Action description

The routes will offer diverse full day programmes that will include thematic visits to SMEs of the nearby area, operating in the broader food sector of Cretan Diet. Agro-food, culture and tourism will be linked together through these routes that will create a new touristic product.

The routes will have their point of reference in the CGC and will target small groups of visitors that are interested in the local gastronomy, the local food and culture and alternatives activities inspired by local flavours.

Indicatively, the companies that will be part of this project will be traditional wineries, bakeries, creameries, olive oil mills, small and cottage industries of local food. The SMEs' everyday activities will be appealing to the gastro tourists that will be welcome to participate actively in those. The visitors will benefit as well, being provided with a new, integrated experience away from the massive tourism model which is still prevailing in Crete. The participating SMEs will attend special group seminars that will "teach" them new, efficient ways of hosting and servicing.

The SMEs participating must have a local character and an activity linked to gastronomy and primary sector. They will be based preferably in the area around or close enough to the CGC in order to be part of a one day integrated route. Short time seminars as mentioned above, are expected to upgrade the quality of services, the satisfaction of the visitors - customers and also the image of the Cretan SMEs. Hence, the region of Crete plans the trainings and seminars to be open to every food SME interested.

❖ We propose that this role will be materialized through the following services:
  2-1 Strengthening tourist experience through visits to the relevant agri-food firms as well as through participation in agricultural works.

- Forms of action – How will the services be provided:

A2-1 The tourism experience will be strengthened before, during, and after the visit in Crete. For this reason the use of ICT and social media tools is crucial. Based on such tools, the promotion through electronic maps and the launch of a thematic website will highlight the local customs, history and biodiversity with the local products of Crete. This will help for promoting local products to tourists and special target groups (exporters, travel agents of gastronomy tourism, gastronomy journalists).

A2-2 This promotion is also based on the collection and effective dissemination of information on the gastronomic "events" of Crete throughout the year as well as on the communication of the particular nutritional characteristics of the Cretan Diet and its contribution to the adoption of healthy eating standards.

A2-3 Given this pool of knowledge that will be available to locals and tourist, the Cretan Gastronomy Center (CGC) will design thematic routes for visitors with visits to traditional SMEs of the food sector in the nearby area (eg bakeries, creameries, wineries, oil mills etc).

A2-4 The experience contains experiential tourism, i.e., combining tourism with visiting and participation in agricultural works.

A2-5 For the support of this Action from the SMEs' side special seminars and educational sessions will be organized by the CGC for the SMEs owners and employees. Moreover, the forms of actions will be promoted through the web, flyers and the relevant information toolkits will be also produced.

The operation of the suggested Action will be based on a series of processes beginning with the:

a) Identification of relevant SMEs and routes including thematic visits the SMEs.
b) Targeting small groups of visitors that are interested in the local gastronomy.

Then, the matching of the above two sides will be done by the CGC which will also have the general monitoring and revision of the routs.

- Main objectives and added value to the region: The main objective of this Action is the interconnection of tourism with Cretan Diet.
  This interconnection will add value to four fields: Enrich the tourism services provided, allow the design of personalized tourism services of high added value, give opportunities for new business in the relevant value chains, promote the sustainable development of the mainland of Crete.

- Target group: Visitors and Tourists, Enterprises related to the Cretan Diet and Cretan Herbs, the cluster Wines of Crete, Tour operators, Travel Agents, Hotels, Rent Rooms, Restaurants and Taverns.

Here we refer to the primary target groups. Further groups will be identified and targeted to participate upon the launch of the Action.

Regarding the SWOT analysis of this Action, we present some key arguments:

Strenghts	Weaknesses
▪ Crete is an international tourist destination (brand name). It is the Region with the highest concentration of 4 star and 5 star hotels in Greece. Hence there is a huge pool of tourists to be attracted. ▪ Cretan Diet is well known for its beneficial effects on health ▪ Many SMEs with products that have nutritional interest for tourists ▪ A significant number of Geographical Indication Products (PDO and PGI) ▪ The Cretan Gastronomy Center has expertise in the communication and promotion of the Cretan Diet	▪ No mechanisms for linking tourism with the rural areas of Crete ▪ Low tourist spending per visitor
Opportunities	**Threats**
▪ Growth of the ecological and organic products market, strict environmental regulations and increased environmental awareness ▪ Constant increase in the demand for special forms of tourism.	▪ No proper organization for the provision of the services of the Action ▪ Weak promotion of the services of the Action to the tourism market of Crete and to the related SMEs

