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SECTORAL STUDY

FEASIBILITY STUDY FOR THE ESTABLISHMENT OF AN INCUBATOR FARM IN GREECE

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PLANNING AND IMPLEMENTATION : **AMERICAN FARM SCHOOL**

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Feasibility study for the establishment of an Incubator Farm in Greece

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Determine the demand for incubator farms in Greece and identify the characteristics and motives of potential beneficiaries

Defining farm incubators

According to the International Business Innovation Association, business incubators nurture the development of entrepreneurial companies, helping them survive and grow during the start-up period, when they are most vulnerable, providing their client companies with business support services and resources tailored to young firms. The most common goals of incubation programs are creating jobs in a community, enhancing a community's entrepreneurial climate, retaining businesses in a community, building or accelerating growth in a local industry, and diversifying local economies.

The National Business Incubation Association (NBIA, 1996) claims that business incubation programs "accelerate the successful development of entrepreneurial companies through an array of business support resources and services, developed or orchestrated by incubator management, and offered both in the incubator and through its network of contacts".

Farm incubator projects are land-based projects that offer aspiring and beginning farmers an opportunity to establish their own independent farm enterprises with on-site support from farm incubator staff. That for, they operate primarily on a specific site or sites (land-based), provide low-cost or rent-free land for individual plots, while providing access to resources (education, infrastructure etc.) that supports the development of independent farm operators.

Historically, small business incubators have effectively benefited individual entrepreneurs through the sharing of tools, training, and resources (Rushing & Woods, 1997). Such services reduce the start-up barriers typical of new business ventures and support long-term success.

The formal definition of a farm incubator is "a land-based, multi-grower project that provides training and technical assistance to aspiring and beginning farmers" (NIFTI, 2015). Incubator farm programs typically provide training, access to land, and shared farming equipment (Boekelheide, 2012). These programs help alleviate poverty by

expanding food access in their given area and providing participants with a supplemental source of income. farm incubators help to develop farming skill sets that foster self- employment, stronger income streams, and nutritional stability.

The Small Business Council in 1988 determined that a business incubator consists of five dimensions: enterprise development, a consultancy network, entrepreneurial synergy, flexible space and shared services. Other associations/institutions, like the National Business Incubation Association (NBIA), have an alternative definition, emphasizing on the non-real estate parameters of incubator management. An incubator program for the NBIA must offer at least one of the following services:

- networking opportunities encouraged by incubator management,
- management or technical assistance through in-house expertise and/or a network of community support,
- assistance in obtaining financing, and
- service to business clients outside the incubator as well as toin-house tenants.

Across the incubator movement, the management problems of incubator clients are met with the delivery of a variety of value-added management services. The driving force (in incubator programs) is the supply of expertise, capital and support that comes from assistance activities directed towards filling the voids in entrepreneurs' abilities.

According to Iowa's State University "Reference guide for beginning farmers" (July 2015), farm incubators offer a way to overcome barriers to starting a farm business, like lack of capital (land, equipment, inputs) and experience (formal training, hands-on experience). Moreover, these multi-farmer operations allow each farmer to rent a small plot, while renting provides them access to land, training and technical guidance (from service providers, established farmers, or on-farm staff), as well as marketing assistance. At the end of the "course" (course period to be determined based on the participants' needs), the farmer should be able to transition to a plot of his/her own, having acquired the skills, knowledge and expertise necessary to start farming successfully.

A farm incubator project aims to help new and beginning farm entrepreneurs during their start-up period. To do so, the project provides specific resources and services needed and usually difficult for an individual to access on its own. The types of resources and services offered by farm incubator projects vary, depending on

geographic area, demographics, funding and other factors. However, the overall goal of farm incubator projects is consistent: *to minimize the barriers to entry for aspiring and beginning farmers*. Such barriers usually refer to access to land, infrastructure, knowledge, markets, and capital.

To overcome the above mentioned obstacles, farm incubator projects offer required resources and services. Some of the most common cases are shown on the table below:

Land	Provide low-cost or free rent for land
	Help participants identify suitable land for lease or purchase
	Match landowners and incubator participants
Infrastructure	Provide low-cost or free access to equipment and tools
	Provide low-cost or free access to infrastructure (e.g. walk-in coolers, barns, wash stations, hoop houses)
	Provide access to utilities like irrigation, water and electricity
Knowledge	Create opportunities for ongoing training through workshops, classes, field trips, etc.
	Connect participants to outside experts and/or mentor farmers
	Provide ongoing one-on-one technical assistance with all aspects of farm operation
Markets	Help participants find and enter farmers' markets, restaurants, and other sales outlets
	Establish or support the establishment of Community Supported Agriculture programs, in the USA.
	Facilitate wholesale accounts and/or institutional sales
Capital	Work with participants to develop the recordkeeping tools and skills they will need to apply for loans, grants, and

	sources of capital
	Connect participants with suitable financial advisors, banks, cooperatives, etc.
	Assist participants with business and market planning

Table 1 Source: NIFTI The Farm Incubator Toolkit, 2013

Agriculture incubator models

Broadly agriculture incubators are organizations that offer some combination of farming education, hands-on training, low-cost land and infrastructure to help farmers launch new agricultural business aiming to support and growth the agricultural base in their region. They address four core barriers to starting a successful farm business.

- Lack of knowledge
- Lack of experience
- Lack of equipment due to lack of capital
- Lack of land due to lack of capital and availability

Donna Williams & Rick Zimmerman (2010) segregate incubator farms into three categories in order to address these needs:

1. Educational (farming and business) Incubators

Incubators with an educational focus that address lack of knowledge both in farm methods and business skills. These incubators primarily provide educational support and business consulting.

2. Land-based Farmer Training Incubators

Incubators with a physical location that address lack of knowledge and lack of experience. These incubators serve as "Experiential Farming Schools" providing education and hands-on training for beginning farmers with demonstration farms. Unlike, the Land-based Agriculture Business Incubators, their mandates are not to specifically help start new farm businesses, but rather to train individuals for farming.

3. Land-based Agriculture Business Incubators

Incubators with a physical location and shared infrastructure that address lack of experience, land and equipment needs for new farming enterprises. In addition to providing land and infrastructure, these incubators may provide farming internships, farm skill training and agricultural business development. The most important distinction between these types of incubators is that one of their primary goals in to help start new farming businesses.

Farm characteristics in Greece

According to data recovered from the Hellenic Statistical Authority there are 709.449 farms (total number of holdings) in 2013 in Greece, while the number of farms with UAA (utilized agricultural area) amounted to 703.535. In what concerns the UAA, the total utilized agricultural area covers 3.381 thousand hectares. At the same time, most farms with UAA were recorded in Central Macedonia (99.226), followed by Peloponnese (91.946) and Crete (89.774), while most areas were recorded in Central Macedonia (682 thousand hectares), followed by Thessaly (421 thousand hectares) and Crete (362 thousand hectares).

The average UAA per farm was 4,8 hectares. The highest average UAA per farm was recorded in Western Macedonia (10,73 hectares), followed by Thessaly (6,887 hectares) and Central Macedonia (6,872 hectares). Correspondingly, the lower average utilized area per farm was recorded in Attica (1,893 hectares), followed by the Ionian Islands (2,379 hectares) and Epirus (2,702 hectares).

Concerning the direction of holdings in Greece in 2013, 61,8% were exclusively agricultural holdings, 3,5% were exclusively livestock holdings, while 34,7% were mixed. More specifically, there were 575.525 agricultural holdings with 2.091 thousand hectares of UAA, 115.461 mixed holdings with 1.172 thousand hectares and 18.463 livestock holdings with 118,4 thousand hectares.

Regarding the main cultivation per region, there are certain differentiations across the country. More specifically, in Central Macedonia Region annual crop is the main cultivation (516,8 thousand hectares) followed by Thessaly (317,2 thousand hectares) and Eastern Macedonia and Thrace (285,7 thousand hectares). Vineyards and raisin vineyards are mostly grown in Peloponnese (19,8 thousand hectares), followed by Western Greece (14,1 thousand hectares) and Crete (13,8 thousand hectares). The majority of tree crops are located in the Peloponnese (206,4 thousand hectares), followed by Crete (147,4 thousand hectares) and Western Greece (95,2 thousand hectares). Nationwide, in 2013, annual crops represent 49.6% of the UAA, the tree crops 25.0%, vineyards 2.4% and other areas 23.0%.

As far as livestock is concerned, based on the data of farmed animals per region, Central Macedonia is where the larger number of animals (of all categories) is bred. A large

number of cattle bred also in Thessaly and Eastern Macedonia and Thrace. In Thessaly the majority of pigs is bred (146.749), while in Epirus the majority of birds nationwide is bred (8.323.766). In Crete and Eastern Macedonia and Thrace sheep and goats are mainly bred.

The agricultural workforce consists mainly of family workers, permanent and seasonal workers. According to the most recent data from the Hellenic Statistical Authority, family labour constitutes the 41,9% of the total workforce in agriculture & livestock, while seasonal workers represent 30,8% of the total, other employees 26,5% and permanent workers only 0,9%. Moreover, family members carry out the 85,3% of the total working days in both agriculture and livestock, when the working days of seasonal workers account for 9,1%, of permanent workers for 3,8% and of the other employees 1,8% of the total working days.

The pattern of family labour is another key issue. In 2013, 938.526 people were employed 'exclusively' in agriculture & livestock, 77.0% from a total of 1.218.274 farm owners and their family members, while 39.931 people (3,3%) were employed 'primarily' and 239.816 people (19.7%) were employed "secondarily". (Source for all data presented above: Hellenic Statistical Authority)

Due to economical crisis in Greece, more than 975,7 thousand people were added to the already increased number of unemployed (378 thousand in 2008), while unemployment rate reaching 27,5% at the end of 2013. In such an alarming condition, it seems that agriculture and rural areas are turned into a shelter and an incubator of ideas and initiatives both for the rural population and for an urban population that is led there by need or by choice.

Installation Problems & features of young farmers

Becoming a farmer and settle down in a rural area seems to have both advantages and disadvantages. Perhaps the contact with nature, clean air and distancing from the fast pace of the city seems as ideal for a fresh start, but at the same time there are many problems, both when a person is trying to get involved in agriculture, and for the achievement and maintenance of a healthy income for the person himself and his family. In the paragraphs below reference is made to the main problems that young people who decide to engage in agriculture have to deal with.

Access to land

New entrants in agriculture should ensure the three main production factors - land, capital, labour - in order to be able to get involved in the sector and reclaim even a small market share. The farmland is considered the most basic and most essential factor of production. It is the base where the farm is structured, whatever its form is (agricultural, livestock, mixed), when the lack of it is considered vital to engage in agriculture.

Access to land has been discussed as a barrier to entry for new and beginning farmers around the country. The ownership of farmland, mainly in the period of economic crisis in Greece, is clearly an advantage, but unfortunately, the fragmentation of plots and the economic situation of young people nowadays do not leave much room for its acquisition. On the other hand, rending some land seems to be the most likely scenario for someone who wants to deal with agriculture, as well as the allocation of land by a relative, for example a farmer retiring from agriculture.

At this point it should be emphasized that the concerns accompanying finding farmland are many. The size of the parcels along with selected crops, should be able to establish a viable enterprise. Moreover, the state of the land is also crucial, as the final product will be a result of its components along with the processes followed.

Lack of infrastructure and other resources

Infrastructure and resources (e.g. machinery) required to practice agriculture, are usually quite costly investments, that young farmers are unable to hold directly from the

beginning. However, emphasis should be given to the necessity of using such infrastructure and resources, like storage facilities, an agricultural tractor, irrigation systems etc. The needs for infrastructures and machinery differ per crop. Each farmer is responsible to determine what he needs and assess the importance of each infrastructure for its own business.

Basically, the problem for new entrants is to meet business needs from the early beginning, as far as equipment and infrastructures are concerned, usually on a strict budget. Therefore, the need to lease such resources and infrastructure from other farmers is more often the only option, by usually postponing for later the purchase of the necessary equipment, the construction their own buildings and land improvements etc. Renting every necessary infrastructure has its own limitations, as there are certain risks to be considered. There may be times that the resources will not be available, as they may be rented to other farmers, or even the lease price will be unviable for the farmer.

Funds - lack of financial instruments to raise capital

Installation of a young farmer requires finding available capital to invest. That single fact seems to be enough to deterrent the entry of new farmers in the primary sector. Finding funds in Greece nowadays, with the economic crisis, has become more and more difficult if not impossible. The previous economic situation of new entrants in agriculture, does not give them the necessary guarantees to be able to apply for a loan from a financial institution, so they would be able to meet the needs of their new attempts. Young people who intend to engage in agriculture and invest their money in it, are mainly unemployed, students, housewives, workers in the family farm business, and their common characteristic is the lack of any particular source of income, to adequately support such an effort. Lack of financing instruments to raise capital so that investments could be made, suitable for both the welfare of young farmers and the general development of the primary sector in the country is now clear. Occasionally, the possibility of exploitation of rural development programs is given to young farmers, such as the program named 'Establishment of young farmers', which funds the first installation of young people wanting to engage in agriculture, provided that the necessary conditions are met.

Information - training

Providing training to farmers will help them acquire advanced knowledge in order to formulate a strategy for a future growth of their farm, providing income for them and their families, but will also flourish the local community.

Limited information seems to be an obstacle for the dissemination of scientific knowledge, adoption of modern practices in agriculture, innovations' implementation and adapting to changing conditions. A recent survey of the European Union showed that young farmers in Greece are seeking information / knowledge mainly through the internet, field days or excursions, individual advice, fairs or exhibitions, agricultural training or courses, farmers' journals and workshops, seminars and conferences, while lack of time and having no replacement on the farm are the most important hindrances for young farmers in accessing the information needed.

The lack of accurate information results a poorly informed farmer and therefore not completely capable to make the proper decisions about his business. In such times of economic scarcity and unemployment, business agriculture requires that the people involved are well informed both economic and geotechnical terms.

Entrepreneurship

Farmers - entrepreneurs operate in a complex and dynamic environment. They are part of a larger collection of people including other farmers, suppliers, traders, transporters and processors, each of whom has a role to play in the value chain. For farmers to cope with the risks they will face in the complex world in which they compete, they need to develop entrepreneurial skills and spirit. The farmer makes many different decisions about his farm in the context of the value chain that influences the profits of the farm business. This is all happening in a dynamic, ever-changing and uncertain setting. To make sure their farm businesses develop and adapt in response to these changes, farmer- entrepreneurs need to stay focused on their purpose, do their best to turn every event to their advantage, seize every opportunity and make the best of it and make the whole system work in their favour.

Inexperienced new entrants in agriculture regarding entrepreneurial issues, have another obstacle to overcome when trying to develop their business. The majority of young farmers have never run a business before, and are not familiar with the terms used, the methods to approach new markets, the way business is made and so many other critical points of entrepreneurship. Usually, young farmers need someone to assist them in the development of their formal business plan, mush needed to access traditional lines of credit from agricultural lenders/ investors, or subsidies.

Potential beneficiaries of a farm incubator project

The beneficiaries of fan incubator programs that have been implemented or being implemented at the moment, worldwide, seem to cover a wide range of people. The majority of projects aims primarily to young people of the same region where the farm incubator establishments are operating. The main reason for that is to link, later on, the beneficiaries with the community. As it is of major importance for the project that its beneficiaries will continue their business outside the incubator, but within the same region/community.

As emphasized above, the main goal of any farm incubator project is to grow new independent farm businesses and preserve farmland. To identify potential groups of people that could benefit through these programs, we should look at the objectives of each program. Some examples are presented below, according to farm incubator projects' objectives, in order to better understand the current selection of potential beneficiaries of incubators.

In literature there are numerous examples of farm incubators exclusively for refugees and migrants, in order to smooth their integration into the local community and provide them with as much help as possible for a new start in life. The idea behind these incubators is to help this particular group of people, by guiding them to get involved in agriculture in the specific area, while trying to maintain the majority of community's land cultivated and not lying abandoned.

There are farm incubator programs aiming to provide education, both at farm methods and business skills, so their beneficiaries are mainly people without a relevant agricultural education, people who have lost their jobs and are looking to work on

something different, people who want to change their lifestyle offering their families a different way of living, closer to nature.

The majority of farm incubator programs, while looking for participants, address to people who have some previous experience in agriculture. There are certain programs that require 1-2 years of experience farming on a commercial operation before they even accept applicants. There is also available information about how to assess the skills of a participant farmers, so the program will be balanced.

Such incubator projects aim to provide immediate assistance regarding land, resources and infrastructure, rather than education and training to its participants. Moreover, the participants in some of these programs are eligible based on the business plan presented upon their selection. Each candidate already possesses some knowledge on issues related to agriculture and crops, being able to put a business plan together.

Such participants could be young people, children of rural families who do not have access to the required infrastructure in order to develop their own, independent farm business, showing an interest in preserving the family business, bringing it to the future. Potential beneficiaries could also be young workers (permanent or seasonal workers) in agriculture who wish to develop their own business, but due to lack of resources cannot dare to endeavor.

Potential incentives for an individual to join a farm incubator project

There are many young people nowadays that decide to engage in agriculture, though hardly half of them have the requirement assets to achieve a business profit. Participating in a farm incubator program boosts the possibility for a farmer to succeed in that primary sector and a competitive advantage over other farmers, struggling on their own. Acquiring knowledge and valuable assistance when starting-up a business is every future businessman's dream. There are many incentives for an individual to join such a farm incubator project, and surely a potential beneficiary seeks such practices and tries to participate in them.

For young entrepreneurs, starting their own business is a big step and quite difficult. Especially when, from the very beginning of their activities, they should ensure the three factors of production - land, labor and capital, gain access to markets and also

being proper informed to meet both the requirements of crop production and markets. For the new entrants, who may not possess the above factors, the incubator farm is a very good opportunity to address this particular lack. Based on literature, the driving force that brings new farmers to such projects, is the provision of basic inputs, particularly of land and capital, at least for the starting years of the business.

Moreover, participating in a project like that, the potential beneficiary reduces the risk originally borne by each businessman and thus acquires even a slight advantage over other farmers who decide not to participate. Those advantages refer to a protected environment, reduced capital requirements and additional facilities provided like training and support from the staff of the incubator when needed. So many facilities are provided within the incubator and a clever farmer entrepreneur is highly motivated to participate, given the current economic situation worldwide.

Nowadays, there is an increase in consumers' demand for small-scale (human-powered) agriculture. Thus an opportunity is presented, an incentive for younger farmers, with small scale production to serve this market trend. Through the incubator, the opportunity to contact customers seeking for unprocessed food products will be given, along with the opportunity to create their own clientele, with the help of on-site sales that can be effected within the farm incubator establishments. Covering the needs of a certain group of people that creates bonds of trust with the growers of the products it consumes, and not having to seek outlets for their products, farmers have already have two more reasons while aiming to become beneficiaries of such a project. In case of certified organic crops or crops produced in accordance with standards of integrated management the bonds between farmers and consumers tend to last more.

An additional factor that could attract farmers in a farm incubator project, is the information provided along with the on-site practical training. There are not too many ways for a farmer to reach such technical support and information elsewhere. The various seminars, organized by Institutions of Rural Development in Greece, do not usually combine those two critical components a farm business needs, while the same applies to the knowledge derived from educational institutions. Therefore, the difference lies in the way information is provided within the participants of the project, as it is mainly an experiential exercise based on the inplace practice in the field. That multiplies the benefits, both for those without any relevant experience in agriculture, but also for

those who have some experience. Those latter, are basically trying to learn new, technologically advanced, cultivation practices, broaden their horizons, introduce new technologically improved ways of farming, processing etc. for their products, thereby gaining a competitive advantage over outdated farmers.

Expected results for the beneficiaries

The initial needs, criteria and motivation that drive each of the participants to take part in such an innovative program, differ significantly. The same applies also for the expectations of each participant. Factors such as ones' past experience in agriculture, a family farm business or even unrelated previous business experience, differentiate expected results that participants in farm incubator projects may have. In the paragraphs to follow, the main expected results are presented.

Training / education / technical knowledge regarding production process

An essential and important part of any competency is knowledge. Knowledge is a key factor in successful farm business management. Knowledge allows farmers to make informed choices. It puts them in a better position to compare the current practices being used with alternatives. Farmers need knowledge in each of the key areas of farm management: planning, implementing and controlling. They need information about their direct functions - primary production, harvesting, processing, wholesaling and retailing. They also need information about their support functions - input supply, financial services, transport, packaging, promoting and advisory services.

When applying for a project like the farm incubator project, farmers are seeking for ways to boost their skills and knowledge. Based on the real competitive business world, farmers, acting as businessmen, should be properly informed on the latest techniques in crop production, animal breeding, post-harvest handling etc. The participants are looking forward to gaining as much information as possible, along with the necessary up-to-date practical skills. Market-oriented farmer-entrepreneurs actively seek new and reliable information that will help them decide how to make their farms more profitable.

Entrepreneurship Support

The management of a rural enterprise is not essentially different from a business in another industry sector. Entrepreneurial farmers look at their farms and see ways to make them more profitable, they develop ideas and then translate them into action. They need self-motivation, perseverance and confidence with an ability to plan and organize a farm business. But they also need support, during the start-up process to learn acting like an entrepreneur. Support in order to be able to identify opportunities, create a vision of how their business will grow, take risks and be innovative. These qualities enable entrepreneurial farmers to seek-out business opportunities, conceptualize and initiate new business ideas and guide the farm business to accomplish the goals set.

There are nine key entrepreneurial competencies for a farmer-entrepreneur: initiative, ambition, focused problem-solving, creative thinking, taking risks, flexibility and adaptability, interpersonal abilities, networking and readiness to learn. With these competencies, farmers will be able to compete in this new environment and make profits by taking advantage of new market opportunities. These competencies can be acquired through practice, experience and training within a farm incubator project.

Managerial competencies

Two farms, with the same physical resources, markets, labor availability and capital base can generate very different levels of profits and income. The difference can usually be attributed to management. Therefore, entrepreneurial and technical competencies need to be complemented by managerial competencies. Managerial functions are diagnosis, planning, organizing, leading, controlling and evaluating. The farmer - entrepreneur should be able to perform these functions in each of the key areas of the farm business: managing inputs, production and marketing. The successful farmer- entrepreneur is competent in each of the functions of management.

Access market opportunities

In order to make profits, produce has to be marketed and sold. Farm incubator projects are expected to provide information to their participants on how to recognize the most profitable market for each product, how to negotiate contracts, and how to always be on

the lookout for more profitable markets and, when found, adapt quickly to take advantage of new marketing opportunities.

Connection to a subsidy program

A farm incubator projects should be somehow connected to a funding opportunity for its participants. In Greece, there is a program that best suites those beneficiaries, named 'Establishment of young farmers'. It would be reasonable for both the incubator project and the subsidy program to be linked together, providing an advantage for participants in incubator projects. A way to do that, would be to award additional points on those who graduated from a farm incubator program, as they had already conducted a series of trainings, are familiar with the market assessment and are looking forward to develop their own farm business.