5.2.3 Stakeholders involved

Firms: Firms related to the Cretan Diet and Cretan Herbs, the cluster Wines of Crete, and other clusters.
The Cretan Gastronomy Centre, the Agronutritional Cooperation of Region of Crete, representative firms of the nearby area related to the Cretan Diet will be identified. The next step is to design the promotional material so as to attract tourists towards these firms.

This Action builds on the logic of collaborative networking. Some of the stakeholders involved are at the same time companies through which the targeted consumers will be reached.

Hence, each stakeholder will be assigned with tasks and responsibilities according to its field of expertise and know-how.

More specifically:
The stakeholders of the first type (Firms) will participate in Actions: A2-4, A2-5.

The stakeholders of the second type (Agronutritional Cooperation of Region of Crete, Cretan Gastronomy Centre) will participate in Actions: A1-1, A1-2, A1-3.

Here we refer to the primary stakeholders. Further stakeholders will be identified and invited to participate upon the launch of the Action.

5.2.4 Timeframe

- Phase 1: Preparation (six months)
- Phase 2: Pilot operation (one year)
- Phase 3: Formal operation: continuous

5.2.5 Budget

Type of cost	Amount in Euros
Staff costs *The category includes costs for personnel employed for the implementation of the Action. These costs are related to (a) the regular staff employed by the organization; b) any temporary staff required for the implementation of the Action and is employed either under a fixed-term contract (full-time or part-time) or under a contract for the lease of a project.*	10.000,00
Costs for Research and Development *This category includes costs for research activities carried out by the organization through a service contract (subcontracting).*	10.000,00
Costs for innovation services *This category includes costs for advisory and support services in the field of innovation. Advisory services include assistance and training in the fields of knowledge transfer, acquisition, protection and exploitation of intangible assets, use of standards and regulations.*	10.000,00
Equipment *This category includes costs for furniture, PCs and electronic equipment, telecommunication equipment, software.*	
Costs for consumables and other costs *This category includes costs for telecommunication fees, rentals, repairs / maintenance, electricity fees, heating, water supply, promotion and advertisement, hosting, prints, books, supplies of laboratory consumables,*	1.500,00

publications and announcements.	
Travel and accommodation *This category includes costs for domestic and foreign travel expenses.*	
Costs for participation in trade fairs *This category includes costs for rental, installation and management costs of a stand for the organization's participation in a trade fair.*	
Total	31.500,00

Assumptions for the budget:

The budget has been scheduled for three years.

The amount of money for each type of cost will be symmetrically shared within the three years:

The personnel cost for one employee per year is 20.000 euros.

5.2.6 Funding

This Action will be funded as pilot action with the above mentioned budget and then it could be funded by Regional Operating Programm of Crete

5.2.7 Expected impact on SMEs

The Action will impact both directly and indirectly local SMEs of the food chain, based in the broader area around the CGC.

Through this Action, the SMEs related to the value chain of the Cretan Diet will be able through this networking opportunity, to develop gastro services and increase the number of visits of specific target groups such as gastro tourists, eco tourists and/or alternative tourism lovers by the end of the project. The SMEs will also have the opportunity for strengthening the competitiveness and the internationalization of their products.

The expected impact on SMEs will be measured through the number of the participating SMEs for tourists' visits, the number of tourists visiting these SMEs, the number of the participating hotels, rent rooms, and agents.

More specifically, according to the self-indicators, we expect 11 % of enterprises to use innovative tools and at least 25 SMEs to engage in Research and Development efforts towards innovative products/services and processes.

5.2.8 Expected impact on innovation level

The aforementioned analysis describes how the Action is expected to improve the cooperation between firms related to Cretan Diet and tourism. This will give rise to new and innovative business opportunities for SMEs providing personalized services of high added value. These services will be based on information and communication technologies allowing the customization of services upon personal preferences.