Determine the mix of services and the corresponding infrastructure required by prospective beneficiaries of incubator farms

Services provided by farm incubators in other countries

Incubator farms vary throughout the globe depending on geography, local markets, demographics, urban proximity and a number of other factors. Common characteristics do exist among the majority of farm incubators, while it seems that all incubators focus on a particular purpose, which is to remove barriers to entry for new farm businesses.

Although there are variations on what is offered by incubator farm projects, there are some common features in the resources and services offered such as:

Land – typically available for rent in small increments

Providing land for cultivation to the beneficiaries is essential for the success of farm incubator programs. It is one of the main assets provided to participants. The partition of the land available should be based on criteria: on the business plans of each beneficiary - in order to meet expectations - but at the same time to be the appropriate land, in terms of soil composition and irrigation options, for the selected crops. Meanwhile, the minimum area for each crop should be determined, so that each agricultural holding will be viable and independent.

Land is offered to beneficiaries against predetermined, usually small rent, in most farm incubator programs worldwide. Thus, commitment and engagement in the program is increased. In some programs, the rent changes over the years (or growing seasons) of the participation of each beneficiary, as it is considered that a profit has already been gained due to previous growing seasons and the participants can cope with this cost. In other cases, the program's annual fees are charged based on how long a farmer has been involved in the program, thereby encouraging participants to set up their permanent businesses and allowing new farmers to benefit from the incubator's services. Farmers pay a fixed membership fee, plus a rate per number of acres of land rented.

Available land is divided into small plots and based on the crops selected by the participants, are provided to the beneficiaries according to their business plan, thus serving both economic and cultivation purposes.

Farm incubator projects need to strike a balance between the individual needs of participants and the overall goals of the project. It is unlikely that all of your plots will be identical, and small disparities in access to infrastructure, plot slope, soil profile, or other factors can create conflict between participants. A list of criteria that all of your plots need to have for participants to be successful on your incubator site could be created. Here are some possible criteria:

- Physical criteria (size, slope, sun exposure, weed/pest pressure, flood potential, soil quality).
- Access to infrastructure (water, wash station, cooler, storage, parking or public transportation, bathrooms).

There are some farm incubator projects that let participants decide among themselves who should farm which parcels. This requires limited incubator staff time, encourages farmer independence and allows participants to tailor their land to their particular farm enterprise. On the other hand, participants may take on parcels that are too large, there is an increased potential for conflict among participants, and moreover, decisions may not align with overall management plan or farm goals.

Other farm incubator projects decide to assign plots based on participant performance. In this sort of land allocation model, each new participant is assigned a parcel for their first year. Throughout the season, the participant's performance is evaluated by incubator staff or mentor farmers. If the participant is doing well on the plot, they may be eligible to return to the plot the following season, move to a new plot, or expand their operations. Most farm incubator projects that employ this type of land allocation system discuss the participant's performance during field walks or other regularly scheduled meeting times throughout the season. According to that type of plot assignment, aach participant is held to the same standard, and "good" performance is clearly defined and a structure for regular communication between incubator staff and participants is created.

Plot sizes at existing incubator projects vary widely. A recent survey of operational incubator projects gathered information about plot sizes from 54 projects (83.1% of all known operational programs) in the US and Canada. Some plots are as small as 4,6x9,1

meters (15x30 feet), and some are as large as 11 hectares. On average, incubator plot sizes range from 0,1 – 0,4 hectares. The most common plot size is 0,1 hectares.
A lease agreement is usually signed between the organization and the participants as a protection from excessive legal liability, clearly outlining the policies around paying rent, as well as the penalties for late or unpaid rent. Most programs collect rent on a monthly basis. Some programs collect rent only during the growing season (as defined by the region/climate) and others collect rent each month of the year. Another option is to collect a rental fee for the entire season up-front or in several installments, which may or may not be monthly.

Equipment – shared equipment offered at low fees for use among incubator clients

Every organization planning to establish a farm incubator program, should be able to provide to the participants' certain equipment, necessary for farming operations. This equipment should be available as shared amongst the participants of the program, for the whole period of the program operation.

Based on already implemented farm incubator programs, shared equipment is usually provided to participants for a small fee. Furthermore, each participant may use its own equipment (where available), and save himself some money, necessary for future investments/ equipment of its own.
The availability of equipment and land of a farm incubator program, determines the size of the program, and more specifically the number of participants sharing the available equipment and land. Usually, the farm incubator project owns all of the equipment and infrastructure needed. Participants agree to share the use of that equipment and infrastructure with everyone else on the incubator site, and also agree to follow guidelines for the appropriate use and maintenance of farm incubator tools. In some cases, the farm incubator project is solely responsible for the replacement and maintenance of all tools and infrastructure available to its participants, while in other projects, maintenance of the equipment is the participants' responsibility (training or technical assistance needs to be provided by the project).

Infrastructure – access to electricity, water supply, post-harvest facilities etc.

One of the main goals of most farm incubator projects is to provide participants with access to the equipment and infrastructure they will need to establish a successful farm enterprise. From the basic access to electricity and water (boreholes, wells etc.), to available for everyone storage areas (e.g. refrigerators, warehouses) and auxiliary facilities for the necessary post-harvest processes of the products (laundry room, sorting, packing, packaging etc.), are some infrastructures offered by the majority of the existing incubators worldwide and essential for the success of the project. In some projects, individual meters to record each participants water use are available, so the amount consumed is measured and billed. In general, there are differences among programs as far as the cost of those infrastructure mentioned above, and whether or not the farmers pay for the inputs varies from program to program.

In some cases, the cost of access to the greenhouse and high tunnels depends on each farmer's usage. Variable costs such as heating, electricity and organic certification are additional. Annual costs related to agricultural production (seeds, compost, fertilizer, pots, harvesting containers) are assumed by the farmers individually, but group purchases can be organized to reduce supplier prices and transport costs.

Training – formal and informal group and one-on-one training and technical assistance etc.

A key priority of the incubator farms is to provide the appropriate conditions to the participants so that they can be able to gradually build their own farm business, acquiring a competitive advantage over other farmers who decide not to participate in such an effort. In addition to the benefits provided to participants to achieve their goals (such as affordable land rent – or free of charge, affordable equipment rental rates and infrastructure etc.), training is also offered to participants. The courses usually include topics, such as: production practices, crop planning, farm equipment use and

maintenance, irrigation methods, business planning and small business management, marketing and communications, opportunity to apply practices on a demo plot etc. However, training is not a high priority for all projects. In fact, in some cases relative expertise is considered a prerequisite in order for the candidate to be selected.

Various training methods are used in incubators, through the years, such as: Classroom based learning, Field trainings, Online workshops, Mentorship, Peer-based learning, One-on-one technical assistance, Training / demonstration farm.

The educational component of an incubator farm is usually multi-faceted and tailored to suit the client-base and local needs of the farming community. The key component of the incubator farmer's education and training is the experiential learning that comes with starting a small business in a semi-controlled environment. Through hands-on mentorship and access to the many resources that typical incubators set up, the incubator famers are be able to learn many of the skills they need to be successful and put those skills to the test in real time. Along with land access and entry to markets, education is one of the key offerings of an incubator farm.

Market Access – assistance in finding and accessing markets or collaborative marketing

The barriers to entry for new and beginning farmers include not only access to land, education, and infrastructure, but also access to markets in which they can sell their farm products. Many farm incubator projects incorporate some type of market access into their farm incubator operations. There are several different methods used in order to help the participants build markets for their agricultural products (on-farm sales, farmers' markets, community supported agriculture programs, marketing cooperatives, and wholesale and institutional sales)

Forming strategic marketing collaborations with other businesses is one of the most cost-effective ways to reach new audiences. In some farm incubator projects, a marketing coordinator is hired to help the participants find markets, build a market portfolio for each one of the farmers, and help them put together business plans.

Some projects monitor participants' progress toward creating viable marketing and business enterprise plans, even after they finish the project and leave the incubator. Alternatively, other projects contract with a mentor farmer who consults with incubator participants on an as-needed basis.

Small farmers have a difficult time finding cost-effective marketing outlets for their produce. Wholesale channels want high volume at a low price. Farmers markets have better pricing but low/ inconsistent volumes along with time and transaction costs. Retail and restaurants may bring higher prices but also higher food safety requirements and tend to be higher - maintenance relationships. In some cases, the farm incubator staff develops an internal produce marketing operation so that beginning farmers could focus on production, while in other cases, they coordinate group sales at local farmers' markets, and all participants are eligible to participate. Free business assistance, including business planning and assistance in legal, regulatory and certification compliance (when needed), is also provided by some farm incubator projects.

Other farm incubator projects focus on collaborative marketing to achieve marketing goals for their participants. This may include farmers and consumers or nonprofit groups working together to benefit the farmer and/or buyers. A present shift in public perception is that local farmers need the support of their communities to stay viable. By working together, groups can provide a market for small farmers who can then afford to stay on the land. It is a circular system in which all participants can benefit and customers gain access to farm products in abundance. Some examples of collaborative marketing groups include multi-stakeholder cooperatives, aggregation partnerships, produce auctions and more.

There are cases of farm incubator programs that help the development of collaborative marketing efforts, shared distribution into urban markets, farm to school efforts, and institutional sales. These are examples of ways an incubator could strengthen demand for local, sustainable products, while incubator participants are becoming part of the cooperative effort to market more local products.

Some farm incubator projects provide market access to participants by allowing participants to sell their products on the incubator site. Participants can sell their products individually or collectively. Common forms of on-farm sales include roadside farm stands and farm stores. Generally, on-farm sales are administered by participants with some incubator staff oversight. On-farm sales can encourage collaboration among participants and can teach valuable sales and marketing skills.

Most farm incubator projects encourage participants to sell at one or more farmers' markets. Farmers' markets offer participants an excellent opportunity to experiment

with different post-harvest handling methods, interact with potential customers, learn how to display and price their products in a competitive marketplace, and track and monitor their sales over time. Some farm incubator projects help participants identify appropriate farmers' markets and provide assistance with paperwork and market fees, while others expect participants to find and enter farmers' markets independently.

Community supported agriculture (CSA) programs are another very common type of market access utilized by farm incubator projects in the United States of America. Participants who are interested in selling their products through a CSA typically work with incubator staff to set up the structure of the CSA and refine their harvest schedules and crop plans. Some incubator projects help participants find CSA members and provide ongoing support, while other incubator projects only provide assistance as needed. The sizes of incubator participant CSAs vary widely – some participant CSAs have fewer than 5 members, and others have 50 or more members.

Some farm incubator projects work with participants to help them develop relationships with wholesale accounts (e.g. restaurants, grocery stores) and/or local institutional buyers (e.g. hospitals, universities, schools). Although relatively few farm incubator projects provide market access through wholesale and/or institutional sales, these avenues for market access are slowly growing in importance and becoming more feasible. As interest in local food continues to grow, larger buyers like restaurants and schools are increasingly interested in working with small-scale agricultural producers.

Capital – many incubators feature assistance developing needed tools to access capital

Agriculture is a capital intensive business even at a small scale. Needs for working capital, equipment and land require funds typically exceeding a farmer's savings. Some incubator programs allow participants to build up their assets, particularly in the latter years when they are farming on more land. In some cases, a staff person is dedicated to educating farmers on accessing finance and assisting them with loan applications, and also works with participants to develop the recordkeeping tools and skills they will need to apply for loans, grants and other sources of capital.

In some other cases, the incubator connects participants with suitable financial advisors, banks, cooperatives etc, pushing them further into the real market conditions, while assisting them with business and market planning.

Transition – incubators typically assist in finding suitable off-site land access for

transition upon the conclusion of a client's tenure

As one of incubator's main goals is to grow new independent farm businesses and preserve farmland, transitioning farmers off the incubator site is critical. Incubator projects can help participants throughout their transition process by facilitating land matching, providing business and market planning services, encouraging continuing involvement, and setting flexible goals for transition timelines.

More or less, the average time farmers are expected to stay on the land is between 3 to 5 years. One of the major concerns is how to formalize transitional programs for farm incubator participants. Based on the differences in land availability, creating an effective transitioning program for farmers varies greatly between communities. Transition from the safety net of a farm incubator project to their own business outside seems difficult and stressful for both farmers and incubator' staff, as it is something that cannot be done in a short period of time. The farmer, along with the help from incubator' staff, should come with a business plan almost from the very beginning, while incubator staff's role is to encourage participants to think ahead as they move through their 4-5 years on the incubator site.

A technique that applies in certain incubator cases, incubator farmers are given the directions and help needed, in order to draft a list of land criteria, while the staff facilitates connections between incubator farmers and outside resources like financial institutions. Some incubator projects help transitioning participants access land through land matching or land link programs. These programs connect incubator participants to private or public landowners who want their land to be farmed. The person or people running the land matching or land link program also serve as facilitators between the

incubator participant and the landowners. Usually, farmers are encouraged to take out a small loan to help them establish relationships with lenders and build a good credit score. While land matching is an ongoing process and requires consistent attention and maintenance, it also helps keep farmland in production, reduces cost of land for participants as compared to market-rate rent or purchase and builds relationships among towns, landowners, and the incubator project.

Another method of transition for the beneficiaries is to help them develop a brand and logo for their farm. The ultimate goal is to help farmers become self-sufficient.

The truth is that transition methods differ greatly between programs. Some of the programs offer no formal transitioning process, with no formalized time limit for how long farmers can stay on the land.

Assistance and monitoring of recordkeeping system during growing season

Nowadays farm operations are becoming more and more business oriented than before. Being a good producer is no longer good enough to remain in business. The key to becoming a successful farmer today is being a good producer as well as a good financial manager. That asset is getting a business closer to gaining competitive advantage.

The first step in being a successful farm manager is keeping good, accurate records and establishing a sound record-keeping system. For that reason, some farm incubator projects have incorporated in their programs the importance of recordkeeping and monitoring during the growing season. There is a misconception that the only reason a person needs records is so he or she can report their taxes. However, record keeping plays a much larger role in business. Farming is a business and records can be helpful in planning improvements for that business and making proper management decisions.

Farm managers need a complete and accurate farm records system in order to make informed management decisions that will help maintain or improve farm business profitability. Records can help the manager plan and implement farm business arrangements and do estate and other transfer farming. Also, farm managers can use records to determine what the efficiencies and the inefficiencies are, measure progress of the business and plan for the future.

Potential beneficiaries' needs in Greece

Many incubator farms worldwide are reporting strong interest and participation. In some cases, as many as 50 participants show their interest to participate on an annual basis. Generally, 10-15% of those participants go on to use incubator land to start their businesses, while interest in the programs increases each year in the USA. With just 6% of EU farmers under 35, the new Common Agricultural Policy (CAP) puts additional emphasis on encouraging new entrants into the sector. In the new CAP, there is a 25% top-up in the direct payments made to new young farmers under 40. This comes in addition to the existing option of installation grants for young farmers under Rural Development Programs, which are managed at national and regional level.

Though, things may differ in Greece, where farm incubator programs are not yet introduced. Therefore, it is crucial for the program to identify the needs of young farmers and focus on how to meet them.

When establishing a farm incubator program, those needs should be taken into consideration. But, every individual is unique, has a different background and looks to address its own needs. When deciding to participate in such a farm incubator project, participants are looking forward to fulfill different goals. Certain concerns/ needs are more common and are described below.

According to a research conducted in the framework of the Exchange Program for Young Farmers in Europe, land to buy or to rent is the most important general need, followed by access to credits, subsidies and qualified labor. Obtaining technological skills and skills to develop a farm strategy are the most important knowledge needs, as young farmers have a technological focus and are production oriented.

Farmers face a lot of challenges, such as sustainable growth, or even acquire the appropriate technical and economic training. It is more than obvious that young farmers can contribute the most to fostering innovation and resource-efficiency. But, high investments in the start-up phase, difficulties in accessing finance and small turnover in the first years, prolonged generation renewal and diminished access to land can reduce the interest of young farmers in entering into the sector.

The needs of young farmers in EU-28 for obtaining an opportunity to develop his business, are the following:

- Availability of land to buy
- Availability of land to rent
- Subsidies
- Access to credit
- Qualified labor
- Machinery
- Other legal issues
- National inheritance law
- Access to new and useful knowledge
- Seasonal workers
- Access to useful trainings/ workshops/ networks
- Advise of extension services
- Access to insurance
- Interventions of parents / other persons
- Advise of private consultants

Based on the above research, 43,1% of the young farmers in Greece are having difficulties to obtain land to start their own business. Land to buy or rent is confirmed to be the most important need of the young farmers, most often due to legislative issues, institutional issues, issues related inheritance and land prices. Land is a less important need for young farmers in more intensive, specialist sectors and insurance and knowledge is more important in these sectors. An interesting outcome in this research is that young farmers who own the farm are more sure of themselves. They perceive less general needs than the other young farmers but they also are less eager to develop different kinds of skills.

Access to land for new farmers can be a huge hurdle. Land prices in some regions are very expensive and a beginning farmer cannot place his total budget in such an investment. On the other hand, rented land has always been a part of the greek farmland tenure, though our cultural heritage is basically rooted in the ideal of private property. Across the country, climbing land prices and competition with the development market have made it increasingly difficult for farmers to find land they can afford.

Moreover, subsidies, credits and qualified labor also are important general needs. Young farmers are most interested in specific technological knowledge for the farm and

developing a farm strategy. Furthermore, entrepreneurial skills (marketing, networking, communication and financial skills) and managerial skills.

Successful farmers are first and foremost, business persons. Business planning is key to beginning farmer success. For a farm operation to be successful, its current position and future plans must be known. But having these plans in mind is not enough for a new entrant in agriculture. Time should be dedicated to formulate ideas, evaluate business and devise a strategy.

Though, new entrants in agriculture, are not familiar with entrepreneurship skills and so are not able on their own to write a business plan, focusing on all necessary parameters. They need some help, mainly while starting their business, but they also need to be trained to create and adjust their business plans, based on current conditions of the market, so they could be successful in the long run. Information and training should be obtained and a business way of thinking should be developed, in order to cope with market conditions and competitors, as main needs that participants have. It is important to train incubator farm participants on adaptable business and profitability strategies.

Some small farmers already know exactly what it is they want to do, how they are going to do it, and why they want to do it. However, many farmers never take the time to consider what the customer wants, why the customer wants it or how the customer wants it. Many of these same farms never consider why their products or services would be sought after more than their competitors. The notion of creating and maintaining a "competitive advantage" is a key component of the strategy formulation, and it is something that almost all participants need.

The participant of a farm incubator program needs to be well informed, in order to be competitive, and the program is where he expects to get the proper information, that he wouldn't be able to find anywhere else. So it is crucial for both the program and its participants' success, to provide such training/ information. By educating its participants in certain issues, like how to define a new business and set goals, plan steps to achieve those goals, evaluate the effectiveness of business and marketing strategies, set a direction for the business for the next five years etc, the incubator can cover their needs.

Additionally, most farmers' markets lack the information required to make effective changes and improvements and new entrant farmers are not familiar in recognizing the

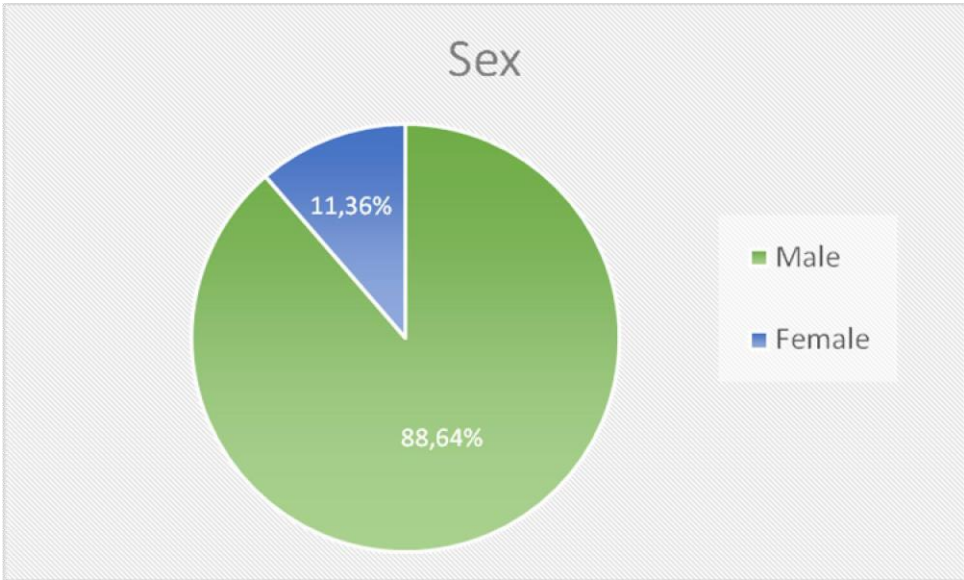
opportunities. One of reason why a business plan is the most important is the market analysis included. Understanding the market will help the farmer to identify many different factors that can have an impact on his business or clients.

Beginning farmers have so many things in mind, that usually forget about their marketing plan, even though it should be the first on the list while planning their business, or even planning what to produce. The market they need to look at is the potential market, not the actual market served, the one that's limited to existing customers. The target market is much wider than just the people already reached. It's the people you might someday reach, or people you could reach, that you need to be concerned about.

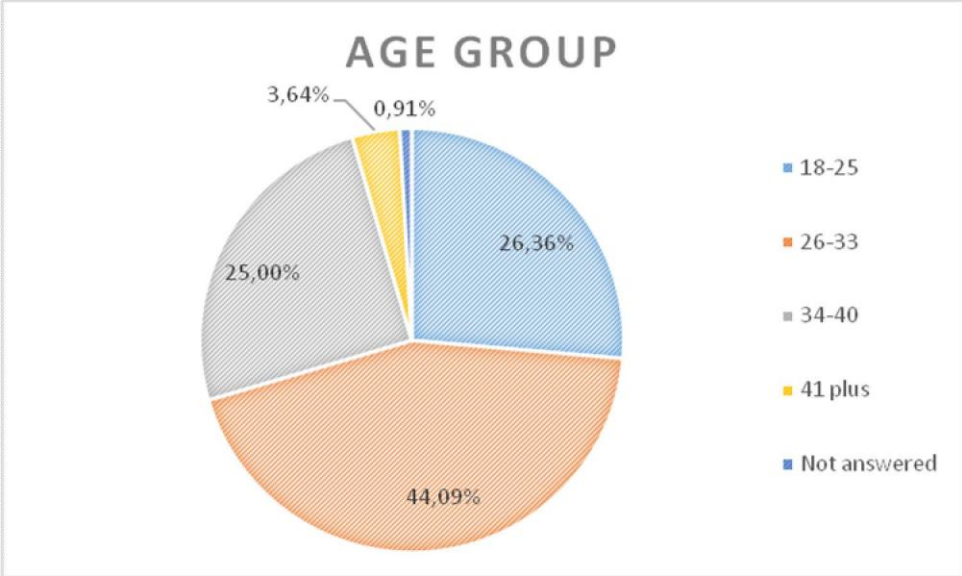
Assessing the market as early as possible, is so crucial for new entrants, and getting all the needed information is also critical. Dividing the market into segments helps the farmer address the more specific market needs, pricing patterns and decision criteria in each of their different market segments. Being able to identify the market trends, the farmer will be more comfortable and ready to do business in the outside-the-incubator world, knowing exactly what his/her options are and it would help minimize loss in his/her business. Moreover, the farmer could gain invaluable information about competitors, economic shifts, demographics, the current market trends and the spending traits of customers.

Results of survey among young farmers in Greece about their problems during the installation period

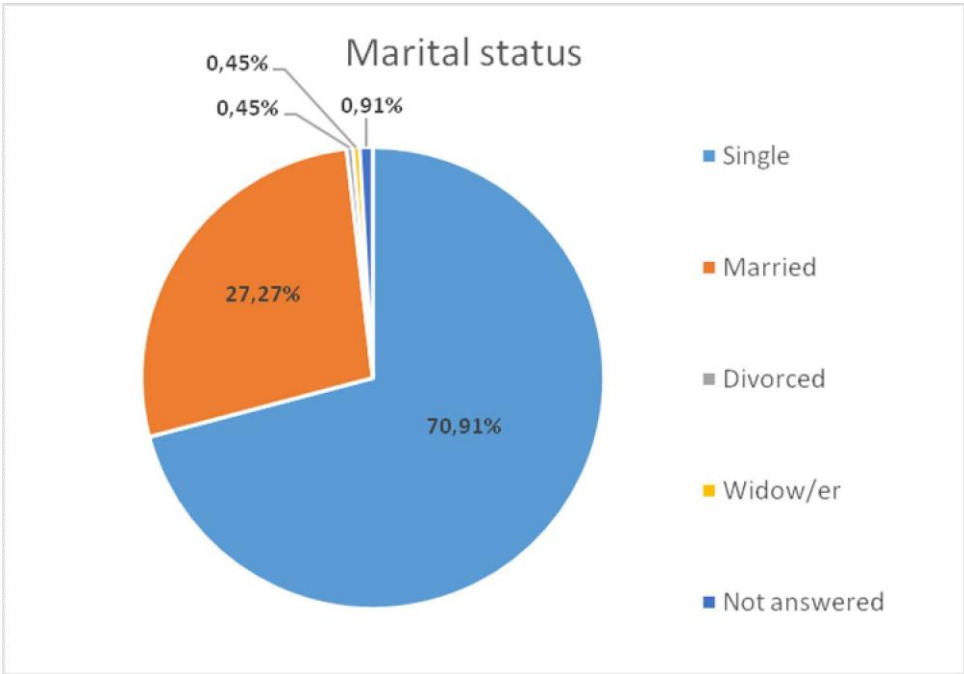
A survey was conducted in order to investigate new farmers' problems during the installation period. 220 questionnaires were distributed to young farmers throughout rural areas in Greece so that proper conclusions could be elicited. In relation to the demographics 88,64% of the sample were male farmers and 11,36% female.



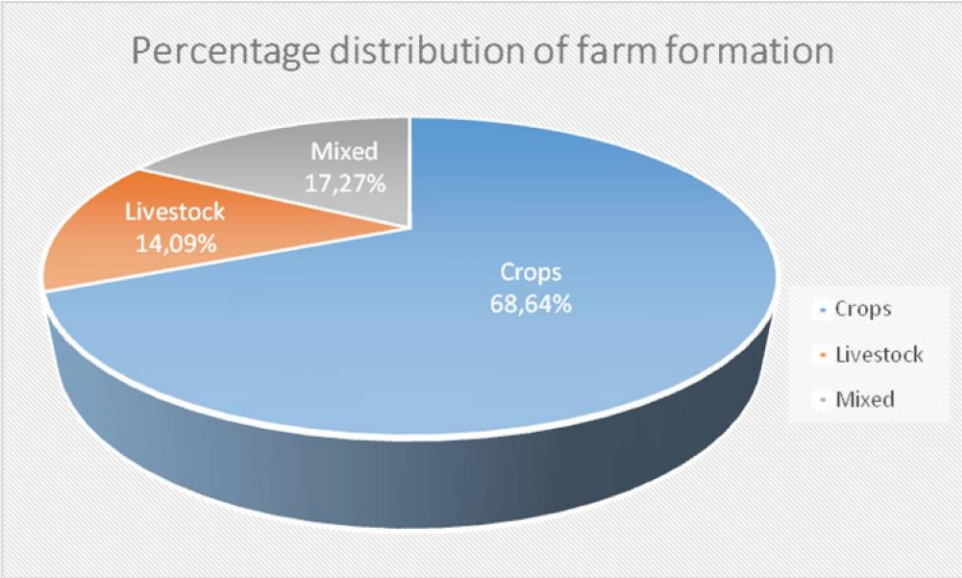
The survey was affiliated with young farmers so the age groups were converging to lower ages rather than older farmers. Therefore, the age group of 18-25 covered 26,36% of the whole sample, 26-33 age group was the more popular answer (44,09%), 34-40 age group covered 25% of the sample and the 41 plus answer was the lesser choice (3,64%).



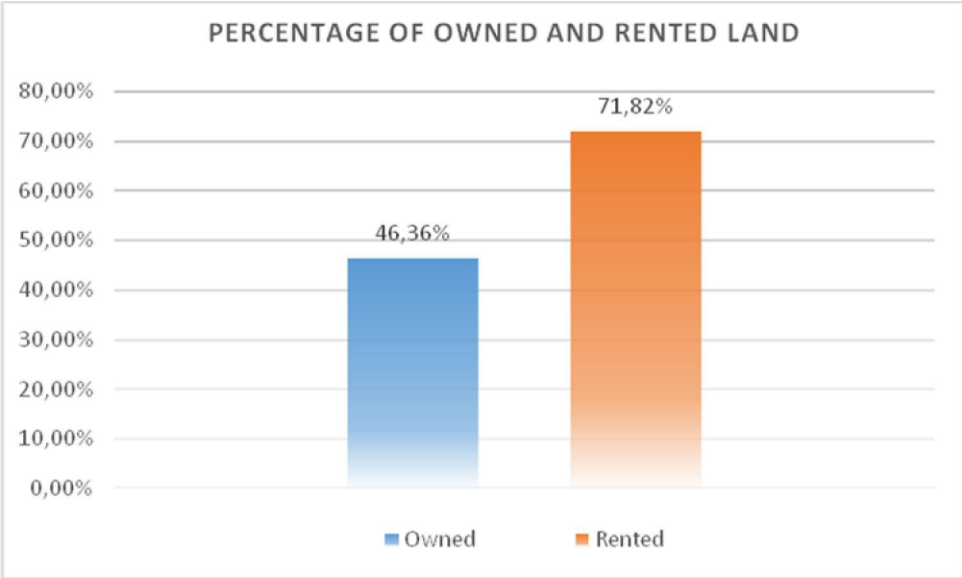
As for the marital status, most of the young farmers were singles (70,91%), while about one fourth of the sample was married (27,27%).



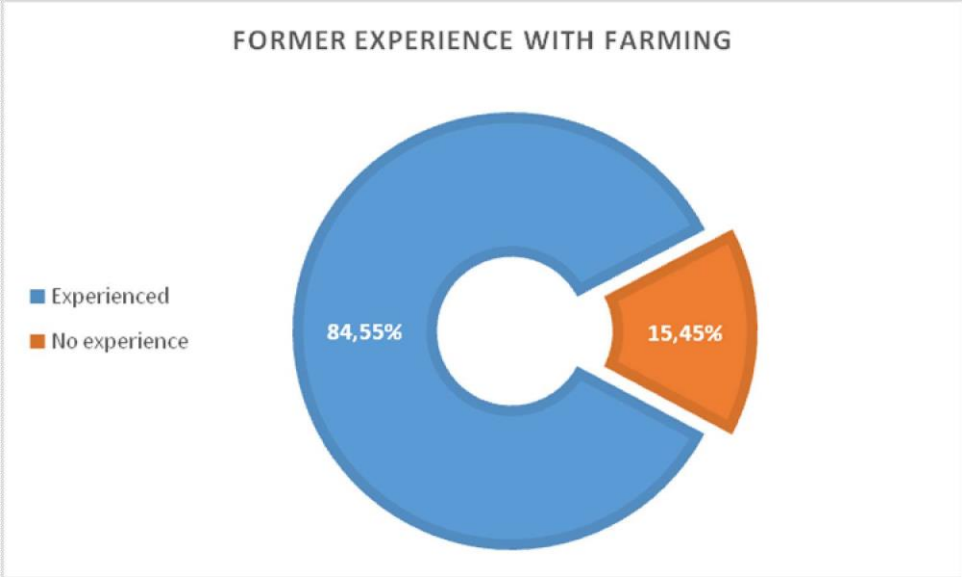
Advancing to the individual farm data analysis, the farm formation of young farmers consists of 68,64% for crops, 14,09% for livestock and 17,27% for mixed farms.



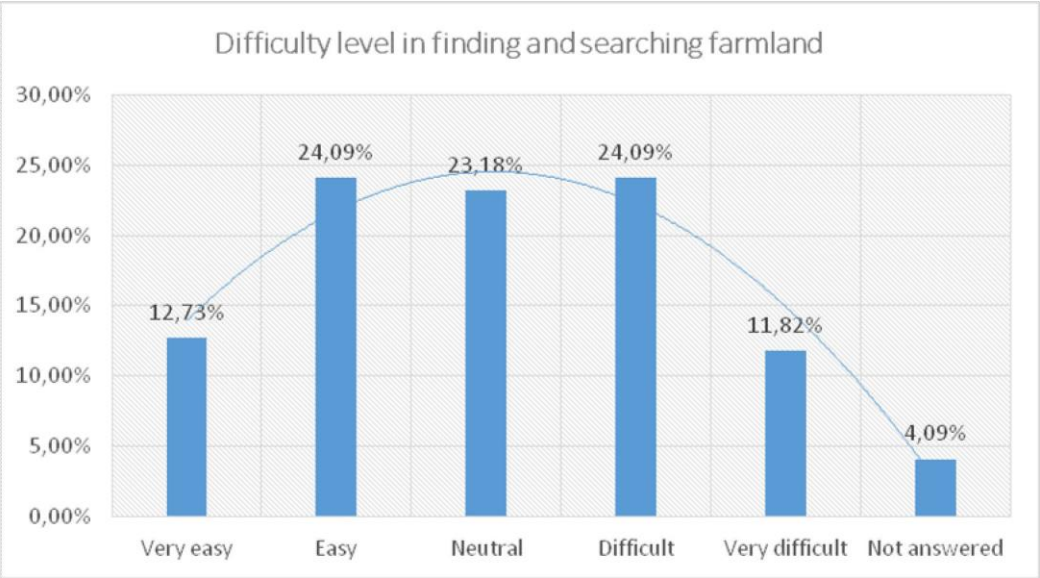
Furthermore, the land ownership plays a significant role for young farmers and through the elaborated data, 71,82% of farmers indicated that they rent land for their business whilst 46,36% of the samples indicated that they own part or the whole land they use. Thus meaning that young farmers have a tendency to rent rather than buy land because of the little land availability and the current uncertainty.



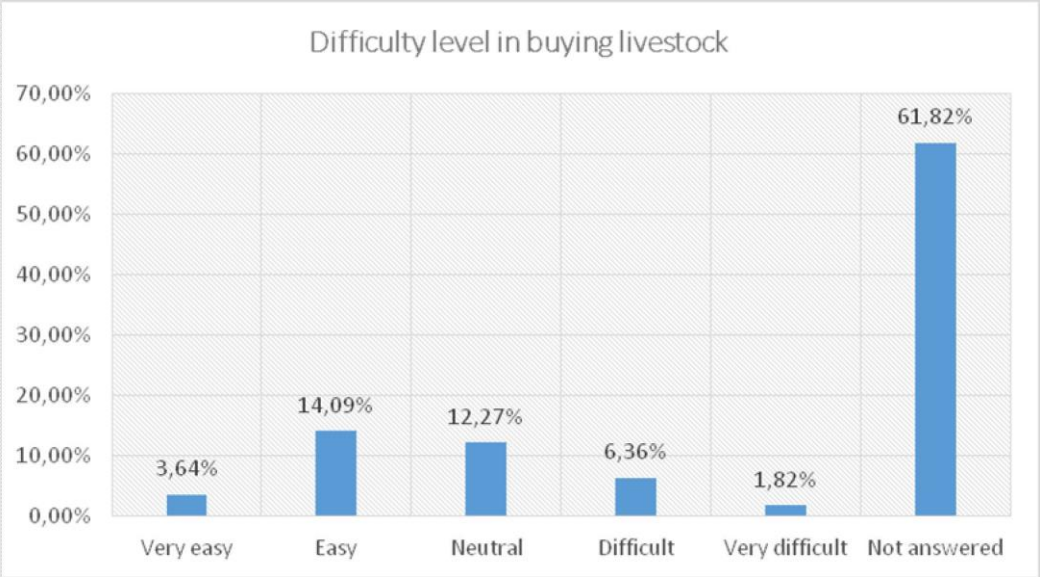
Another important aspect for young farmers is their experience as farmers. Most of the respondents had former experience with farming activities usually due to their family's origin, whereas only a small percentage of the interviewees had no significant experience with farming activities at all.



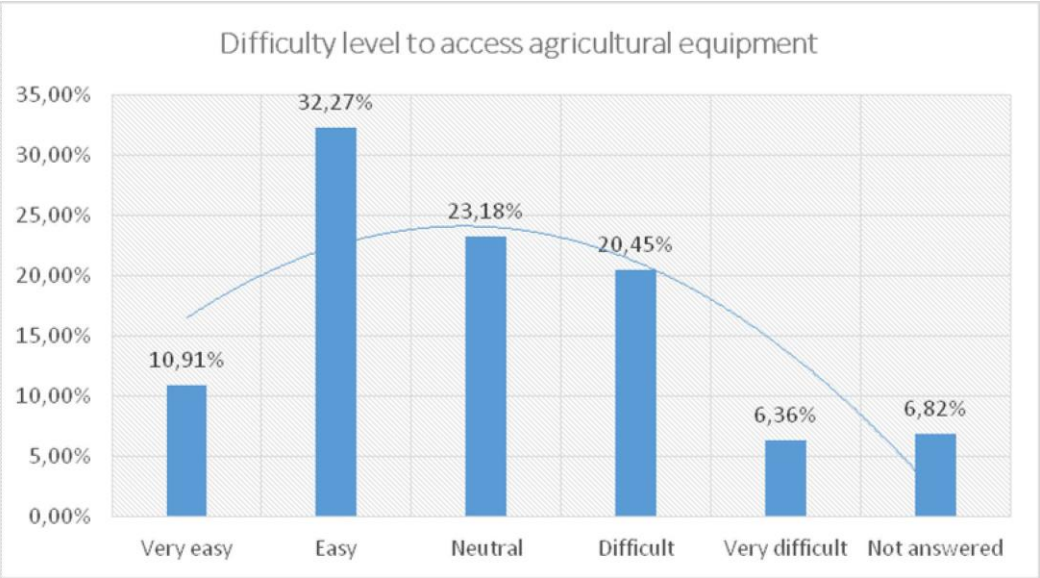
Progressing to the core of the survey, the difficulties of young farmers related to the entering problem were investigated. Several questions for different aspects were conducted in order to elicit the most significant problems that young farmers face when entering to the current job. The Likert scale was implemented in order to facilitate the investigation of the young farmers' preferences. It is one of the best scales for the interpretation of questionnaires with very strong merits. Related to the difficulty in finding and searching farmlands most of the answers range between *easy and difficult*, with the aggregate percentage of these three answers reaching 71,36%.



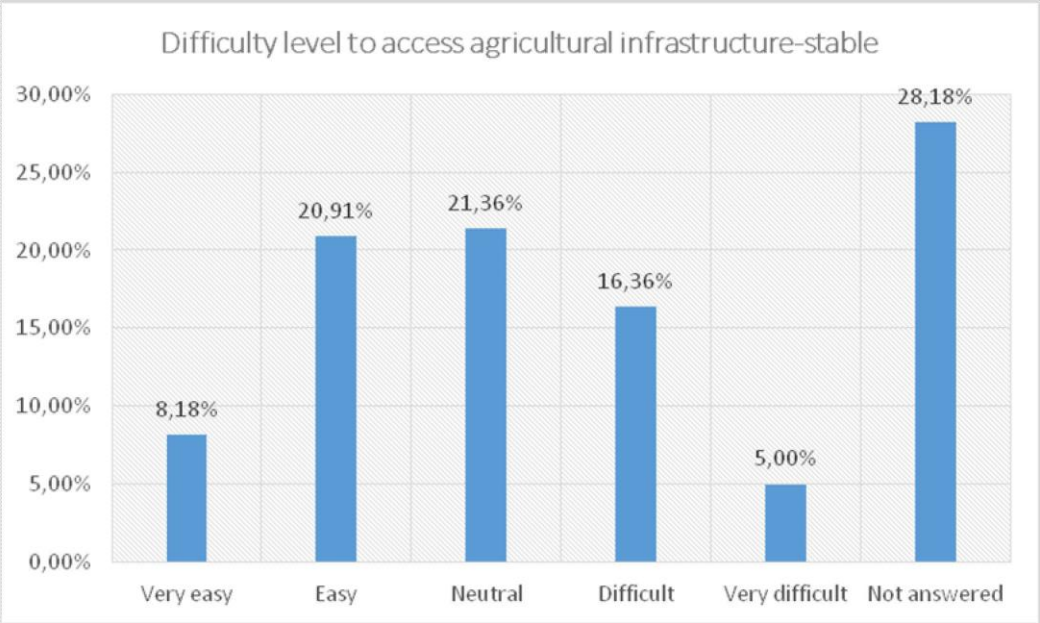
As mentioned above, most of the survey participants were associated with crops and very few were occupied with animal breeding. Thus in the subject related to the difficulty in buying livestock, the most participants physically did not answer, though some of them gave an answer from their experience from others.



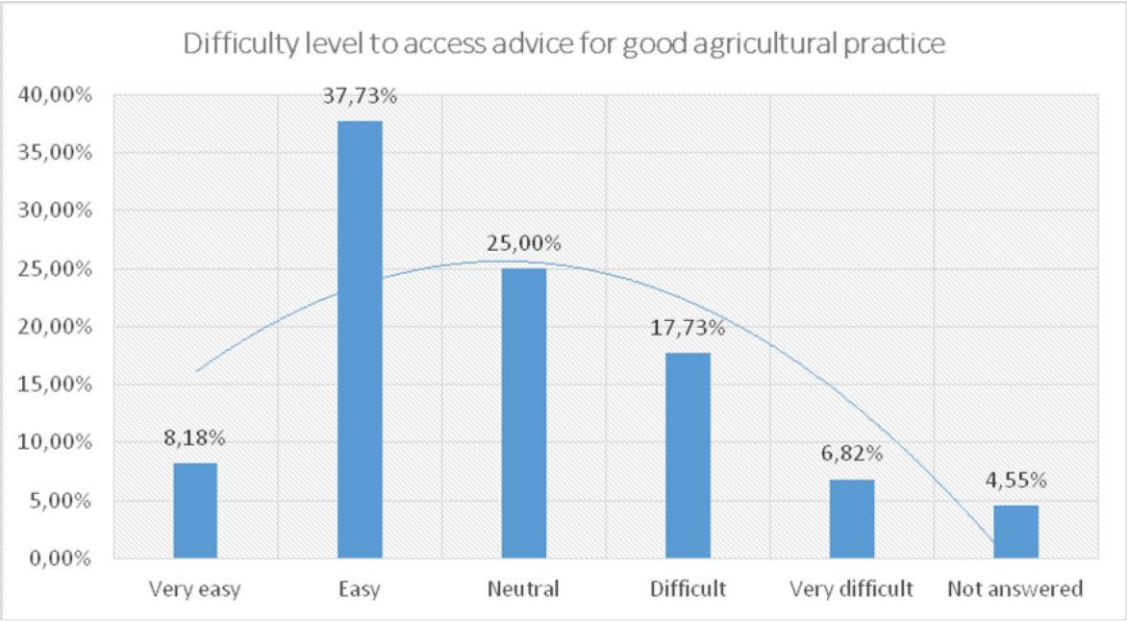
Accessing equipment and infrastructure could be a significantly difficult task for a young farmer. Although, young farmers declare a percentage of difficulty in accessing equipment, the majority of the sample did not face important problems related to the current aspect, usually because their family provided the required equipment.



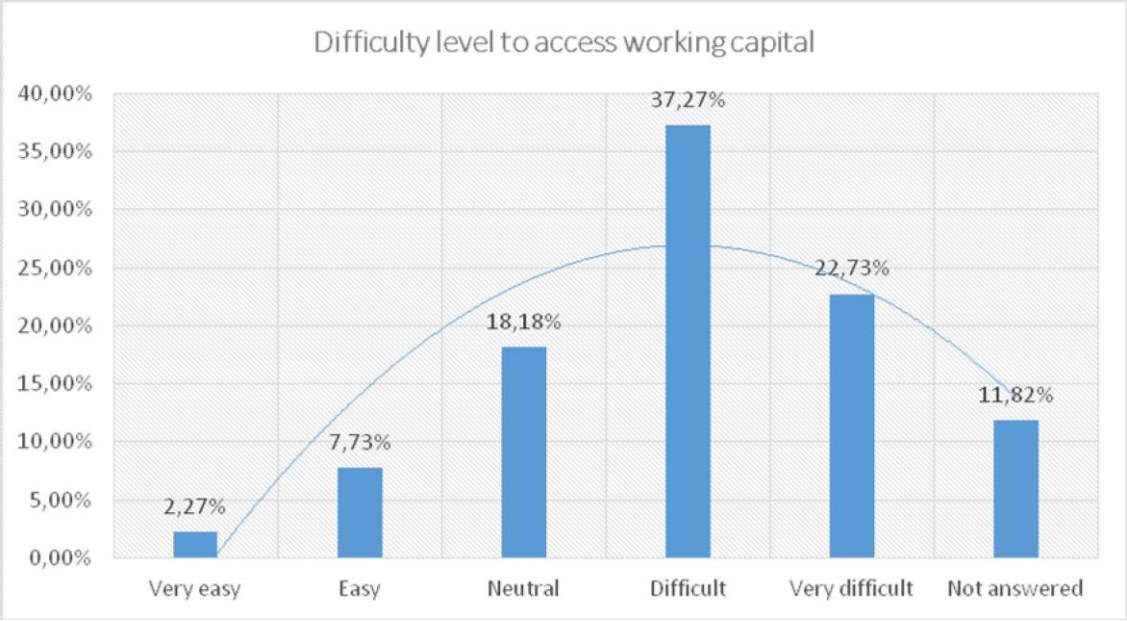
In the collateral framework of accessing infrastructure, many of the young farmers were surprised because they could not recognize how to define infrastructure and told us that the equipment answer was enough. Subsequently, many of the interviewees did not answer (28,18%) and the next most answered answer was neutral (21,36%).