More specifically, the Action is expected to promote links for cooperation between traditional tourism services and SMEs related to the Cretan Diet. These links can also expand traditional tourism services towards the rural areas of Crete in favor of its sustainable development through the participation of tourists in agricultural works and the rise of relevant niche tourism markets.

These links highlight the business developmental potential of the value chains of Cretan Diet, in relation to tourism. At the same time, these links highlight the potential of tourism with respect to the food sector in Crete.

The innovation capacity of the food sector is expected to strengthen due to the creation of this new product-services related directly to food. Through these thematic gastronomy routes, the already "heavy" industry of tourism and its continuously growing branch of thematic tourism (gastro tourism) is being used in order to direct visitors-customers towards SMEs of the food sector. The thematic routes and the clusters that will be created as a new product, will give the innovation character to traditional food SMEs, which as acknowledged in studies are often hesitant to innovation since it is linked in their minds (and often this also applies to customers as well) as opposed to their traditional character.

5.2.9 Action monitoring

The Action will be monitored through the number of the participating SMEs for tourists' visits, the number of tourists visiting these SMEs, the number of the participating hotels, rent rooms, and agents.

Another indicator to monitor this Action is the number of start-up companies in the area providing personalized services combining traditional tourism services and Cretan Diet.

The stakeholders of the NICHE project in the Region of Crete will contribute to the monitoring of this Action.

5.3 Action 3: Expanding the activities of the Cretan Gastronomy Center

5.3.1 Background

The background of this Action is based on the benefits of the Cretan Diet. Early studies showed that the population of Crete presented the best health status and the lowest mortality rates from coronary disease and cancer compared to populations from the United States and Northern Europe, as well as in comparison with other areas of Southern Europe, such as Italy, Yugoslavia, and Corfu. The lowest occurrence of coronary disease and cancer, as well as the lowest mortality by any cause observed in the population of Crete, was attributed to the particular nutritional habits which characterized this island.[14]

If we want to sketch a rough pattern of the typical Cretan Diet, its core is food derived from natural sources, whereas food of animal origin is more peripheral: Fresh and dried fruits, pulses, endemic wild herbs and aromatic plants, and rough cereals, whose cultivation was favored by the regional climate. Dairy products are to be consumed on a daily basis in low to moderate quantities. Poultry and fish are to be consumed on a weekly basis in moderate quantities, whereas red meat is consumed only a few times a month. The main supply of fat is effectuated by olive oil, which is used not only in salads but also in cooking, unlike the northern European countries which primarily used animal fat. Another essential feature of the typical Cretan Diet is the moderate use of alcohol, mainly red wine which accompanied meals. Finally, the most common dessert is fresh fruits, while traditional pastry based on honey is to be consumed a few times a week.

Overall, the Cretan Diet has been found to be beneficial for: Longevity; protection against cardiovascular diseases, obesity, type 2 diabetes and metabolic syndrome, cancer, Alzheimer's and Parkinson diseases.[15]

Action 3 is also motivated by the Foodovation Centre at North West Regional College, as a good practice and core lesson learned through the NICHE Project. Recall that the Foodovation Centre aims at supporting entrepreneurs, artisan food producers and small and medium enterprises to develop new food and drink products for the market. The Centre is in response to the needs of the local economy as a one-stop-shop for those looking to capitalise on their innovative food and drink ideas.

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[14]See Simopoulos, A.P. (2001) . The Mediterranean diets: What is so special about the diet of Greece? The scientific evidence. J Nutr., 131, 3065S-3073S.
See http://www.cretan-nutrition.gr/wp/?page_id=5&lang=en for more details about the history of the Cretan Diet, its characteristics as well as its effects on health.
[15] See the previous footnote.