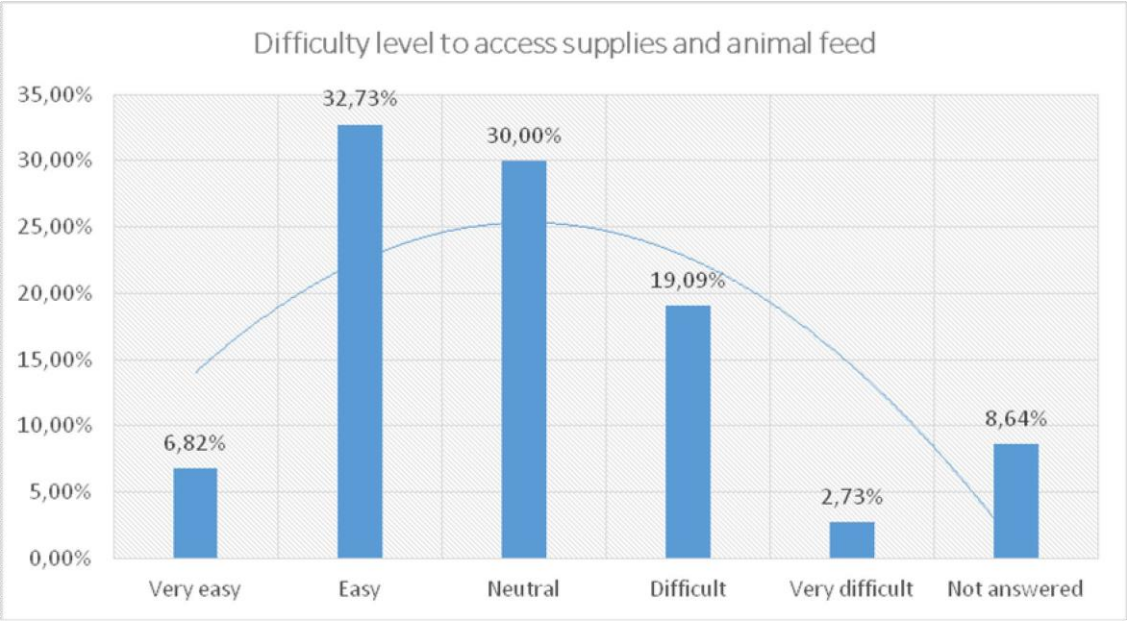
Another aspect for young farmers is the implementation of good agricultural practices in order to produce quality and safe products with respect to the environment and promoting environmental sustainability. Most of the respondents (37,73%) had an easy time to access professionals' advice while one fourth of the sample wasneutral.



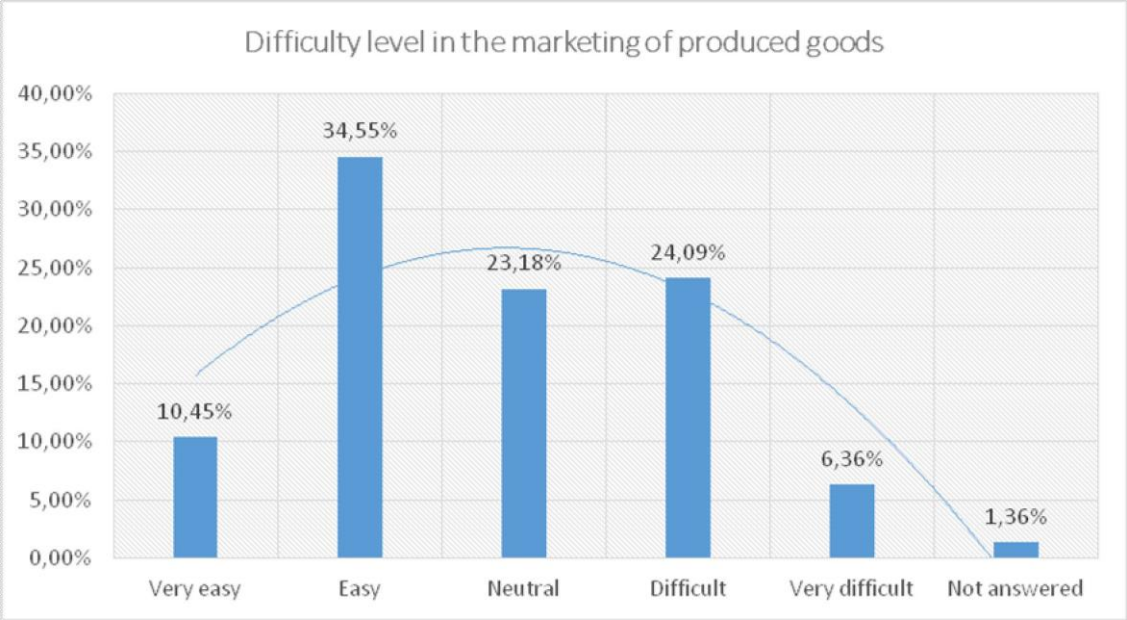
Access to working capital was a major problem for young farmers who many declared as one of the most difficult obstacles they had to avoid. Half of the respondents had a difficult time in accessing working capital for their farms, resorting to borrowed funding in order to have the necessary provisions for their living.



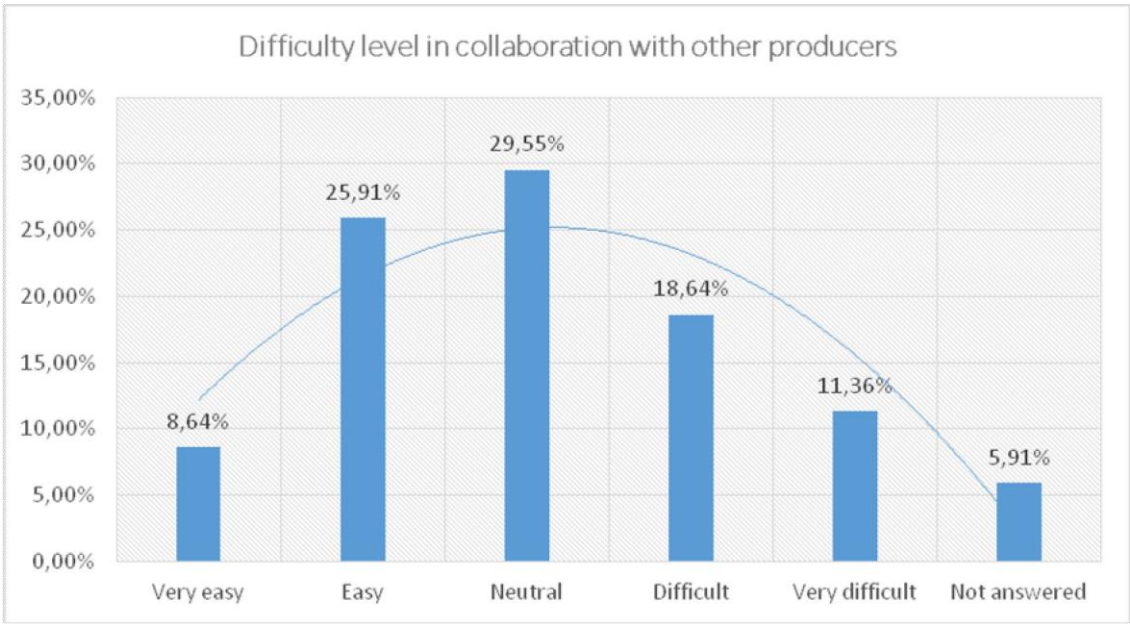
Affiliated with the access to supplies and animal feed, most of the farmers did not face significant problem.



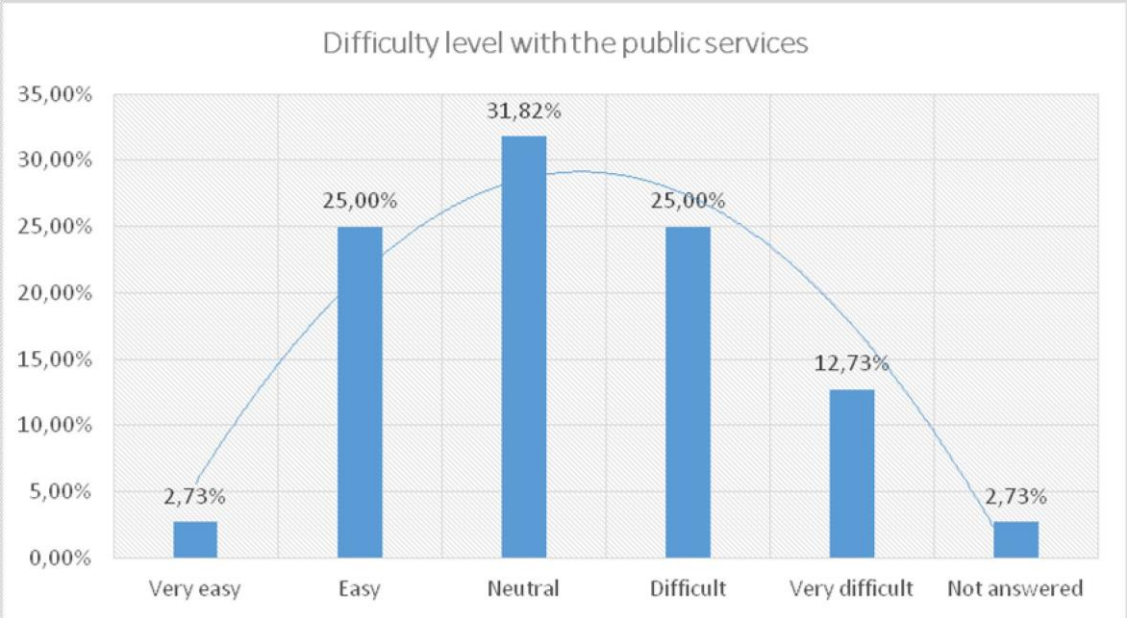
Although, marketing of agricultural products and the connection with distribution channels is a huge problem especially in Greece, only ≈30% of the interviewees declared a significant difficulty in accessing markets and in promoting their produce.



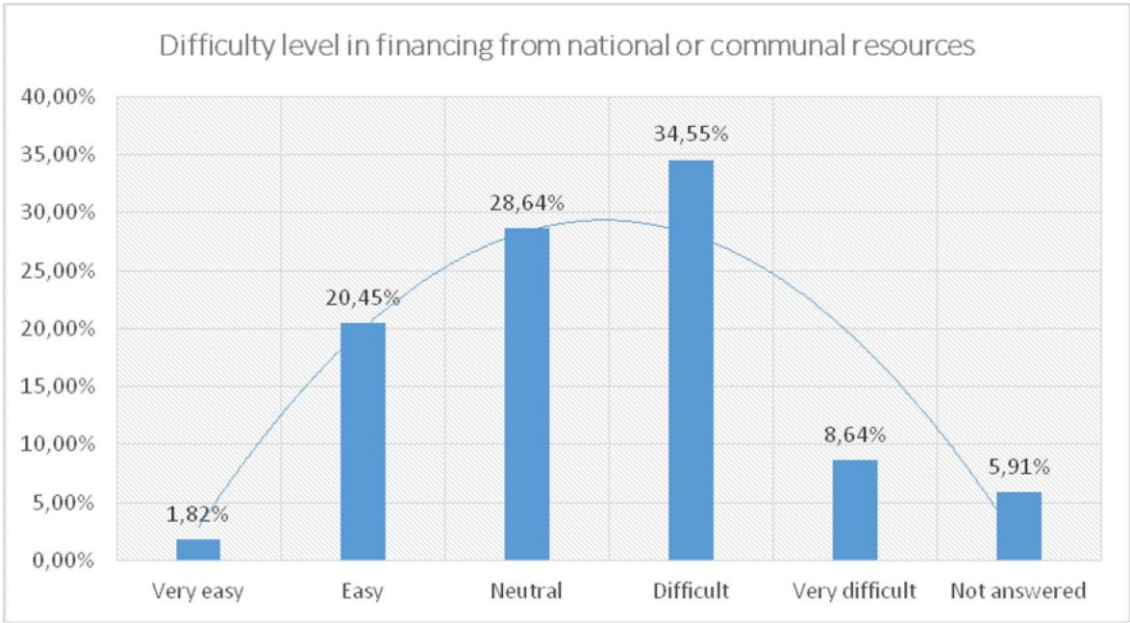
Collaboration is a vital aspect for the agricultural businesses, so young farmers should learn to cooperate with other farmers in order to develop good relationships and gain more bargaining power. From the respondents' view, collaboration was thought with neutrality whilst one fourth of the sample expressed the opinion that it was not too tough.



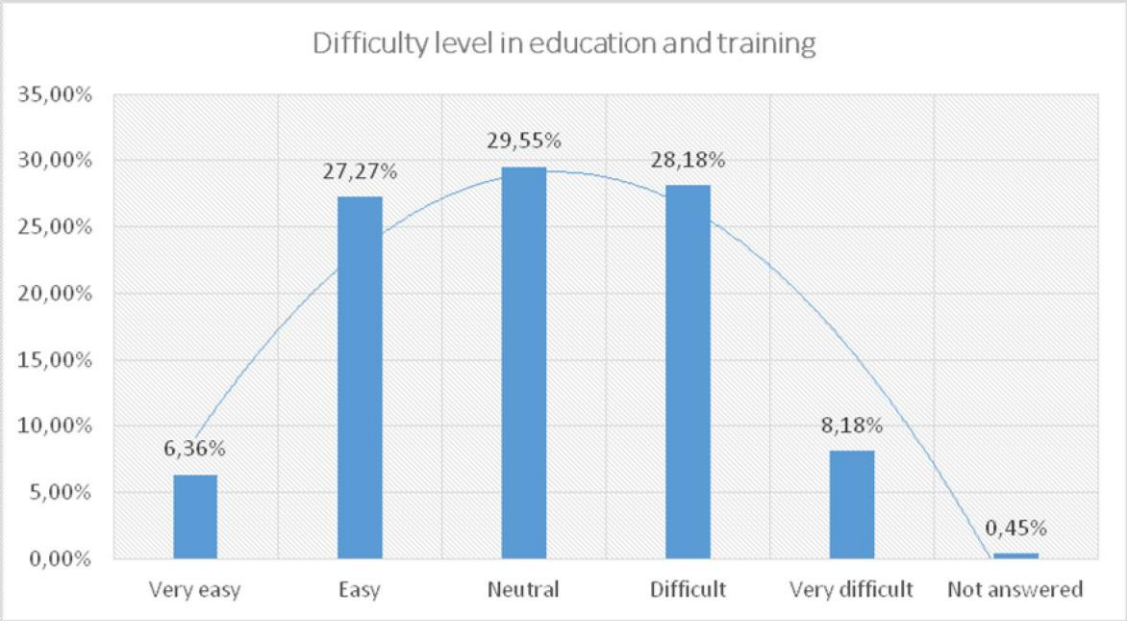
Bureaucracy is a vital problem for the most people and especially in Greece, it consists one of the biggest problems of the public sector. Many farmers (37,73%) stated that they faced significant problems related to the public services, while about one third of the sample was neutral.



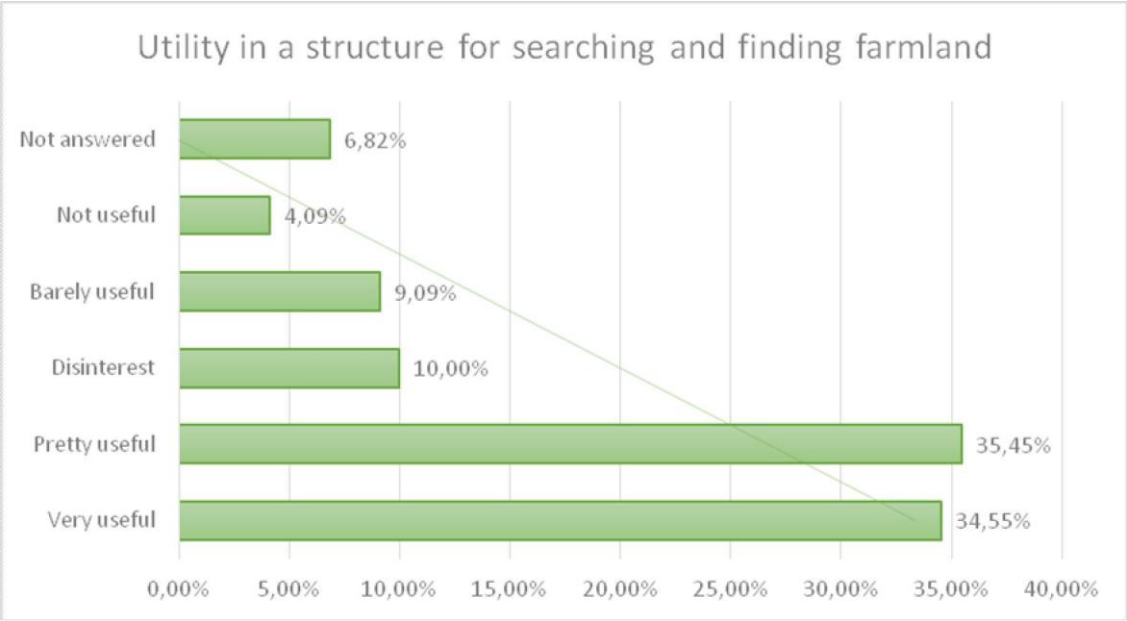
A consequential problem emerging from bureaucracy and lack of information is difficulty to be financed by either national or communal projects. About half of the respondents stated that they had a difficultly to be financed by funding projects. Based on the abovementioned, bureaucracy was the main reason for this difficulty and many farmers declared the need of an information entity in order to inform them about EU and national funding programs.



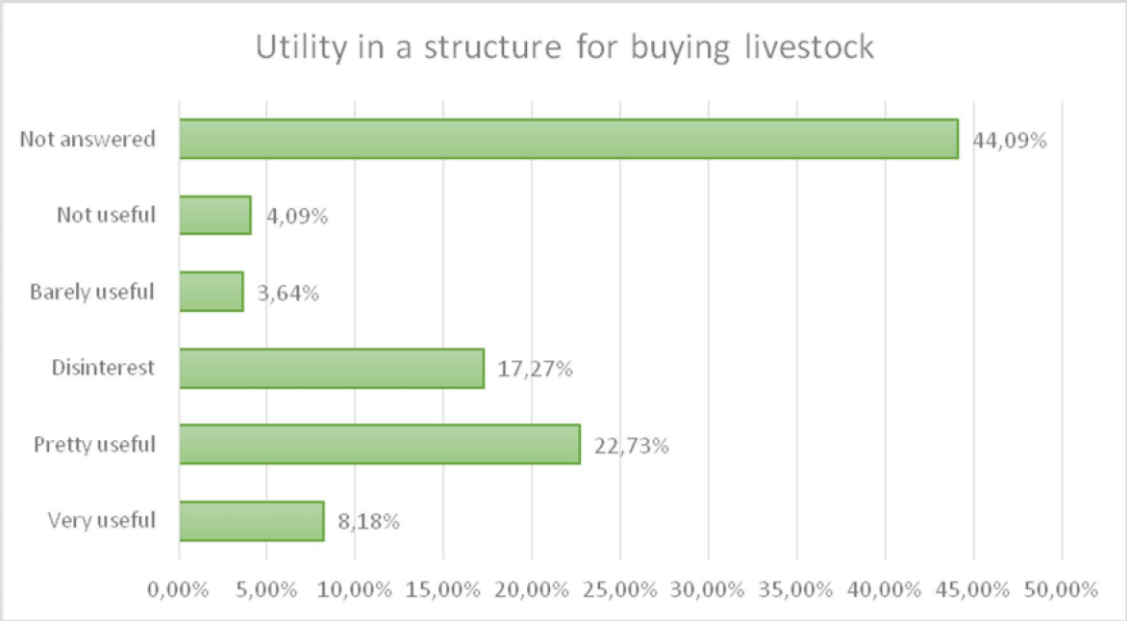
About the difficulty that young farmers face in order to be educated and trained, the answers are shared between easy and difficult, but a significant percentage of young farmers (36,36%) stated that they faced difficulties to enter educational programs.



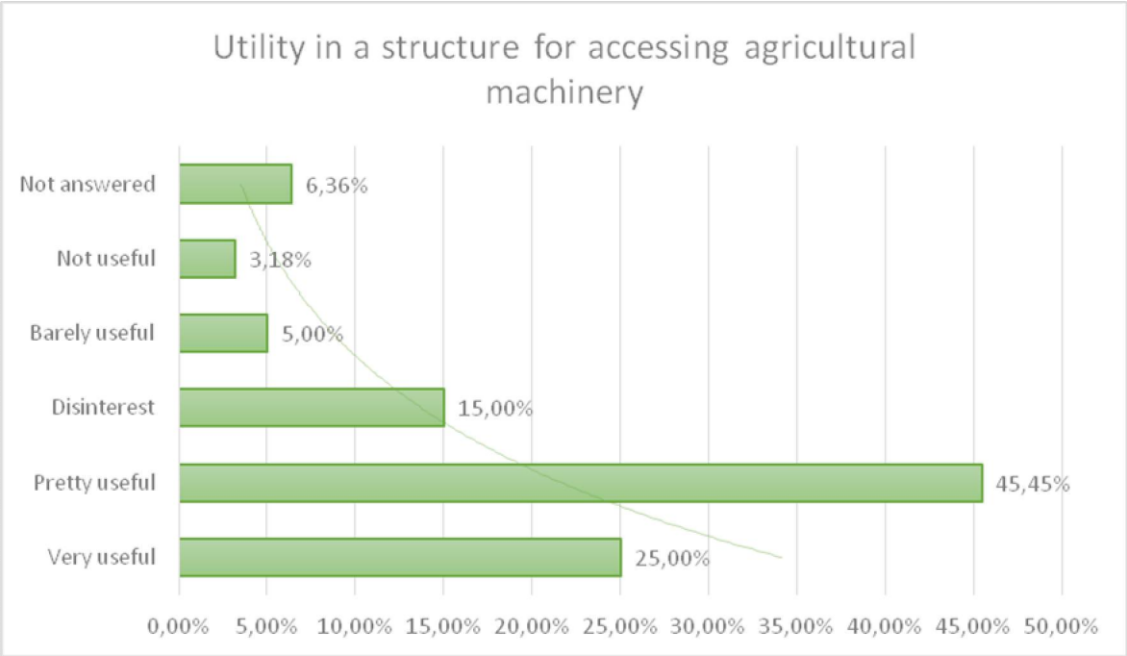
Advancing to the development of entry support structures to the agricultural profession, different questions were elaborated in order to understand the created gaps between young farmers and their needs. Young farmers seem to find high levels of utility in a potential structure related to searching and finding available farmland. About 70% of the respondents answered that it could be a good investment and it could be useful.



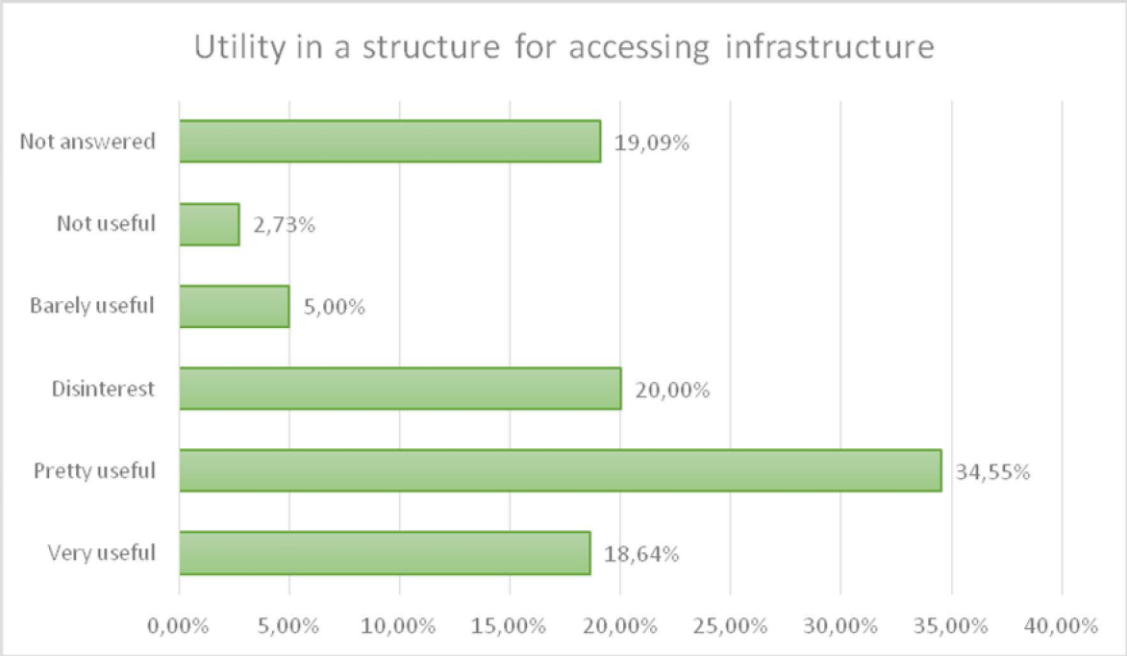
As stated before, the majority of the interviewees were related with crops and a few of them were affiliated with animal production. Thus many of the participants did not answered the question related with a structure for buying livestock.



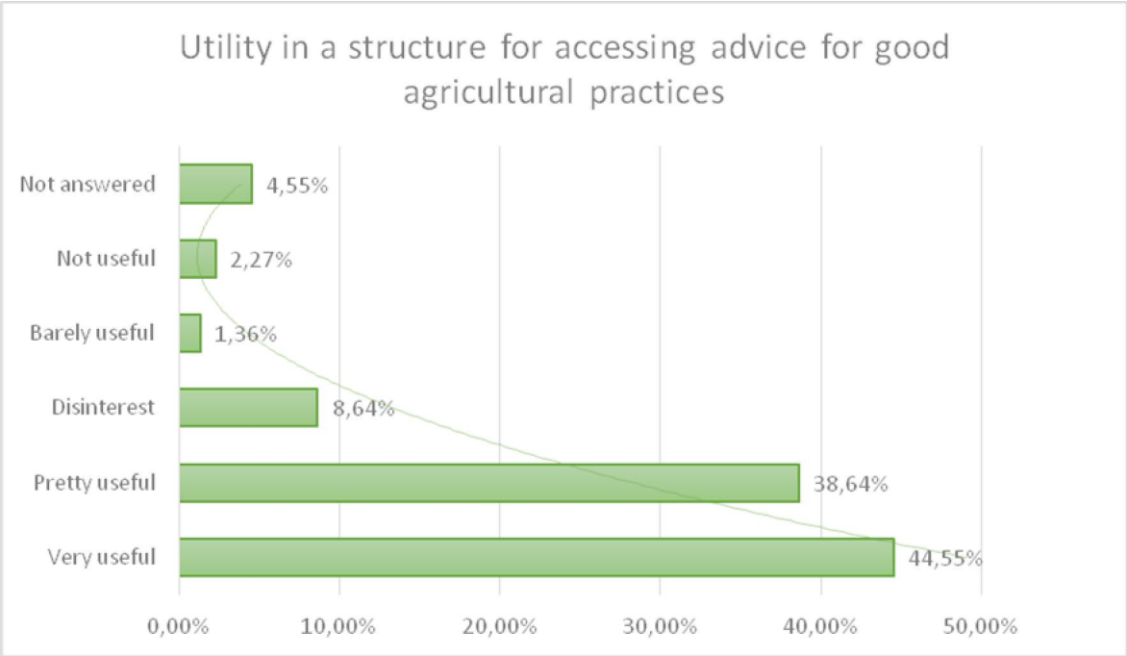
A structure related with access to agricultural machinery was defined as pretty useful from 45,45% of the participants, very useful from 25% and only a few replied as not interested or not useful.



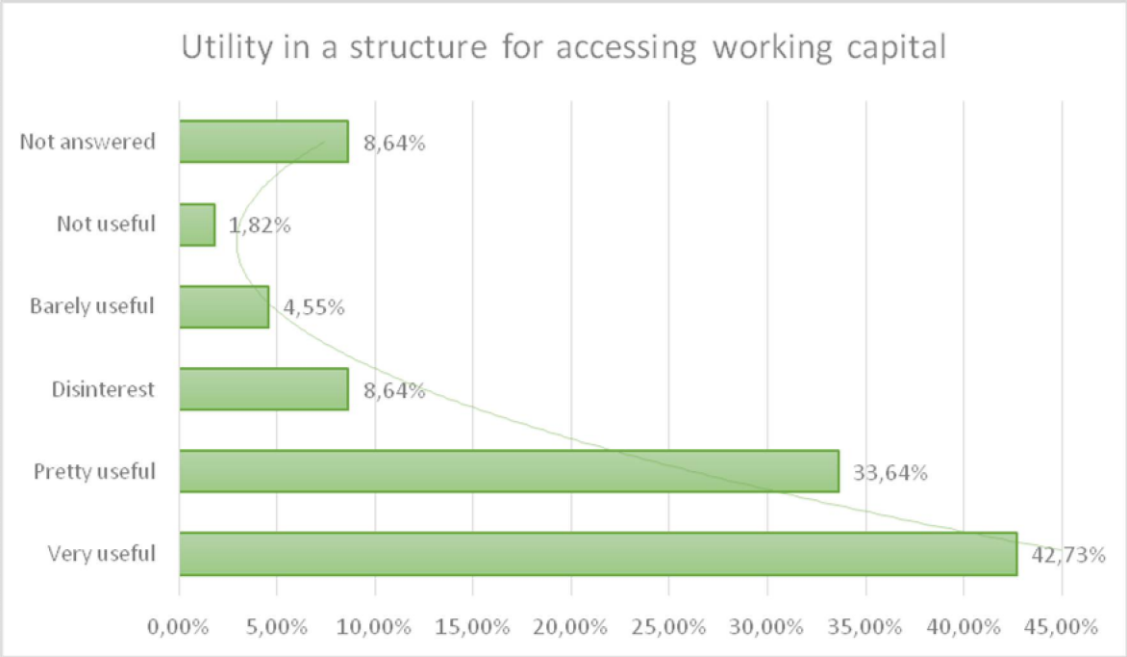
Again, about one fourth of the respondents did not gave answer because they associated an equipment structure with an infrastructure provider structure. Nevertheless, 34,55% stated that a structure providing infrastructure could be pretty useful.



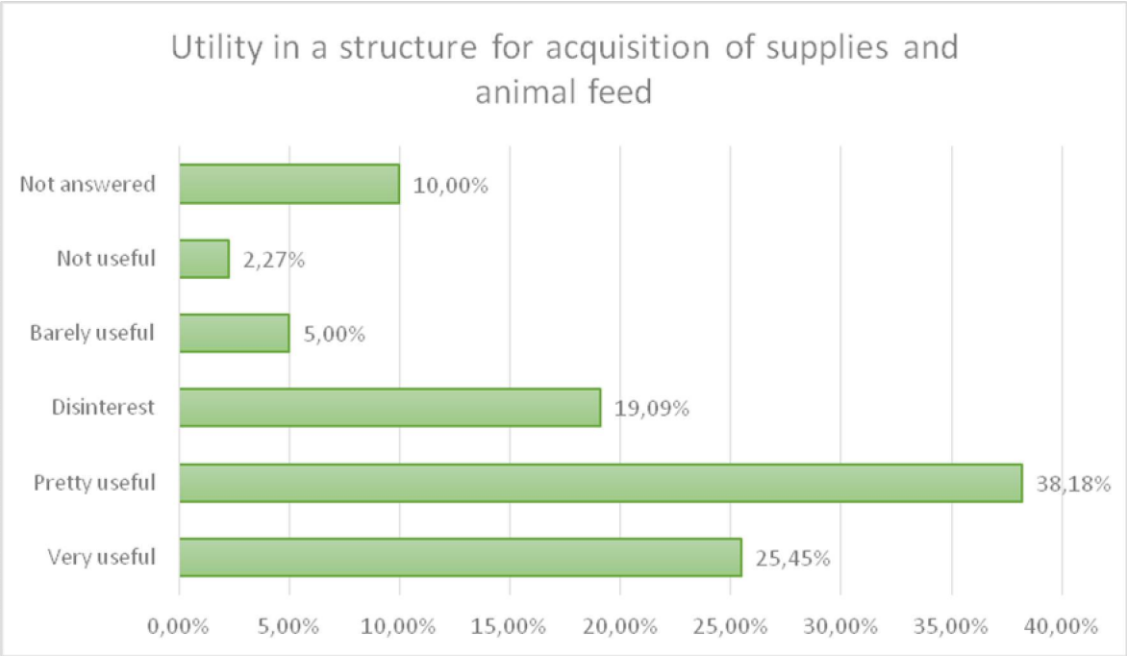
Young farmers were intrigued by the use of good agricultural practices. Albeit they were usually raised by families not well educated, they seem to be very interested in learning about good agricultural practices. A staggering percentage of 83,18% declared that the establishment of structure giving advices related to good agricultural practices would be very useful or pretty useful.



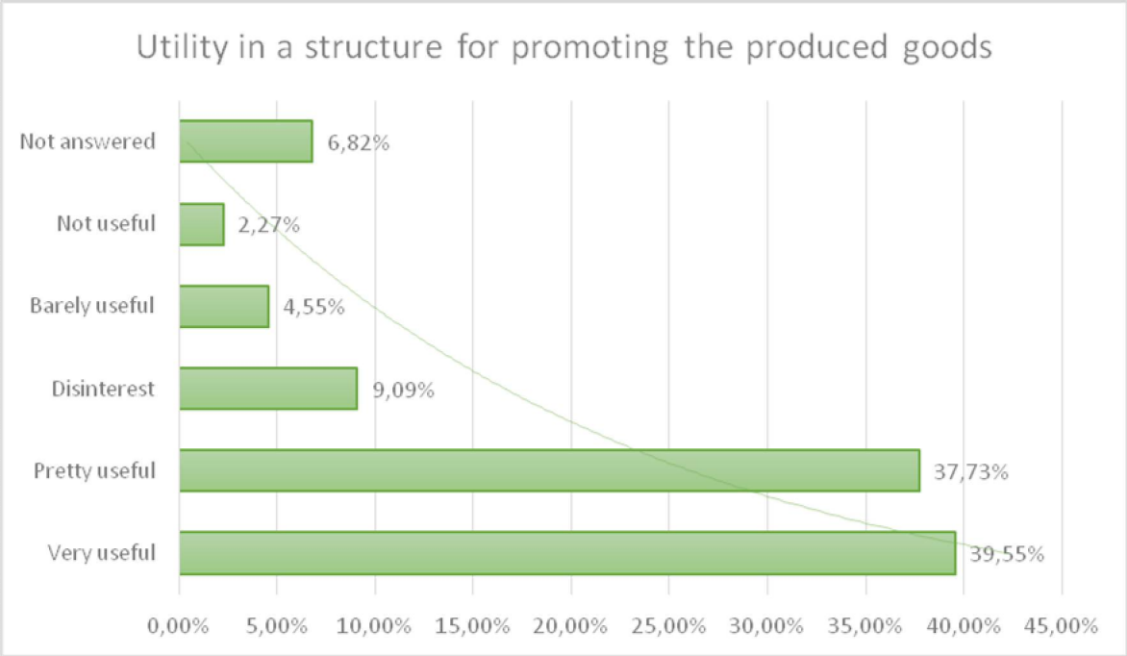
Similarly, young farmers were enthusiastic in the hearing of the development of a structure which could help them access working capital. As mentioned before this problem was one of the more difficult to overcome for them.



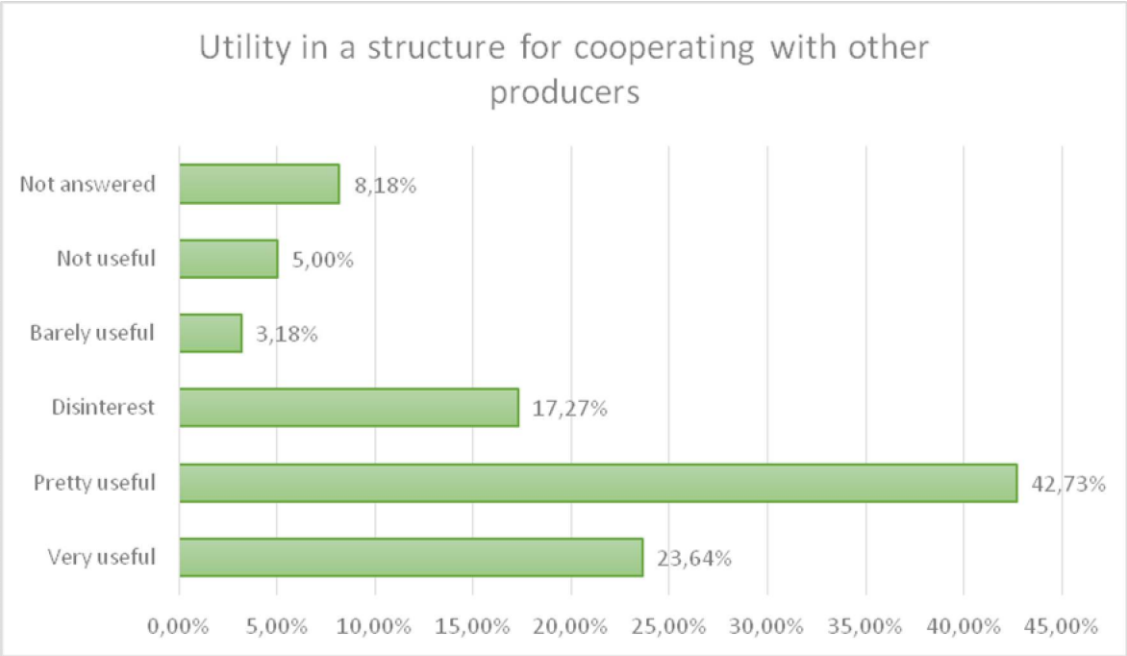
The development of a structure providing access to supplies and animal feed is rated as important, as the majority of the respondents state it as very useful (24,45%) and pretty useful (38,18%).



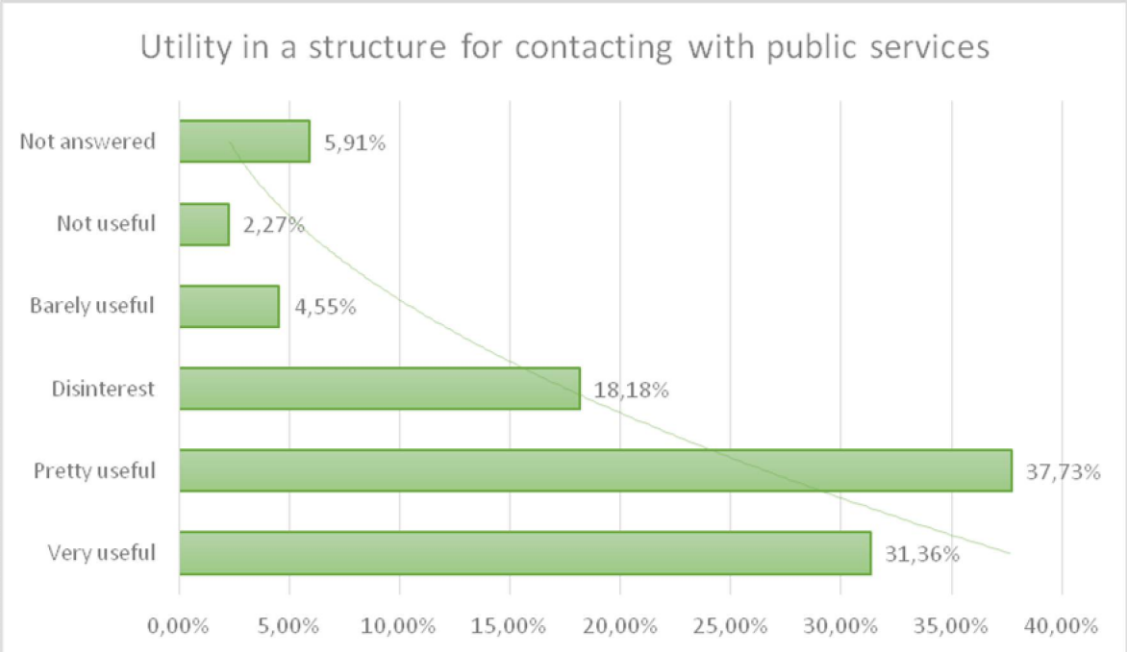
The development of a structure which could promote the produced goods to the market was a question were the young farmers gone ecstatic. 77,27% of them stated that it could be very useful and it is necessity since there is a huge problem with the acclaimed prices and their low bargaining power.

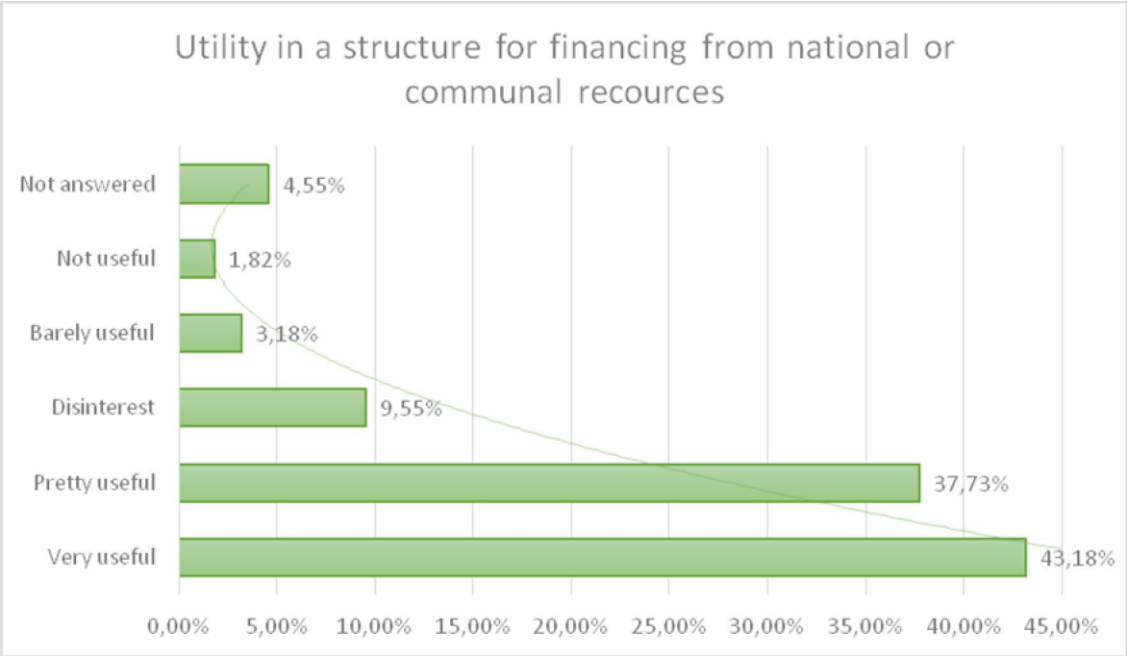


A missing foundation from the farmers' relationship circle is the one where they could cooperate and exchange their opinions. 42,73% declared that it could be a pretty useful structure while very few did not seem interested about it.

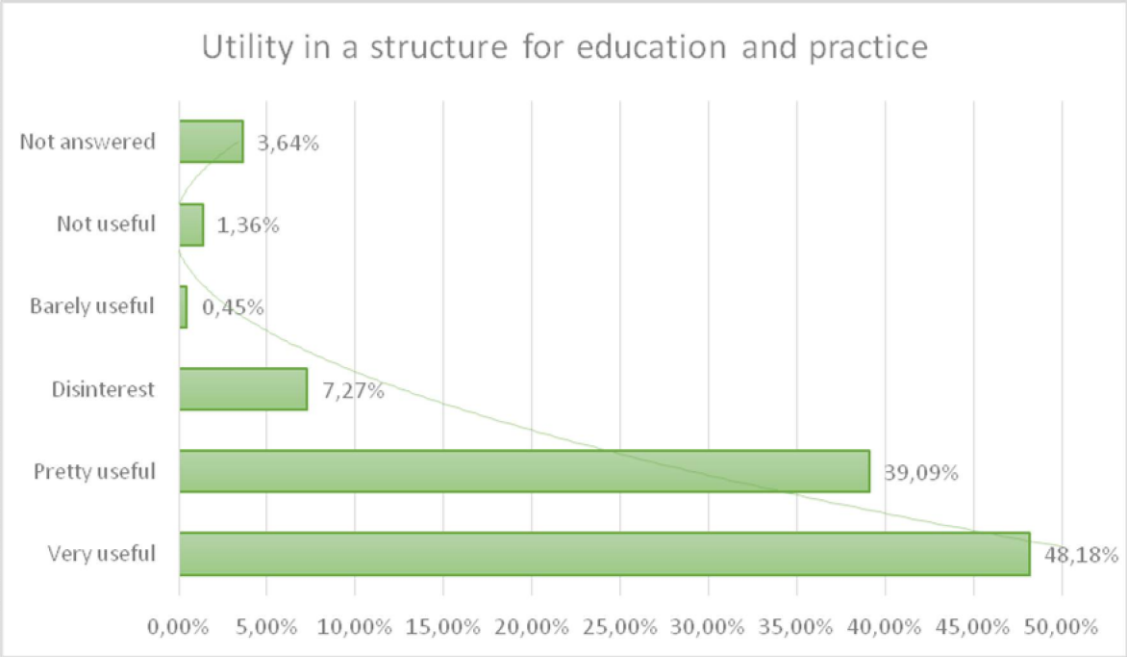


Contacting with public services and financing were two of the most common problems for young farmers. Both prospective structures would be welcomed by them at a very high rate especially for financing purposes (80,91% stated very useful or pretty useful a potential helping financing structure).