Moreover, the proposed Action is further grounded on the following SWOT analysis:

Strenghts	Weaknesses
▪ Crete is an international tourist destination (brand name). It is the Region with the highest concentration of 4 star and 5 star hotels in Greece ▪ Important concentration of cultural and natural resources that can boost the creation of new sustainable developmental activities ▪ Advantage in the recognition of the Cretan dietary pattern ▪ Products of high nutritional value ▪ High global demand for quality agricultural products that does not seem to be affected by the economic crisis ▪ High production differentiation and uniqueness in some products ▪ The area in organic farming and the number of growers steadily increase ▪ A significant number of Geographical Indication Products (PDO and PGI)	▪ No mechanisms for linking local products to the tourist market ▪ Low technological demand from the well-established sectors of the economy (primary and tourism) ▪ Low tourist spending per visitor
Opportunities	**Threats**
▪ Consumer preference for highly nutritional products, organic products and sensitivity to environmental protection and food safety ▪ Positive impacts of the agricultural sector on other sectors (processing, tourism) - possibility of interconnection with alternative forms of tourism (gastronomic tourism) ▪ High demand for quality agricultural products and high margins for market expansion ▪ Expression of interest for entrepreneurial activity in the primary sector, as a professional alternative ▪ Significant margins of competitiveness in meat products and certification of livestock	▪ The prolongation of funding restrictions for entrepreneurs by the financial institution ▪ Strong international competition for traditional Cretan products

production ▪ Interaction with the tourism sector in coastal fishing areas and the strengthening of fishing tourism activities ▪ Systematic mobilisation of entrepreneurs and knowledge institutions in the context of the entrepreneurial discovery procedure as the main precondition for meeting the objectives of the smart specialization strategy ▪ The potential of emerging productive sectors ▪ Growth of the ecological and organic products market, strict environmental regulations and increased environmental awareness ▪ Positive trends for increased tourist flows to Greece and Crete in particular, according to the variations observed between 2011-2013. Constant increase in the demand for special forms of tourism.	

5.3.2 Action description

The Region of Crete plans was inspired by the Good Practice of the Donegal County Council (IE partner) called "Donegal's Atlantic Coastal Trail", customized to the special Cretan needs and context.

We propose that this role will be materialized through the following services:

3-1 Certified training on Cretan Diet cooking in the Cretan Gastronomy Center.

3-2 Cooperation of SMEs producing agri-food products with hotels for the promotion of the relevant products: organizing visits to hotels for cooking showcases, tasting and selling the relevant products on the spot.

❖ Forms of action – How will the services be provided:

A3-1 The tourism experience will be strengthened before, during, and after the visit in Crete. For this reason the use of ICT and social media tools is crucial. Based on such tools, the promotion through electronic maps and the launch of a thematic website will highlight the local customs, history and biodiversity with the local products of Crete. This will help for promoting local products to tourists and

	special target groups (exporters, travel agents of gastronomy tourism, gastronomy journalists).
A3-2	Training and specialization of catering and tourism professionals in the Cretan Diet, the use of local products and the development of gastronomic tourism services.
A3-3	Linking customs, history, biodiversity and local conditions to the local products of Crete.
A3-4	Collection and effective dissemination of information on the gastronomic "events" of Crete throughout the year.
A3-5	Communication of the particular nutritional characteristics of the Cretan Diet and its contribution to the adoption of healthy eating standards.
A3-6	Visits of SMEs related to Cretan Diet to hotels for exhibitions and showcases.
A3-7	Promoting local products to tourists and special target groups (exporters, travel agents of gastronomy tourism, gastronomy journalists).

The operation of the suggested Action will be based on a series of processes beginning with the identification of recipes, products, gastronomic "events" and SMEs.
Then the relevant training programmes on Cretan Diet cooking will be scheduled for the different audiences.
The components of this Action will aim to sketch an overall concept of the cultural Cretan Diet with reference to health and nutrition.

- Main objectives and added value to the region: The main objective of this Action is the promotion of the Cretan Diet, as a model of nutrition which is internationally renowned for its beneficial effects in health and longevity.
  The promotion of Cretan Diet will add value to three fields: To the health standards of the local population, to the potential of new business across the value chain of the Cretan Diet, to the links with tourism and the promotion of Crete as a destination for those caring about nutrition and health.

- Target group: Enterprises related to the Cretan Diet and Cretan Herbs, the cluster Wines of Crete, Tour operators, Travel Agents, Hotels, Rent Rooms, Restaurants and Taverns.
  Here we refer to the primary target groups. Further groups will be identified and targeted to participate upon the launch of the Action.