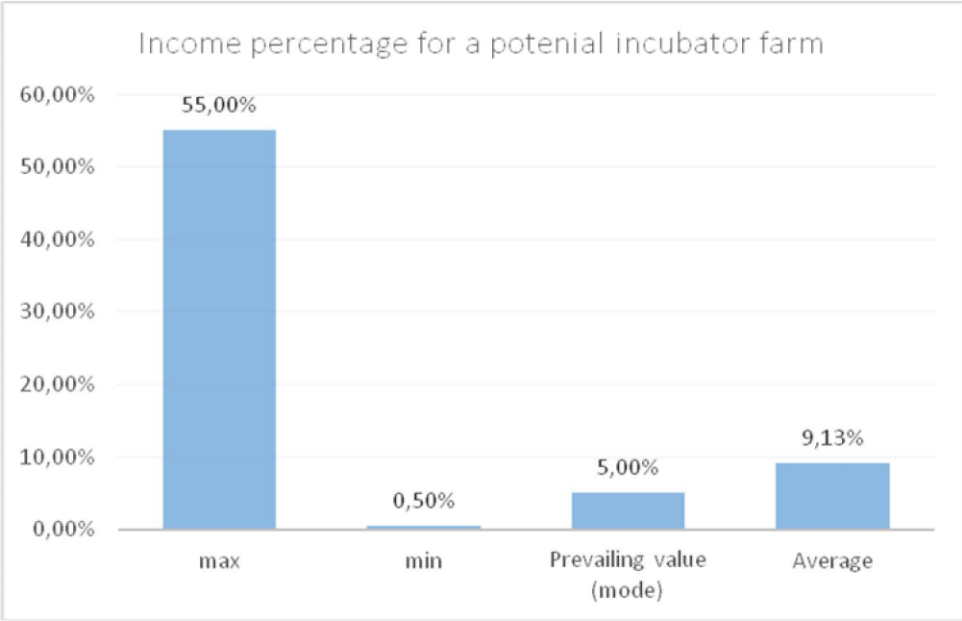




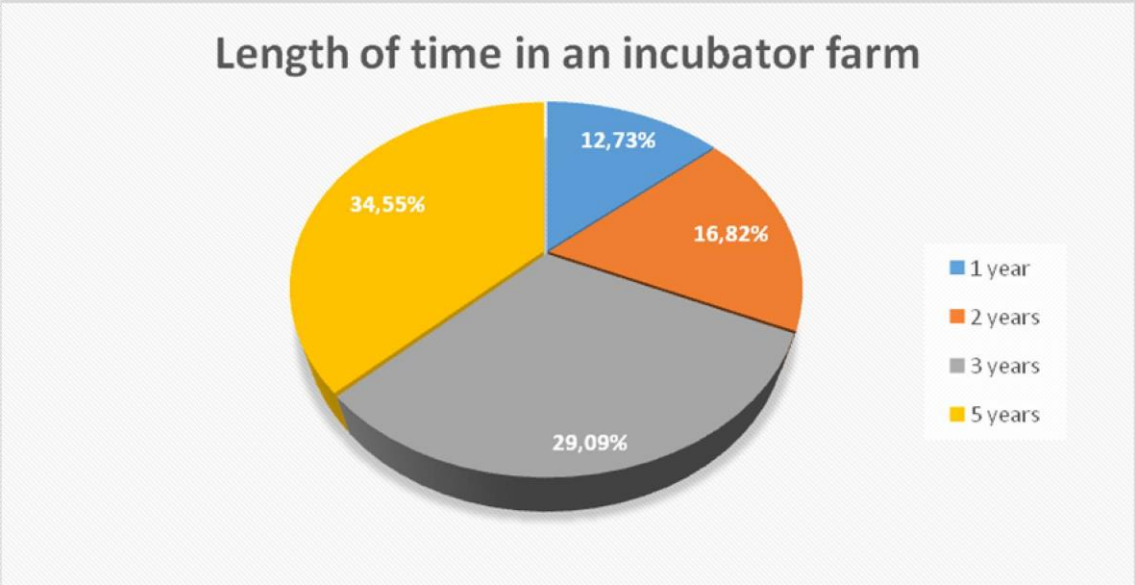
Finally, for a prospective structure for educational and practical purposes, about half of the respondents stated that it would be very useful, while less than 2% stated an investment as such barely useful or not useful.



Farmers' income is maybe the most important aspect for every farmer, but the development of a structure helping them with significant issues is also important. Based on the farmers' responses, an average percentage of 9,13% of their income could be provided in order to support an incubator farm. Also, a very significant clue is that the most given answer was 5% which is a more realistic goal for a new incubator farm.



The length of time under the protection of an incubator farm is also an important aspect. Most of the farmers responded that a feasible program should be completed in 5 years, whilst the second most used answer was 3 years. Clearly young farmers want to be educated and trained in order to be competitive and efficient.



The results of the questionnaires indicated that there is a strong need for the establishment of an incubator farm. Young farmers face multicultural and diverse problems, especially when they are new professionals. Thus, the development of an educational center and support provider for the Greek area is a necessity. Gradually farmers understand the dangers they face and through constant and continuous education and training, farmers could culminate into new entrepreneurs. Albeit their

needs for education, the gap of private body assisting them is present in Greece, meaning that the creation of an incubator farm could resolve the aggregate problem.

Infrastructure needs for the proper provision of services an incubator farm

Each farming sector needs certain infrastructure and resources, so that a profit would be achieved, along with its development, sustainability and evolution. When establishing a farm incubator project, those infrastructures should be available, in order to be provided to the participants. The availability of those resources and infrastructure during the implementation of a farm incubator project, is crucial, as this is where the success of the project lies, along with its future sustainability.

Three main categories of infrastructure and resources can be distinguished: those relating to the production process, those relating to the handling of products after harvest, and those relating to the sale of finished products. A more detailed presentation for each farming sector will be cited below.

Equipment needs vary with the type of agricultural enterprise that is developed. Not all farms must have the same equipment available but should have the necessary and appropriate equipment to compliment the type of farming design being promoted. The equipment should also be in good working order.

Infrastructure per sector

Some infrastructure is essential for almost all sectors. More specifically, fences are required (fencing) for the protection of crops and animals (perimeter fencing installed around entire livestock-designated area). Based on the region's needs the necessity of fencing of farms and livestock against wild animals or deer should be considered. This can vary considerably based on the severity of deer or other wild animal problems in the area and it is considered to be more important for fruit than vegetables. Moreover, access to water is essential for both livestock and the majority of crops. Therefore, water supply should be a primary consideration whether it comes from wells or alternative system of ponds and cisterns. In addition, a pump and a pump-house is necessary, with a metering system included, in order to track individual farmer usage. Each farmer may use a different type of irrigation (drip irrigation system, irrigation sprinklers, irrigation

sprinkler - sprinkler), but the project should be able to provide irrigation main lines and headers, leaving the choice of type of irrigation needed to the farmer. Building installations are also recommended to exist in the area, including electricity, plumbing and bathroom. Finally, a barn to house feed, equipment, cooler(s) and processing station would be required, along with the appropriate equipment.

Field crops

Regarding field crops, the necessary infrastructure and equipment varies, based on the processes required for cultivation, such as preparing the soil for sowing, for lubrication, for irrigation, for the harvest, for storage.

Some necessary equipment is considered as following: a tractor, a plough, a cultivator, disc harrow, subsoil cultivator, fertilizer spreader, blower/mist blower, seeding machine, combine, irrigation system (based on the crop needs).

Vine Growing

Viticulture requires other type of machinery / equipment. Among the necessary equipment, a farmer will need a smaller tractor, of medium side and small power (a lower overall profile, will reduce tree-branch-snagging risk) and its related accessories, such as special rotary tillers, blowers, mist blowers, pruning shears, fertilizer spreaders, manure spreaders etc. Some smaller but essential tools needed are hoes, shears etc.

In order to install the vineyard, some basic materials required: poles support, columns, brackets, cords, wires, pipes, irrigation systems etc.

Arboriculture

For arboriculture cultivations, the following infrastructure is required (machinery and other equipment): arboricultural tractor, hoe, plow, destroyer, disc harrow, spattered multipurpose, pruning equipment, trailer transport light type, fertilizer distributor, irrigation systems, choppers (wishbone), field fence, storage of equipment and products.

For olives cultivation especially, some extra equipment is required, depending on the variety grown, like harvesting nets – olive collecting nets (may also be used for chestnuts, almonds, hazelnuts), olive harvesters etc.

Horticulture

In the case of outdoor horticultural facilities such as greenhouses, are not required. A post-harvesting facility is needed for harvest handling (described in detail below in a separate section). However, a set of mechanical equipment is required, particularly in cases of agricultural intensification. Such equipment includes: a tractor, a cultivator, a disc harrow, rotary tiller, trailed rear scrapers, fertilizer spreader, planting / seeding machine, blower, irrigation system, lightweight cultivator or indented / rotary harrows, or a simple hoe if the size of the area allows it.

In the case of horticulture in controlled environment, where the ability to control lighting, temperature, humidity and composition of the atmosphere is given, the year- round production of vegetables is enabled.

Greenhouse growing requires both the abovementioned mechanical equipment, and the following: a ventilation system (roof and side), an irrigation system, a rainwater collection system. The following infrastructure may also be needed: heating – cooling systems, scheduled fertilization, shading – lighting systems, climate control etc.,

Mushroom Cultivation

Indoor tray growing is the most common commercial technique, followed by containerized growing. The tray technique provides the advantages of scalability and easier harvesting. Indoor growing provides the ability to tightly regulate light, temperature and humidity while excluding contaminants and pests. This allows consistent production, regulated by spawning cycles. This is typically accomplished in windowless, purpose-built buildings, for large scale commercial production.

For the indoor growing of mushrooms special facilities are required, where conditions (temperature, ventilation, lighting, humidity etc.) could be adjustable. Therefore, greenhouses/ booths (usually arched type – tunnels) are mainly used to create these particular cultivation conditions. Each booth should be equipped properly, in order to

adjust its microclimate. Necessary equipment in this case includes: air-conditioning unit, high pressure mist nozzles, ventilation fans, louver systems.

Sheep and Goat

Housing needs for sheep vary by climate, seasons of lambing and management preferences of the shepherd. If lambing will occur during periods of inclement weather, more elaborate housing is usually required. If lambing will occur on pasture during periods of mild weather, simple shelters may be all that is needed. Lambing percentages are usually higher when shed lambing is practiced. Housed sheep have lower nutritional requirements, whereas sheep kept outside have fewer respiratory problems. In addition, most operations need facilities where they can store feed, bedding and equipment. Hay stored in a barn or shed will maintain its quality better than hay that is stored outside, even if the hay is covered.

There are many different types of housing that can be used for sheep. Traditional barns, pole buildings and metal buildings are mostly used, as they provide the best protection for the shepherd, sheep, feed, and equipment. A lower-cost alternative to traditional housing is a greenhouse-type structure called a "hoop house." A hoop house has an arched metal frame that is covered with a heavy fabric.

The barn should be easily accessible for deliveries and manure handling. The site should allow for installation of water andelectricity.

There are certain space requirements for the barns, depending on the type of breeding. Moreover, good ventilation conditions are an absolute must. Ventilation can be accomplished by either natural or mechanical means, but usually naturally-ventilated cold housing is preferable for sheep. It is better to over-ventilate than under-ventilate. The only requirement is that sheep have a dry, draft-free area for lambing.

Bedding is also essential, as it provides warmth, insulation and comfort to housed animals. Various materials can be used for bedding for sheep, depending upon their cost and availability: straw, hay, dried corn stalks, corn cobs, peanut hulls, cottonseed hulls, oat hulls, sawdust, wood shavings, wood chips, pine shavings, sand, paper products, peat, hemp, and leaves.

Moreover, other necessary facilities, depending on the size of the herd, are the following: milking areas – milking parlors provided with milking machines, an area to keep the milk cooling tanks etc.

Helicіculture

The stage of reproduction of snails can be performed within a specially designed area where temperature, humidity and photoperiod are controlled. The process of fattening is usually done in paddocks for housing, that are fenced with open weave shade cloth or wind break material to provide adequate air circulation and ventilation for essential respiration of the snails and specially designed for the needs of farming. Moreover, the soil needs to be kept moist for egg laying and hatching. Sufficient water is needed to grow crops successfully, so water supply is essential. An irrigation system is recommended for watering plants and to encourage night-time activity of the snails. Overhead sprinklers, providing light misting, are more suitable than heavy watering to prevent the soil from becoming saturated.

Poultry farming

There are many types of poultry equipment available which are necessary for successful poultry farming. Some essential poultry equipment is shortly described below.

Poultry housing is not exactly any equipment but it is a must for poultry production. There are many ways of making chicken cage. It may be a concrete house or a simple house. Either way, it must have to have the necessary benefits for the poultry birds. The poultry cage must have to the facilities of well ventilation and well day light management.

Another necessary equipment is the feeder, used for feeding the poultry birds. Plastic or metal feeders are used mostly to feed the chickens, while keeping sufficient numbers of feeder in the poultry house according to the number of the chickens is essential. Moreover, a water pot supplies water into the chicken cage. Water can be served by a simple water pot or through pipe line.

Laying nests helps the poultry birds for laying eggs. This equipment increases the egg production and help the producers collecting eggs from the nest. Egg handling nest or

cages are used for transporting eggs from one place to another places. It reduces the risk of damages of eggs with the transporting for marketing purposes. Additionally, a proper floor should be used, as neat, clean and dry floor keep the birds healthy. In the case of indoor farming methods, a wire net in the floor should be used.

Heat management is very necessary for poultry farming. Bulb, heater or other heating equipment can be used to warm up the chicken cage.

In the case of free range poultry farming system fencing is a must, protecting the poultry birds from all types of predators. The best solution is to use wire for fencing purposes.

Cattle

Dairy cattle, specifically the milking herd and close-up dry cows, are housed in various types of dairy facilities. These facilities can include tie stalls for individual dairy cows, free stalls, dry lots, pasture systems, and more recently, compost bedded packs. One common thread with all of these dairy cattle housing systems is to ensure that dairy cows are comfortable and managed in an environment to improve their health and prevent diseases. Dairy farmers have always realized and practiced good animal welfare and well-being, and understand that comfortable cows give more milk and are healthier.

A facility must provide the following basic needs: a clean, comfortable resting area, free access to feed and water and proper ventilation. A clean, dry, and comfortable resting area can be created by providing ample amounts of suitable bedding.

Moreover, dairy farms should consist of lairages, milking areas, area for the isolation of diseased animals and storage areas for feed and machinery. Each of these areas must be designed in accordance with EU standards and the national standards.

Post-Harvest Handling

Post-harvest handling, which includes cooling, washing, grading (if necessary) and packing, is repeatedly cited as critical to the long-term quality of the product. Cooling is particularly important as the sooner produce is cooled, the better its chance for a long storage and shelf life. For example, some products with high respiration rates

(asparagus, broccoli, peas) can deteriorate as much in one hour at 78 degrees as in one week at 34 degrees.

A post-harvesting facility would typically include a designated building for washing, grading, sorting, bagging and cooling produce. Multiple walk-in coolers are often used to accommodate different optimal holding temperatures. A typical facility necessary for a farm incubator installation should include:

- Multiple temperature-controlled coolers (Pre-cooling and cooler)
- Washing line (eg. barrel washer) and sorting tables
- Freezer
- Centralized grading and packing
- Standardized packaging
- Food safety plans and product traceability mechanisms
- Refrigerated vehicles

Farm Stand

To enhance the participants' ability in selling their products, they would be reasonable to further exploit the facilities of the institution that implements such a project, by installing a station in space, only for selling the products of the beneficiaries in the incubator. A farm stand is particularly important as it will train famers in direct marketing but also increase community awareness of project.

The installation could be simple enough, requiring an open sided structure, including a cash register system, shelves, displays etc.

Determine the optimum structure of the farm incubator's network

Existing farm incubator structures

Farm incubator projects can be found in several countries all over the world, are primarily run by nonprofit organizations, governments, universities or are a partnership program between them. In the USA, where the majority of farm incubator projects are operating, 68% of them are organized as non-profit. This structure is favorable for achieving objectives of the project, operating in the public interest by providing training and economic development.

Non-profit

As mentioned above, the vast majority of farm incubator projects are organized by non- profit structures, which includes academic institutions and other registered 501c3[1] organizations. In a case where a program is not a part of an already established non- profit organization, a new non-profit status is pursued to accurately reflect the nature of the work done in the interest of the "public good". Proof of non-profit status is needed to apply for most foundation and government funding opportunities and be exempt from
paying taxes on donations and other types of program income. An incubator that rents land, or is engaged in aggregation, distribution and sales of produce, has to show that these activities are specifically in the public interest.

The non-profit structure is by far the most common for farm incubator projects because they provide a clear and apparent public service: not only do they educate and encourage the next generation of farmers, incubator projects foster economic development by providing sustainable livelihoods while laying the groundwork for long-term viability of countries' food system. In essence, farm incubator projects are developing public infrastructure in terms of intellectual capital and the physical capacity that will ultimately serve every single person that eats food.

[1] The most common type of tax-exempt nonprofit organization falls under category 501(c)(3), whereby a nonprofit organization is exempt from federal income tax if its activities have the following purposes: charitable, religious, educational, scientific, literary, testing for public safety, fostering amateur sports competition, or preventing cruelty to children or animals.

For-Profit

There are only a very few for-profit incubator projects in development (and fewer still in operation) in USA, in part because the added expense of providing education and technical assistance to new farmers is hard to fund through the sale of produce, which has extremely tight profit margins. Some programs charge higher tuition fees for their programs to cover the cost of staffing their educational component. Their curricula are often far more formalized than the typical incubator project and fall closer towards the university training and on-farm apprenticeship model, rather than aiming to train independent entrepreneurs who are starting and operating their own small businesses on the incubator farm site. This approach can raise issues of accessibility for those who cannot afford to pay a high yearly tuition to gain experience farming.

Hybrids

A hybrid is simply another type of partnership, albeit one in which the relationship between organizations is close. In a hybrid model, the incubator project is jointly owned and operated by some mixture of academic institution, non-profit, corporation, government agency, or trust. To minimize risks and facilitate the delivery of efficient and effective programs to farmers, those types of organization should be having clearly delineated roles and responsibilities of each entity. A completely transparent and agreed upon written contract with protocols should also take place in such cases.

Partnerships

Because many incubator projects get started in response to a demonstrated and observed community need for healthy and accessible food as well as more economic opportunities and support for people with the desire and inclination to become farmers, they often also emerge as the result of partnerships between multiple stakeholders. Partnerships between various agencies, universities, and non-profits are also more likely to receive funding from certain types of foundations and government grant programs. Organizations should be aware of community assets, capable of utilizing the resources

that already exist in a community, and have the backing of well-established practitioners in the field of beginning farmer training.

Partnerships take various forms and are more or less integrated and formal depending on the program needs and goals. Some ways to partner on an incubator project include:

- Forming a steering committee or board of directors made up of representatives from other organizations in your area with similar missions, goals, and activities
- Working with local land trusts to acquire land for your project
- Partnering with extension to provide classroom and field-based based training opportunities for farmers
- Recruiting experienced farmers to serve as mentors for your program participants
- Working with your local food-based businesses to acquire sponsorships and promotional opportunities for your program farmers
- Developing and/or sitting on local food policy councils, agricultural commissions, and planning boards and encouraging people to think about the needs of beginning farmers in the context of municipal policy decisions and
- Partnering with local hunger relief agencies to provide access to fresh, nutritious food to low-income residents in your area.

The opportunities for intersectional relationships while working in the field of food and agriculture are truly endless and at the same time highly dependent on the circumstances in the local community and region. The more organizations partner with one another, the easier it becomes to identify areas where more work is needed as well as areas where sufficient resources have been allocated, thus avoiding the duplication of efforts and strengthening collective efforts towards greater health and economic prosperity in the community, town, city, state, or region.

The form of organization a farm incubator project chooses, should be rooted in both the needs of the community and the assets available through various local non-profits, agencies, academic institutions and other potential partners. No matter the type of organization of an incubator project, clearly stated and clarified roles, responsibilities, and relationships in writing (and in a format that you can readily show to farmers and the general public) are needed. Ultimately, farm incubator projects deliver a valuable

service to the immediate community and the food system as a whole and the way they are organized, reflects that.

As discussed above, incubator farm projects utilize a diversity of structures to implement their programs. The table below provides current management structures for some currently operating incubator farm projects and their country of origin:

Incubator Farm	Country	Management Structure
ALBA (Agriculture and Land-Based Training Program)	USA	501(c)3 Non-profit
Elma C. Lomax Incubator Farm	USA	501(c)3 Non-profit
Intervale Center, Burlington, VT	USA	501(c)3 Non-profit
New Entry Sustainable Farming Project	USA	A partnership project between Tufts University and Community Teamwork, Inc. (501(c)3)
Onslow County Incubator Farm	USA	A partnership Program of Onslow County Farmers' Market – a 501(c)3 and Onslow County Cooperative Extension
PLANT@Breeze Farm Enterprise Incubator	USA	Program of Orange County Cooperative Extension and Orange County Economic Development - Planning Committee - Friends of Breeze is a 501(c)3 that receives tax deductible contributions.

Fundacion Chile	Chile	non-profit, public-private joint venture (American communications conglomerate, and the Chilean Government)
Fundacion Jalisco	Mexico	Fundacion Jalisco (nonprofit civil association), VitalBerry, Fundacion Chile, the Jalisco government, and the Foundation's business-minded advisory board.
AgriBusiness Incubator	India	International Crops Research Institute for the Semi- Arid Tropics (ICRISAT) in partnership with the Department of Science and Technology (DST), Government of India
Consortium for Enhancing University Responsiveness to Agribusiness Development Limited (CURAD)	Africa	Non-profit

Some other interesting cases of worldwide farm incubator projects are listed below.

Chile

Fundacion Chile was created in 1976 as a private, non-profit corporation with its own endowment. It was governed jointly by ITT, an American communications conglomerate, and the Chilean Government. Fundacion Chile was set up as a public-private joint venture, with a clear public mission and a strong private-sector corporate structure. The foundation initially focused on scientific and technological research and development, and their application to agribusiness and other industries where Chile had little or no presence. It proactively introduces technology innovations and develops companies in target industries including agribusiness, marine resources, forestry, environment and chemical metrology, human capital, and information and communication technologies. Among its successes have been a new method for packaging beef that enables ranchers to export it more easily, and introducing raspberries, blueberries, oysters and salmon farming for profitable overseas markets.

Key features that distinguish the foundation from other incubators are its:

- Public-private alliance
- Private control
- Market orientation
- Use of networks for value creation and project scale-up
- Creation of companies that will spread innovations
- Self-financing.

Mexico

Established through a constitutional act in 2006, the Fundaciσn Jalisco aims to increase the competitiveness of agricultural production chains, and enable businesses to adapt new technologies and knowledge. Fundaciσn Jalisco is a private institution with a public interest in providing leadership in innovation and business development. It recognizes the fundamental role the rural part of the state has played in Jalisco's development, and its importance to Mexico's agricultural sector. Fundaciσn Jalisco focuses on helping to increase the competitiveness of agricultural production chains, and on assisting businesses that are capable of adapting new technologies and knowledge. Fundaciσn Jalisco, which receives both state funding and private investment, has earned early success, and berry revenues have enabled it to diversify into value-added products, such as olive oil and cheese.

India

Business incubators are gaining a foothold in India. A recent survey found that their numbers had grown from 10 in 2000 to 30 business incubators and science and technology parks involved in the commercialization of software and other engineering technologies in 2009. Only three were involved in agribusiness in 2008, although various government departments, which recently created entrepreneurship promotion programs, have expressed an interest in establishing agribusiness incubators. Agribusiness incubators can take the form of comprehensive occupational schools, offering rural producers and workers sufficient knowledge, experience, infrastructure, and means to become agribusiness entrepreneurs. This endogenous movement can have far-reaching effects, promoting the overall modernization of primary production, industrialization, and marketing and development of rural areas.

More specifically, however, an agribusiness incubator creates a mechanism to assist in the identification, adaptation, and commercialization of products from public and private agricultural research institutions and universities. From a development perspective, the goal of agribusiness incubation programs is to develop and commercialize new products, technologies, and services to improve productivity in farmers' fields and increase the practical impact of research conducted in India's academic and research institutions. Incubators provide a means of leveraging the significant resources invested in R&D and infrastructure, generating employment and income in India's rural areas, and ultimately creating wealth to support the livelihoods of the poor.

AgriBusiness Incubator (ABI) at International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), founded in 2003 in India, promotes agricultural technologies developed by ICRISAT and other research and development institutions. ICRISAT focuses on five strategic areas: seeds, biofuels, ventures to develop particular innovations (products or services), farming (high-value crops), and agricultural biotechnology. Additional outreach strategy includes collaborative business incubation.

The Agri-Business Incubation (ABI) program, launched in 2003, is an initiative of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in partnership with the Department of Science and Technology (DST), Government of India. ABI promotes agricultural technologies developed by ICRISAT, other R&D centers of excellence, universities, and other institutions, separately and jointly. The incubator was set up as part of ICRISAT's Agri Science Park (later the Agribusiness and Innovation Platform). ABI is governed by a board of advisors headed by the Director General of ICRISAT and by a standing advisory committee that counsels the board on strategy and client intake and exit. ABI represents a new resource to promote enterprise development in agriculture and facilitate business among entrepreneurs and technology developers. The pillars for high-performance incubation are R&D, business planning, business development, and access to capital. The framework encompasses all the services and support systems offered to an agribusiness venture, such as technology transfer, business facilitation, and technical guidance, especially those in ABI's focal areas of seed, biofuel, and farm systems. ABI also facilitates the commercialization of services that benefit farmers.

ABI-ICRISAT has received many awards including the prestigious AABI (Asian Association of Business Incubator) Award for the year 2008. With a focus on serving poor farmer of the semi-arid tropics through business incubation approach, ABI has incubated 17 companies so far, of which 5 have graduated. These firms have created employment for 543 individuals till date. It has also exchanged 10 technologies and generated direct employment of around 543 and mobilized $8 million of funding for the incubatees. 3 incubatee companies have also received SEED fund support.

ABI has attained a leadership in the area of agribusiness incubation by initiating co-business incubation and partnership to create similar systems with national and international agricultural research institutes like 5 business incubators in ICAR in India, TNAU-Coimbatore, IIAM-Mozambique, AREU-Mauritius to benefit more numbers of entrepreneurs serving the farming community.

Navdanya Farmers Network has trained farmers across 17 Indian states in food sovereignty, seed sovereignty, and sustainable agriculture for two decades. Navdanya has set up over 100 community seed banks across India and taught food sovereignty and sustainable agriculture to over 500,000 farmers. The organization continues to promote nonviolent farming that protects biodiversity, small farmers, and the Earth.

Africa

Consortium for Enhancing University Responsiveness to Agribusiness Development Limited (CURAD) is one of six agribusiness innovation incubator programs in Africa aimed at generating jobs and boosting incomes within the agricultural sector. CURAD's target clients include student startups, as well as small and medium wholesale and retail, coffee processing, and agribusiness enterprises. The Consortium for enhancing University Responsiveness to Agribusiness Development Limited (CURAD) is a public-private partnership initiative promoted by Makerere University, the National Union of Coffee Agribusinesses and Farm Enterprises Limited (NUCAFE), and National Agricultural Research Organization (NARO), the University of Copenhagen (UC) and NIRAS International. CURAD is one of the six agribusiness incubators in Africa supported by the Forum for Agricultural Research in Africa under the UniBRAIN facility with funding from DANIDA.

CURAD is a public-private partnership initiative with the aim of producing innovative young entrepreneurs and agribusiness leaders to champion productivity and profitability of the agricultural enterprises that can spinoff new enterprises. This is an agribusiness innovation incubator geared towards creation of jobs and boosting incomes within the agricultural sector in Uganda piloting with the coffee value chain in the first four years. CURAD is a non-profit company limited by guarantee (certificate no 144130) established to support profit oriented agribusinesses.

CURAD provides an opportunity for farmers, women entrepreneurs, students, small & medium companies and scientists who are interested to start their own agribusiness. CURAD helps nurture agribusiness start-ups by providing a package of holistic services including technical knowhow, physical infrastructure, business plan opportunities, networking, mentoring and coaching opportunities.

CURAD's vision is to be the leading generator of young agribusiness entrepreneurs creating wealth and jobs in East Africa, while its mission can be described by the following: To produce young innovative and skilful agribusiness entrepreneurs through strategic partnerships that support investment in agribusiness by fostering collaboration between Makerere university, NUCAFE and the NARO coffee research centre to create cultures and environment that will value, encourage and enable innovation and produce graduates who are problem solvers, decision takers and successful entrepreneurs.

Some services areas where CURAD operates are the following: a) Promotion of coffee processing and value added product SMEs, b) Business development support across entire coffee value chain, c) Promotion and facilitating setting up of agribusiness enterprises, d) Earn while you learn program for the university students.

Current situation for rural development structures in Greece

There are many organizations in Greece, able to support the establishment of a farm incubator project, along with higher education institution, a city or prefecture government agencies, regional farmers' markets, and environmental and open space organizations. Partnerships between various agencies, universities, and non-profits are more likely to receive funding from certain types of foundations and government grant programs. Moreover, such established entities may have experienced staff specialized in resources, funding and grants.

Universities and technical schools in Greece

The School of Agriculture is one of the first Schools founded in the AUTH, counting a history of 85 years and approximately 10000 alumni agronomists. Initially founded as a Department of Agriculture in 1928, it acquired its present status as School of Agriculture in 2005. The School of Agriculture, with its thriving educational and research activity has contributed significantly to both national economy and rural development of Greece, as well as to the agricultural sciences and technology worldwide. The School consists of seven Departments:

- Field Crops and Ecology
- Horticulture and Viticulture
- Plant Protection
- Animal Production
- Food Science and Technology
- Agricultural Economics
- Hydraulics, Soil Science and Agricultural Engineering
- Laboratory of Informatics in Agriculture

The School is located in the University campus, right in the center of the city; however, a significant part of the scientific and educational activities takes place in the University farm.

The Fund of Administration and Management of the Farm of the University of Thessaloniki (Farm of the University of Thessaloniki) was founded with an obligatory

law in 1936, with the exclusive aim the provision of the necessary material and technical infrastructure for the educational and research activities of the Faculty of Agriculture. It is an independent legal entity of the public sector that is supervised by the Ministry of Education, Life-long Learning and Religious Affairs. The Farm is the natural area of the Faculty of Agriculture, where the laboratorial exercises of most courses, almost all the experimental work of the undergraduate and the postgraduate theses, the scientific research from the educational personnel as well as the practical exercise of the students are realized. The farm covers an area of 180 ha, where they exist demonstration and experimental fields for educational and research activities, stockfarmings of ruminants as well as model agricultural and husbandry units. They also exist 21 buildings facilities. Moreover, various types of machinery and equipment exist for the use of the agricultural land.

The Agricultural University of Athens (AUA) is the third oldest university in Greece. Since 1920, it has been making valuable contributions to Greek and European agricultural and economic development, by conducting basic and applied research in the agricultural sciences, and by producing high quality graduates as well as cutting edge scientific knowledge.

The University is situated on a 25-hectare green campus that straddles both sides of the historic Iera Odos, close to the Acropolis, at the heart of the ancient Olive Grove. Its sixteen buildings comprise: auditoriums, 41 fully equipped laboratories, a modern library, computer rooms, extensive agricultural facilities (an arboretum, vineyard, experimental fields, flower garden, greenhouses, cowshed, sheep pen, chicken coop, dairy installations, aquaculture tanks), museums, student center, indoor gym, and sports fields.

AUA has seven departments:

- Crop Science
- Animal Science and Aquaculture
- Agricultural Biotechnology
- Agricultural Economics & Rural Development
- Food Science & Technology
- Natural Resources Management & Agricultural Engineering
- General Sciences

This formal learning and practical training has been and remains embedded within groundbreaking research addressing major challenges facing Greece and Europe in the twenty-first century. In the past century, academic staff and graduate students firmly established Greece as an equal EU partner by fostering: the distribution of arable land to landless farmers; refugee resettlement after the tragic events in Asia Minor; eradication of hunger in Greece by remarkably increasing farm production; initiation of export of quality agricultural products. As of the turn of the century, AUA continues to act as valued advisor to the Greek State and other national organizations, as well as to the European Commission and other European and UN Agencies on agricultural issues, and to conduct a wide array of advent-garde rural development projects. AUA contributions address a wide range of issues related to diet and environmental protection significantly affecting the daily lives of Greek and Europeans citizens: food quality and safety, water resource conservation, biological farming, alternative energy sources, biotechnological applications in agriculture.

The Department of Food Science and Technology offers to the students the scientific background for the rational copping with scientific and technological issues in the food area. Furthermore, it promotes the existing knowledge in the Food Science and Technology through research and development programs, in collaboration with other Greek and foreign Universities and Research Institutes, as well as with Research and Development departments of small and big Greek food industries.

The Faculty of Crop Science of the Agricultural University of Athens (AUA), was founded in June 1989 (Official Journal of the Hellenic Republic No. 166A΄/16-6-1989) it is the first University Faculty of Crop Science founded in Greece. The mission of the Faculty of Crop Science of the Agricultural University of Athens is to provide high quality University educations to graduates to be engaged in the Greek agricultural sector for the sustainable improvement, both in quantity and quality, of plant production. In addition, to create new knowledge on Crop Science by means of both basic and applied research, and to tackle problems of the rural sector related to the Faculty's scienctific fields. The department is staffed with 40 members of teaching and research personnel, working in the fields of Crop production and protection. The research activity of the Department is financed by national and international funds.

The Department of Natural Resources Management & Agricultural Engineering consists of three areas:

- Agricultural Constructions and Engineering
- Water Resources Management
- Soil Science and Agricultural Chemistry

Its aims and objectives include any effort towards sustainable use of the rural environment by society requires planning, design, construction, and management of the appropriate infrastructure, as a necessary part of a sustainable agricultural development approach of natural resources such as soil and water.

The Department of Natural Resources Management and Agricultural Engineering of AUA has a great experience in combining different Sciences and Technologies, in carrying out research and application projects for infrastructure development in Agriculture taking into account the environmental protection, and in applying integrated management techniques for the sustainable use of natural resources. In this regard, it is unique in providing knowledge and creating skills for graduates, capable in contributing to the development of such a crucial sector of the National Economy.

The Department of Agricultural Economics and Rural Development is a University Department with the objective of training agro-economists able to meet the demands of this new promising and challenging period in Greek agriculture. The primary aim of the Department is to promote knowledge and to educate scientists specialized in research and in tackling problems connected with the economic, social, political and environmental dimension of a viable rural development. The special characteristic of the Department is that it combines areas of expertise derived from both the sciences and the humanities. The agro-technical knowledge is essential for the evaluation of management intervention at the level of agricultural enterprises and the economic value of general measures of agricultural policy. On the other hand, decision-making and the formation of policy of an agro-technical nature are not possible without the knowledge of the principles and mechanisms of economics.

The Faculty of Animal Science and Aquaculture (ASA) is also a part of the Agricultural University of Athens (AUA). The University was founded in 1920 initially named Superior Agricultural College of Athens and it was the first University Institute in Agriculture and the third oldest University in Greece. The purpose of ASA is to train highly skilled scientists capable in applying the principles of biology, technology and economics in issues related to the production of farm and aquatic animals. The scientific

fields covered by the Faculty are interdisciplinary as they combine Animal Husbandry, Veterinary Science, Aquaculture, Genetics, Nutrition, Physiology, Molecular Biology, Hygiene, Biotechnology, Economics, Ethology and Management. The ultimate aim of the Faculty is research and education towards improved Animal Production and Aquaculture.

Department of Ichthyology & Aquatic Environment (DIAE)

The Department of Ichthyology & Aquatic Environment (DIAE) was founded within the framework of an innovative perspective in order to cover the increasing demand on novel academic courses regarding related scientific topics on aquatic living resources. DIAE typically faces the critical issue with regards to benefit students with modern knowledge on scientific issues such as conservation/management of aquatic living resources. Nowadays in Greece, the successful confrontation of such issues provides important prospects of substantial growth not only in academia but also in our size economy in the job market.

Department of Agricultural Development - Orestiada

The Department of Agricultural Development was founded in 1999 and is located in the city of New Orestiada. Its mission is to cultivate and promote the science of Agriculture oriented to new and updated technological developments, advancing scientific knowledge in areas of economics and social development and techniques and social development in the field of agriculture and especially in peripheral agricultural regions.

The Department of Agricultural Development is co-accommodated with the Department of Forestry and Management of the Environment and Natural Resources in four buildings with total area of 7.510 m^2. The facilities of the institution are included in the urban fabric of the town of Orestiada located near the city center. The complex of auditoriums is 791 m^2 and was given to use in 2000 consisting of two auditoriums with a total capacity of 280 people and ancillary areas. The laboratories building was built in 2002, has an area of 1781 m^2 and accommodates laboratories, offices and ancillary rooms. A modern greenhouse is also available and was given to use in 2007, has an area of 120 m^2 and serves educational and research needs. The educational and research needs of the Department of Agricultural Development are supported, partly, by a farm

that was given to use by the National Agricultural Research Foundation NAGREF and is located near the railway station of the city, at the land of the Station of Agricultural Research.

Department of Agriculture Crop Production and Rural Environment - School of Agricultural Sciences - University of Thessaly

The experimental field of University of Thessaly is used for the training of students as well as for the field experiments of Faculty Staff of the Department of Agriculture Crop Production and Rural Environment, of the School of Agricultural Sciences of University of Thessaly. The experimental field is located in Velestino which is near the national road from Athens to Thessaloniki, Magnesia, Greece (Latitude 39o 23′ North, Longitude 22o 45′ East, elevation 70m above the sea level). It covers an area of 15ha and it is used for the experimental needs of School of Agricultural Sciences. Part of the experimental field's area is covered by the farm buildings. These include greenhouse facilities, students' residences, laboratory facilities and storage and maintenance buildings of agricultural machinery. Some old buildings are also used to house the farm staff during their daily work. The greenhouses cover an area equal to a quarter of a hectare, approximately. The remaining part of the experimental field is covered by orchards and other crops. The orchards occupy a hectare, approximately. This area contains, mainly, apple, pear, peach and olive trees and some coniferous trees. The remaining area is covered by annual crops, vegetables and ornamental plants. Among other equipment, two modern farm weather stations, tractors and all the needed tools for the soil cultivation are included, along with a small combine for harvesting the experimental plots.

Other organizations in agricultural sector

There are also other organizations in Greece, in form of private law legal entities, especially assigned to conduct researches and help in the rural development. A description of such structures and their characteristics will be presented below.

Organization Of Agricultural Vocational Education Training And Employment - O.G.E.E.K.A. DIMITRA

O.G.E.E.K.A. DIMITRA is the national agency promoting improvement of the professional competencies and skills of farmers, through the available Vocational Schools and its 70 “DIMITRA” institutes. It aims to give farmers the necessary skills in order to produce competitive products while respecting the consumer and the environment. O.G.E.E.K.A. DIMITRA before merging with the abovementioned organization, was a private law organization, combining both public prestige and the effectiveness of the private sector.

A joint decision of the Ministers of Finance and Rural Development and Food established the “HELLENIC AGRICULTURAL ORGANIZATION – DIMITRA” in which the following organizations are merged:

- National Agricultural Research Foundation (NAGREF)
- Organization Of Agricultural Vocational Education Training And Employment - O.G.E.E.K.A. DIMITRA
- Agricultural Products Certification and Supervision Organization
- Hellenic Milk Organization (ELOGAK).

The "HELLENIC AGRICULTURAL ORGANIZATION - DIMITRA" is a private law legal entity, belonging to the broader public sector. It enjoys administrative and financial autonomy, operates in the public interest and is supervised by the Minister of Agriculture and exercises all the responsibilities of the merged entities. Those entities are listed below in more detail.

National Agricultural Research Foundation (NAGREF) was established in 1989 as the national body responsible for the Agricultural Research and Technology in Greece, functioning as a Legal Private Entity, sponsored by the Ministry of Agriculture. N.AG.RE.F. is responsible for conducting and developing the agricultural research and technology in Greece. It conducts applied research and develops technology in agricultural, forest, animal and fish production, the protection of crops, veterinary, management of marine resources, soil science, land improvement, processing and preservation of agricultural products, as well as agricultural economy and sociology. Its research activity is conducted by research Institutes.

Agricultural Products Certification and Supervision Organization, under the distinctive title AGROCERT was a Private Law Legal Entity operating for the public benefit under the supervision of the Ministry of Rural Development and Food (L. 2637/98). It is an established body responsible for the implementation of national policy on quality in agriculture. The main competences of AGROCERT are as follows:

- Certification of agricultural production systems
- Certification of agricultural products
- Evaluation, approval and supervision of Control and Certification private bodies, accredited by the National Accreditation System.
- Preparation and publication of optional sectoral standards and development of specifications towards quality assurance of agricultural products.

Mediterranean Agronomic Institute of Chania

The Mediterranean Agronomic Institute of Chania (MAICh) is the 4th constituent institute of CIHEAM, the International Centre for Advanced Mediterranean Agronomic Studies, an Intergovernmental Organisation which was founded at the joint initiative of the OECD and the Council of Europe on 21 May 1962 under an agreement signed by the governments of seven southern European countries: France, Greece, Italy, Portugal, Spain, Turkey and Yugoslavia. The 1962 agreement establishing the Centre stipulates that CIHEAM's mission consists in "providing supplementary education (economic as well as technical) and developing a spirit of international cooperation among agricultural personnel in Mediterranean countries". According to article 15 of this agreement, every country on the Mediterranean rim is potentially eligible for membership of CIHEAM. CIHEAM is made up of four Mediterranean Agronomic Institutes (MAIs), located in Bari (Italy), Chania (Greece), Montpellier (France) and Zaragoza (Spain), and a General Secretariat based in Paris.

Since 1986, and as the 4th constituent institute of CIHEAM, MAICh pursues its three main complementary missions through post-graduate specialised education, networked research, facilitation of regional debate, with focus in the fields of Business Economics and Management, Geoinformation in Environmental Management, Horticultural Genetics and Biotechnology, Food Quality and Chemistry of Natural Products,

Sustainable Agriculture, and has established itself as an authority in Mediterranean agriculture, Food and Rural Development.

GAIA-BUSINESS

The GAIA-BUSINESS is the result of a multiannual effort to create a broader strategic alliance among organizations active in the Greek agricultural sector. The emergence of the primary sector as the solution for the recovery of the national economy, can only come through coordinated and well organized interventions. The strategic plan of the co-operation, is looking to reconstruct the rural economy in order to improve the competitiveness and openness of the sector. The productive sector, represented by 40 associations of agricultural cooperatives and cooperative organizations/companies, creates the necessary conditions for the shift needed to get the Greek agricultural.

Piraeus Bank, is the only bank with a strong agricultural activity and a main shareholder of GAIA BUSINESS SA., Is the financial supporter of this particular production and development activity, while NeuroPublic, as an innovative and constantly evolving IT company, creates the conditions for exploitation of modern technologies and scientific practices in agriculture.

GAIA BUSINESS provides many services covering both farmer needs and requirements for qualitative and quantitative improvement of the productive result.

A critical component of GAIA BUSINESS SA., is the web-based electronic rural services www.c-gaia.gr. GAIA BUSINESS facilitates the participation of scientists, consultants and other factors, in the development of services provided, giving the widest possible dimension to target rural intervention.

The services provided by GAIA BUSINESS are divided in section, as follows:

GAIA SOCIETY – offers training, certification and collaboration opportunities for the farmers. In this group of services, in addition to the most comprehensive Greek agricultural encyclopaedia (GAIA PEDIA) each producer can be trained and certified in farm interest matters. The communication platform GAIA NET allows networking and exchanging views and advice on agricultural issues, direct contact with producers, agronomists, but also educational and research institutions of the area.

GAIA MANAGEMENT – offers economic and accounting services for the farm, completely covered digitally. Services such, business plans, feasibility study, financial analysis, treasury planning, enterprise resource management, supported by revenue-costs and the VAT refund, provide each farmer the much neede tools to plan the economic efficiency of production.

Finally, through the e-commerce services, GAIA COMMERCE, and subsidization of services, GAIA SUBSIDY, allow the producer to promote the product and take the maximum possible subsidy. Services such as the basket of local agricultural products, under contracts agriculture, auction agricultural goods, production certification, optimal subsidy scenarios, scenarios of development measures, etc., provide the farmer with all the alternative revenue channels.

GAIA BUSINESS is especially designed for the agricultural sector, with a single goal: to meet the operational needs of each company, provide its users with useful knowledge that each one of them can use to formulate a viable and competitive farm business.

GAIA BUSINESS operates in cloud environment offering the user quick and easy access from any available device (fixed or portable computer, mobile, tablet, smartphone). By that way, along with sophistication certified safety systems, it ensures safe data storage and eliminates any risk of deletion.