Regarding the SWOT analysis of this Action, we present some key arguments:

Strenghts	Weaknesses
▪ Crete is an international tourist destination	▪ No mechanisms for linking tourism with the

(brand name). It is the Region with the highest concentration of 4 star and 5 star hotels in Greece. Hence there is a huge pool of tourists to be attracted. ▪ Cretan Diet is well known for its beneficial effects on health ▪ Many SMEs with products that have nutritional interest for tourists ▪ A significant number of Geographical Indication Products (PDO and PGI) ▪ The Cretan Gastronomy Center has expertise in the communication and promotion of the Cretan Diet	rural areas of Crete ▪ Low tourist spending per visitor
Opportunities	**Threats**
▪ Consumer preference for highly nutritional products, organic products and sensitivity to environmental protection and food safety ▪ High demand for quality agricultural products and high margins for market expansion ▪ Growth of the ecological and organic products market, strict environmental regulations and increased environmental awareness	▪ Non-proper organization for the provision of the services of the Action ▪ Weak promotion of the services of the Action to the tourism market of Crete and to the related SMEs

5.3.3 Stakeholders involved

Organisations: Enterprises related to the Cretan Diet, Hotels and Rent Rooms, Wineries, Agronutritional Cooperation of Region of Crete, Cretan Gastronomy Centre, Restaurants and Taverns.

This Action builds on the logic of collaborative networking. Some of the stakeholders involved are at the same time companies through which the targeted consumers will be reached.

The starting point is the mapping of foods, ingredients and production processes constituting the core of the Cretan Diet. Then, representative firms have to be identified and certified. The next step is the expression of interest for the side of hotels and other tourism services providers.

Hence, each stakeholder will be assigned with tasks and responsibilities according to its field of expertise and know-how.

Here we refer to the primary stakeholders. Further stakeholders will be identified and invited to participate upon the launch of the Action.

5.3.4 Timeframe

- Phase 1: Preparation (six months)
- Phase 2: Pilot operation (one year)
- Phase 3: Formal operation: continuous

5.3.5 Budget

Type of cost	Amount in Euros
Staff costs *The category includes costs for personnel employed for the implementation of the Action. These costs are related to (a) the regular staff employed by the organization; b) any temporary staff required for the implementation of the Action and is employed either under a fixed-term contract (full-time or part-time) or under a contract for the lease of a project.*	60.000,00
Costs for Research and Development *This category includes costs for research activities carried out by the organization through a service contract (subcontracting).*	30.000,00
Costs for innovation services *This category includes costs for advisory and support services in the field of innovation. Advisory services include assistance and training in the fields of knowledge transfer, acquisition, protection and exploitation of intangible assets, use of standards and regulations.*	30.000,00
Equipment *This category includes costs for furniture, PCs and electronic equipment, telecommunication equipment, software.*	15.000,00
Costs for consumables and other costs *This category includes costs for telecommunication fees, rentals, repairs / maintenance, electricity fees, heating, water supply, promotion and advertisement, hosting, prints, books, supplies of laboratory consumables, publications and announcements.*	10.000,00
Travel and accommodation *This category includes costs for domestic and foreign travel expenses.*	10.000,00
Costs for participation in trade fairs *This category includes costs for rental, installation and management costs of a stand for the organization's participation in a trade fair.*	15.000,00
Total	180.000,00

Assumptions for the budget:
The budget has been scheduled for three years.
The amount of money for each type of cost will be symmetrically shared within the three years:
The personnel cost for one employee per year is 20.000 euros.

5.3.6 Funding

This Action is expected to be funded by the Regional Operational Programme of Crete (2014-2020) and part of cost will be funded with own budget of Region of Crete.

Priority Axis:
I - Strengthening the competitiveness, innovation and entrepreneurship of Crete.

Thematic objective:
03 - Improving the competitiveness of small and medium-sized enterprises and of the agricultural and fisheries and aquaculture sectors.

Investment priority:
3a - Promote entrepreneurship, in particular by facilitating the economic exploitation of new ideas and supporting the creation of new businesses, including through business incubators.

5.3.7 Expected impact on SMEs

The above Action is expected to strengthen the links between traditional tourism services and Cretan Diet, promoting the relevant products, and a certain cooking culture. The receivers of this Action are then expected to increase the demand for such products and services. The aim is to direct tourism towards a more healthy way of nutrition. This will also direct SMEs in the same direction and hence, the emergence of more competitive business supplying products and services in the Cretan Diet value chain will be a major result. There are also further beneficial effects, such as the link between beach tourism with the rural areas of Crete where Cretan Diet has its origins. These actions are further expected to result to the emergence of niche markets combining tourism with nutrition, tradition and culture.

This Action will support businesses that have the potential for extroversion and the relevant SMEs are expected to increase their export activity in a sustainable way. It also supports the development of new business models for the development of economies of scale and the enhancement of internationalization.

Through this Action, the SMEs related to the value chain of the Cretan Diet will have the opportunity to enhance the competitiveness and the internationalization of their products.

More specifically, according to the self-indicators, we expect 11 % of enterprises to use innovative tools and at least 25 SMEs to engage in Research and Development efforts towards innovative products/services and processes.

The expected impact on SMEs will be measured through the number of training programmes about the Cretan Diet at the Cretan Gastronomy Center, the number of participants, as well as through the number of SMEs producing agri-food products visiting hotels, the number of visits, and the number of hotels.

5.3.8 Expected impact on innovation level

Regarding the certified training on the Cretan Diet, the upgrading of human resources in the Cretan Diet market, as a market with development prospects, is a crucial factor for increasing the related businesses' competitiveness.

Moreover, the support of business related to the Cretan Diet to seek opportunities in new emerging markets abroad and the upgrade of the image of Greek products are expected to contribute to the establishment of the relevant Greek products abroad.

Overall, the aforementioned analysis describes how the Action is expected to improve the cooperation between the production of local foods of the Cretan Diet with traditional tourism services and give rise to new and innovative business of highly nutritious products. These new businesses will be competitive in international markets through meeting the ongoing demand of consumers for standardization, sustainability, health and wellness.

5.3.9 Action monitoring

The monitoring of the Action will be based on the certified training on Cretan Diet cooking in the Cretan Gastronomy Center as well as on the number of links between firms related to Cretan Diet with hotels.

More specifically, the Action will be monitored through the number of the training programmes and the number of participants as well as through the number of SMEs producing agri-food products visiting hotels, the number of visits, and the number of hotels.

The stakeholders of the NICHE project in the Region of Crete will contribute to the monitoring of this Action.

6 Monitoring and Impact of the Action Plan

Monitoring of the actions will be accomplished during the NICHE stakeholders meetings, which have been planned for twice a year for phase 2 of the project.
At each meeting, the relevant actors/stakeholders of each action will provide information about the steps taken and the progress made so far.

Monitoring numbers that have been mentioned for each action will be taken into consideration, as well as any new relevant project, local, national or international.

Before the end of the project, the local project coordinator will gather all information available, and the results and impact of the action plan will be presented to the stakeholders group and the local NICHE working team.

Special attention will be paid on the impact the action plan has on the policy instrument: The Regional Operational Programme of Crete 2014-2020 (and the Smart Specialisation Strategy of the Region of Crete).

Region of Crete will organize a local info day according to its duties.

The commitment of the stakeholders has been very satisfactory during the 1st phase of the project. They have shown great interest in NICHE activities, made useful suggestions and provided consultation throughout this period of 2 years. For most of the semesters , the number of the stakeholders group meetings has exceeded the initial foreseen one (which was 2 per semester).

A number of stakeholders was able to participate in the staff exchange events, study visits and peer review, thus having a more comprehensive view of NICHE project, its needs and goals.
Their contribution to the action plan development was significant.

Thus, and given the interest they have expressed in this action plan, the NICHE stakeholders are expected to continue participating actively throughout the 2nd (monitoring) phase of the project.

NICHE
Interreg Europe

European Union
European Regional
Development Fund

Signature

Region of Crete agrees to support and promote the implementation of the plan detailed above. I confirm that I have the required authority of my organisation to do so and that the required authorisation process of my organisation has been duly carried out.

Date: 08.06.2018

Signature:

Name and position: Arnaoutakis Stavros/Regional Governor

Stamp of the organisation:

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΠΕΡΙΦΕΡΕΙΑ ΚΡΗΤΗΣ