Each user has access to its services GAIA BUSINESS through a pleasant and friendly environment portal, which features a variety of services that can be simultaneously used. It is a dynamic system in which the user participates actively contributing to developments. It's a case of modern services, enriched with special programs, which provide users with information, scores, scripts, education, administration, networking, business plans, feasibility studies, exhibitions, arrangements, etc. It offers everything an entrepreneurial did until now alone or in cooperation with a number of partners losing valuable time.

GAIA BUSINESS is a super tool put together 146 specialized services in one system. Serves fully functional needs of each company engaged in agriculture, while providing additional services such as information, education, knowledge management etc.

American Farm School

The American Farm School is an independent, nonprofit educational institution located in Thessaloniki, Greece. The School was founded in 1904. The current major educational divisions include the Secondary School, Perrotis College, the Primary School Program, the department of Adult Education & Research and the Greek Summer program. The School's mission is "to educate men and women, especially those from Greece and the Balkans, to become professionally accomplished in the latest aspects of agriculture and the life sciences".

In the premises of the School, there is a diversified Demonstration and Educational Farm, a living laboratory where students of all ages undertake practical training in agricultural production, animal husbandry, agribusiness and natural resource management. Each year thousands of farmers, schoolchildren, university students and other visitors enjoy the opportunity to observe, participate and learn. The Farm is divided into Dairy, Poultry and Horticulture departments, including greenhouses, a nursery, a vineyard and winery, olive trees and extensive experimental and other field crops, both on the campus farm and at the Zannas Farm, located to the west of Thessaloniki near the Axios River.

There are different kind of education one can get in the American Farm School. The Secondary School offers an accredited general high school education with practical focus on agricultural subjects. The students live in campus dormitories and follow an extracurricular program that reinforces strong traditions in Greek culture. Perrotis College develops leaders for the global agriculture and food industry. The English-language curriculum leads to the awarding of the BSc degree, which is validated by the Cardiff Metropolitan University (UWIC), a branch of the University of Wales (UK), in International Business, Environmental Systems Management and Food Science and Technology. Moreover, the Primary Education program focuses on environmental education through experiential learning. The curriculum gives young learners everyday contact with the natural world and with farming, and encourages hands-on experimentation and discovery. The department of Adult Education & Research provides a wide range of continuing training and adult education programs, lectures, conferences, exchange programs and study visits on topics related to the agrofood sector, the environment, rural tourism, culture, agribusiness, information technology and education. The Center for Agricultural Entrepreneurship (CAE), as part of the

department, aims to support innovative ideas turn into entrepreneurial sustainable actions for the agrofood sector. To achieve this, the Center offers exclusive experiential adult education in contemporary and efficient technical practices on local resource management and environmental awareness. Besides, it explores ideas and provides counseling that lead to business plans and to further entrepreneurial activity development through mentoring, networking and clustering.

The Center for Lifelong Learning Level 2 of the American Farm School, is an accredited provider of non-formal education by the National Organization for the Certification of Qualifications & Vocational Guidance (EOPPEP), supervised by Ministry of Education. The Center conducts open educational programs following the principles of American Farm School's spirit for qualitative learning by doing education.

Other organizations

Foundation for Economic & Industrial Research

The Foundation for Economic & Industrial Research (IOBE) is a private, non-profit, public-benefit research organization. It was established in 1975 with the dual purpose of promoting research on current problems and prospects of the Greek economy and its sectors and of generating reliable information, analysis and proposals for action that are non produced elsewhere. In that sense, IOBE holds a unique position in Greek society: it is the only politically independent, non-partisan body dealing with major issues of the economy, and it aspires to being pro-active, that is, it seeks to identify, at an early stage, economic issues that can become crucial in the future and to propose timely solutions for these. Some of the functions that IOBE is enjoined to perform are the following:

- To carry out applied research on basic structural and sectoral problems of the Greek economy as well as on various aspects of economic policy making.
- To monitor and analyze short-term economic trends, to record the business climate, and to prepare forecasts and evaluate prospects of the Greek economy.

National Rural Network of Greece

Within the framework of the Rural Development Program (RDP) is foreseen for first time the development of a National Rural Network (NRN), in which are participating,

as members, Chambers, Research Institutes, Environmental Organizations etc. Members of the Network are also agencies of the Ministry for Agricultural Development and Food and the Ministry of Environment, Energy and Climatic Change, which are responsible of the management and implementation of some measures of the RDP.

The main goals of the NRN are: interconnection of its members, localization and analysis of best practices related to Rural Development exchange of experience and knowhow on Rural Development, diffusion of the results of RDP at local, national and European level, technical assistance for the inter-territorial and transnational collaboration projects within axis 4 "Leader approach" of the RDP Collaboration with the European Network for Rural Development (ENRD) and NRNs of other Member States. The main actions of the NRN are: organization of meetings, congresses, seminars and thematic working groups/ meetings, publications such as newsletters, magazines, manuals on RDP subjects, development of database for collection and publication of best practices.

Institute of Agricultural Sciences

The Institute of Agricultural Sciences is a public entity which is under the auspices of the Ministry of Rural Development and Food. It works continuously since 1901 by implementing the purposes of its establishment. In particular, it contributes to the development of Greek agriculture through education, specialized in agricultural issues (such as beekeeping, wine - oenology, arboriculture, horticulture, landscaping, aromatic and medicinal plants etc.). Alongside, the Institute organizes conferences and workshops agronomic interest, and in recent years done and Environmental Awareness Programs for primary and secondary school students.

Presentation of the proposed structures of incubator farms in Greece

Some of the longest established and most successful incubator farms are 'stand-alone' enterprises, ALBA and Intervale Center being two examples. Many newer incubators have close partnerships or even direct ties with other organizations. These include institutions of higher education, city or county government agencies, regional farmers'

markets, and environmental and open space organizations. This kind of relationship can increase access to resources and funding, since larger, established entities may have experienced staff who specialize in resources, funding and grants.

The organization of an incubator project is largely determined by the circumstances that led to its creation in the first place. Incubator projects are started by a wide variety of groups, including universities, conservation districts, local business advocates, economic development agencies, food banks, refugee resettlement agencies, faith-based initiatives, and other types of non-profit entities. All of these various types of programs have their own constraints and logistical challenges, as well as their ownadvantages.

It is common practice nowadays that the incubator's goals align with the goals of the larger organization within which it exists. Usually, the mission of the project and how its goals would be achieved through that mission, within the parameters and goals of the university, city agency, etc. that sponsors the farm incubator, are determined.

In cases where an organization exists solely for the purpose of starting an incubator project, then the majority of the work around how to structure the organization will be determined by its strategic planning process, and should reflect the wishes and needs of the community it hopes to serve.

Relationships between partners should be optimal, with no conflicts and each ones' role should be clear and explicit from the start. For example, the organization responsible for the incubator project and its role in overseeing the project, staff, and the participants, along with the chain of command, and who has a stake in the project and will provide guidance, direction and high level support should be determined too.

It is of a major importance that the farm incubator project will take advantage of the resources and benefits deriving from its partnerships, whether they are services or any knowledge or experience available by its partners.

In the case of establishing a farm incubator program in Greece, the optimal structure should be determined, in order to provide to its participants the opportunities, knowledge and support needed for a farm business to survive in the current conditions. Until now, there isn't any organization having as its main and solely purpose the establishment of a farm incubator project and it's unlikely to exist any time soon, given the conditions in Greece.

A purposed structure of incubator farms in Greece should be a partnership of a variety of organizations, as each organization can deliver different aspects, according to its specialty. For example, partnering with a university ensures training and knowledge for farmers, while partnering with an IT company gives the participants the opportunity to gradually develop from a start-up farmer into a modern businessman, using modern technology.

The best way for a farm incubator program to decide whether to partner with an organization, and which organization suits best in a given structure, is to review its needs. Each partnering organization should be able to address a certain need(s) of the program. In that case, it is obvious that there is no need to partner with several organizations to cover the same need. Partnerships between various non-profit agencies, universities, institutions etc are also more likely to receive funding, which is considered critical for the current situation in Greece and thus more suitable.

Presentation of the proposed network distribution of incubator farms

Selection of the location where a farm incubator project will take place, is an important factor of its forthcoming success. Certain prerequisites should be met, apart from the basic, which is access to land on the incubator site. In many cases, land access in the form of a donation or unused municipal property is what spurred the idea of an incubator in the first place. In other cases, an organization owns unused land and partners with a university or another non-profit organization to form an incubator project.

A simple distinction between areas where an incubator can be implemented, is shown below, as well as potential threats and opportunities of that classification: Urban – Suburban – Rural Incubators.

Urban Incubators

Incubators in urban areas should follow some of the same basic guidelines for establishment as rural areas, but there will be significant distinctions in terms of available land, zoning, ability to integrate livestock into the operation, and access to

consumers. These will typically, but not always, be focused on smaller plot sizes and

smaller-scale production. Some considerations of both threats and opportunities that

may be unique to establishing incubators in urban areas include:

A. Potential threats

- Is the potential for nuisance conflicts between farmers and residential or commercial properties greater?
- Are there city ordinances limiting the types of production (e.g. livestock)?
- Will it be necessary to apply for re-zoning of the property?
- How limited are the options for available property?
- Are there any properties with existing infrastructure suitable for farming?
- Are there potential soil quality or contamination issues on available properties?

B. Potential opportunities

- Are there nearby mass - marketing opportunities that could reduce transport costs?
- Are there funds available for neighborhood improvement projects?
- Is there a target population within the urban environment that could become a reliable niche clientele for the incubator?
- Are there more opportunities for onsite or local residence for clients?
- Will increased public exposure enhance marketing and branding opportunities?
- Do you have a more substantial pool of local volunteers through urban community organizations?

Suburban Incubators

Incubator programs located in suburban areas may enjoy the "best of both worlds" when it comes to balancing proximity to marketplace and safety from public overexposure. However, there are still inherent risks that must be considered when choosing a suburban location. Here is a brief list of considerations when considering a suburban location:

- Is the cost of renting or purchasing land going to be less conducive to your plans?
- Review the future land development plans for your area to make sure future development will not hamper your efforts? Could future development be an asset to your clients?
- Will suburban neighborhoods be more open to a community-based farm or will it be considered a nuisance?
- Are there affordable housing options for clients in your demographic?

Rural Incubators

Rural incubators also come with distinct considerations and characteristics to an extent. An incubator startup may be more likely to find a site that was traditionally agriculture, is zoned appropriately, and has existing infrastructure that may reduce startup costs. Also, the potential threat for nuisance complaints is lower if you have onsite compost, livestock, or noisy machinery. There is also greater potential for incubator clients who transition out of the program to find a site for their own business that more closely resembles the site they have transitioned from. Those advantages aside, there are a few distinct disadvantages to some rural locations that should be weighed:

- How far from the site are the best markets and how will that impact transport costs for the clients?
- Is there enough potential site traffic to involve community members, volunteers, or host a market?
- What options exist for affordable client housing in the area? If few exist, how far will clients have to travel to maintain their plots and will they be reliable?

As mentioned above, the selection of the location where a farm incubator project will take place is very important of its forthcoming success. Some critical issues that should be taken into consideration, are the following:

- the size of plots available for the farmers, so that an independent and viable enterprise could be established,
- the contamination of both soil and air in urban areas, so to provide the best specifications for its participants,
- the cost of farmland rent. Usually it is more expensive near urban areas, due to lack of available farmland or other uses of the available land, and this will make farmer's transition a really difficult issue, if not impossible,
- limitation such as area's ordinances, methods of transport and their cost.

Keeping in mind the above mentioned issues, the most appropriate solutions regarding the case of Greece, seem to be the sub-urban and rural areas. In both types of those areas, the limitations are less than in urban ones. Land condition, land availability and rent are for the benefit of the participants in a farm incubator project. There are plenty transport methods that could be used, depending on the available cost to be spent and there aren't ordinances to limit the preferences and the dreams of a participant farmer, often regarding livestock methods.

Moreover, the majority of young farmers who would like to participate in a farm incubator program, comes from rural areas. Usually, they are interested to invest in their place of origin to establish their rural business, than to move to urban areas.

Calculate capital expenses for establishing an incubator farm

The main objective of an incubator farm is the provision of all the necessary services, resources and assistance to new entrepreneurs - farmers, in order to successfully establish their start-up business. Furthermore, the new trend in local products consumption, ecological awareness and organic practices (Berman, 2011) encourage the establishment of new small farms. In particular, a) there are many consumers willing to pay more for local products, b) there are several opportunities in city markets for quality products and c) incubator farms facilitate the skills acquirement and market access for new farmers (Lelekacs et al, 2014). However, new farmers usually do not have access to all inputs and financially are pretty limited to acquire the needed services. Despite that, an incubator farm structure differs depending on the region demographic characteristics, the geographical terrain, the area covered, the available funding etc.

Presentation of a representative incubator farm structure

The structure of a representative incubator farm considering the specific nature of Greece, should aim to the minimization of all entry barriers in agriculture for new ambitious people. The structure of an incubator farm consists of many provisions to new farmers, staff management and outreach activities. Albeit, the services to new farmers vary in each incubator farm, entry barriers should be outflanked for all new farmers by providing specific services such as the available cultivated land, infrastructure, education, market access, transition and entrepreneurship.

Land

Naturally, the available parcels for young farmers have various shapes and sizes. Generally, it is better to provide many small plots (0.05 – 0.2 ha) linked between them, so that any new farmer could expand his/her production if wants to. Usually, incubator farms cover from small areas of few hectares (2 ha) to very big areas of hundreds of hectares (140 ha). In Greece, obtaining large field areas is difficult, so the maximum stretch of land that could be cumulated is about 50 hectares.

Based on the needs and requirements of new farmers, rent for land should be kept low so that there is greater incentive in cultivating larger areas. Land lease with incrementally lower values to new farmers. Every year the lease may be increased until the last education year. It is a fact that incubator farms with higher participation fees or higher land lease develop more successful farmers, in regard to their future farming career (Ballantyne et al, 2015). In several cases, the cultivated area and the subscription fees of each new farmer start from low prices (0.05 ha with low rent). Thereafter, the cultivated areas increase every year (0.1 ha in year two – 0.2 ha in year three, etc.), but their rent increases as well. Also, the aspiring farmers should have the option to choose the parcel of land that they will lease in order to know their new workplace.

Infrastructure

The provision of all the necessary infrastructure and equipment for the establishment and support of a farm is required either by a small fee charge or free of charge. This includes access to various tools and machinery (shovels, tractors, pickaxes etc.) as well as access to infrastructure (barns, warehouses, coolers etc.). Moreover, new farmers should have access to water utilities (for watering, cleaning, etc.) and electricity. Seminars for the use of machinery and general infrastructure should be done so that repair costs could be minimized. In addition, a work program for the equipment use should be prepared so that the trainees are well organized. Extensive examples of equipment acquired from incubator farms are presented in the table below:

Incubator Farm	Infrastructure/Facilities
ALBA (Agriculture and Land Based Training Program)	Tractors, resource center, classrooms, maintenance workshop, produce cooler, distribution facility
Elma C. Lomax	Greenhouses, tunnels, post-harvest shed, walk-in cooler, tractor, irrigation hookups, security and deer fencing, tools in secure shed,

	classroom, and restroom.
Intervale Center	Washing stations, tractors, hand tools, two greenhouses, coolers, multiple well water access points
New Entry Sustainable Farming Project	Hoop houses, storage sheds, irrigation, tools, produce wash stations, electric fencing, tractors, cooler
Onslow County	Hoop house, storage shed, irrigation, cooler, tractor
Plant, Breeze Farm Eterprise	Tractor with rototiller and plow, mowers, small bush hog tractor (on loan), tools, irrigation system, two hoop houses, cooler, post-harvest wash area.
Raft Swamp Farms	Greenhouses, tools, farm library, tractors, electricity, irrigation system

Source: Leech et al, 2014

Education

The training structure for the new farmers consists of various aspects of theoretical and practical education, implemented in groups or individually. More specifically, theoretical courses, workshops and maybe educational trips are a part of group training. That way, trainees interact with each other, develop the conditions for successful partnerships and acquire self-confidence. Usually, technical knowledge is provided by educational institutions and their presence is essential for the proper support of new farmers. Incubator farm cooperation with universities which have the technical know- how, such as Rutgers University, is a must for proper functioning of an incubator farm. Also, similar educational institutions are the Agricultural University of Athens, the department of Agriculture Crop Production and Rural Environment of the University of Thessaly, Department of Agricultural Development of the Democritus University of

Thrace etc. In the matter of one-on-one training, on-site visits and technical assistance from the staff of the American Farm School could be implemented to ensure a better understanding of each and every difficulty. Usually these benefits are paid. Furthermore, the provision of printed materials on farm production, sustainable agricultural practices, business planning etc. is quite important for new farmers training. On top of that, new farmers could come in contact with older successful farmers or farming professionals.

The training sessions can be divided based in the import year of new farmers. Moreover, considering the farm experience of each individual new farmer, training programs could be separated for beginner farmers, experienced etc. The structure of the agricultural techniques training program, depends heavily on the geographic area, the area potential and the assortment of products produced in this area. A thorough list of subjects that can support the development of a curriculum for new farmers could be divided in two subcategories:

Agricultural Production Education	**Business Management**
o Soil management	o Business planning
o Farm management	o Fiscal planning and budget management
o Crop planning and work program	o Security and taxation
o Land/Field preparation	o Leadership development
o Plant biology	o Marketing
o Greenhouse management	o Land access and property models
o Weeds, diseases and pest management	
o Water and irrigation	
o Nutrients and fertilizer management	
o Equipment use and maintenance	
o Harvest and post-harvest management	
o Food safety, grading and packing	

Market access

Access to distribution market channels and marketing of agricultural products is a major difficulty for producers. Therefore, it is necessary to provide help to new farmers in

order to enter markets of agricultural products. The development of a joint body, selling products under the umbrella of an incubator farm (following all the necessary compliance standards) is one way to link new farmers with markets. Also, the development of a local economic model, like the Community Supported Agriculture (CSA) model, could help the promotion of the products as well.

Organic products certification is an expensive process and many incubator farms do not prefer to promote their products that way on the local markets. In Greece, if a farm school-incubator farm could integrate the new produce in the already fixed production line, then this could be an asset for the incubator and for the new farmers as well.

Transition and entrepreneurship

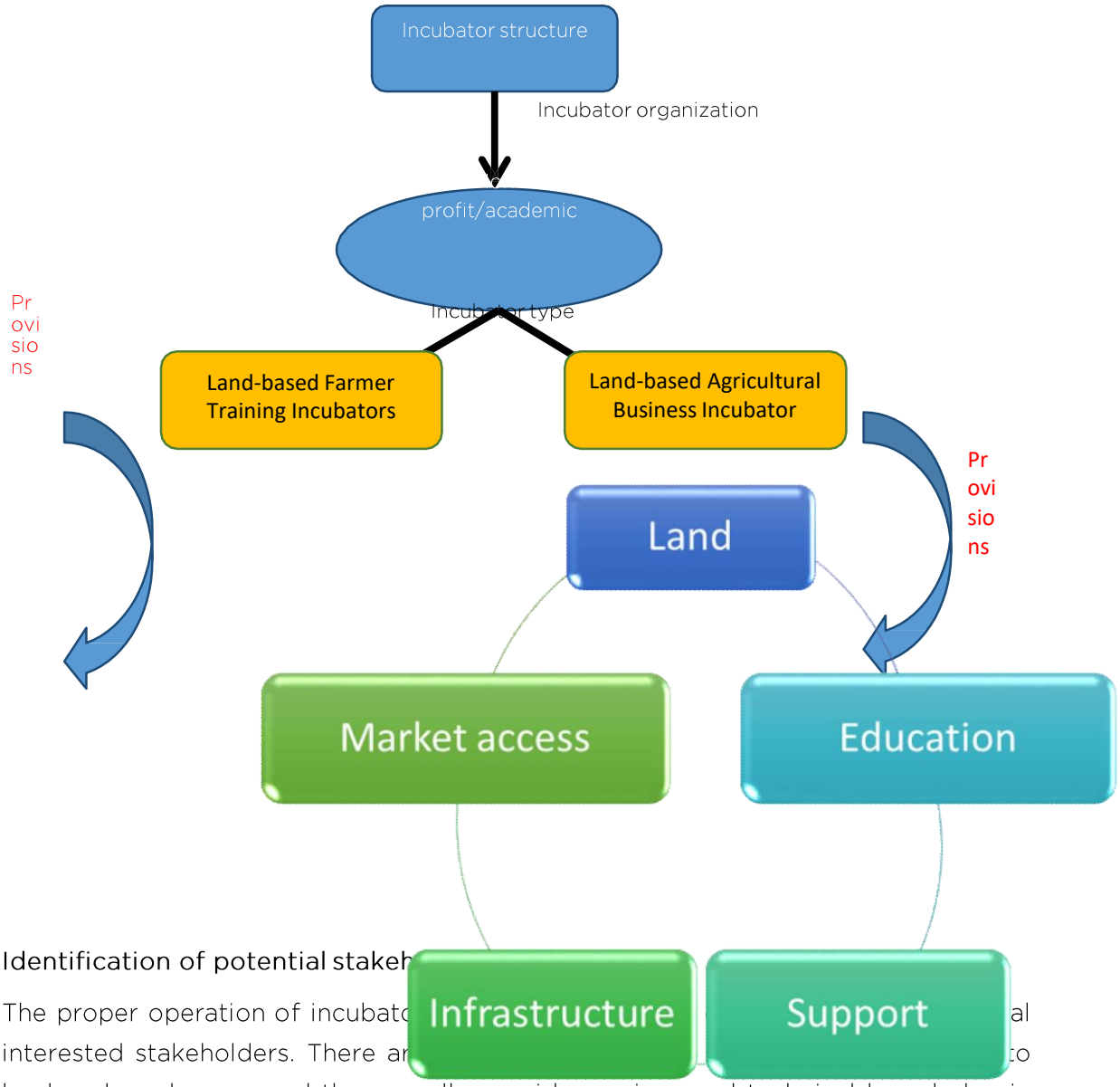
The essence of a new agricultural business is gaining profit from dealing with agricultural production and through agricultural marketing. Since every single new farm is an enterprise, new farmers should be trained in business plan preparation and in record keeping tools. The incubator farm should provide all these necessary skills in order to develop new entrepreneurs who can apply for loans, grants and could cooperate under the new economy framework.

The ultimate aim of an incubator farm is the development of new farmers-entrepreneurs, who after the necessary years could create their own farm. The development of mechanisms related to land acquisition after the tenure of new farmers, is a very important aspect which needs to be developed before the graduation of the first farmer. Typically, incubator farms create term programs for 3-5 years and after this length of time, help is provided to the graduates in order to establish their own farm.

All the above or a part of them should be the axis on which an incubator farm will be developed, in order to provide all the necessary skills to new farmers, but at the same time diverge from other new farmers' integration programs since it introduces new ideas, not yet implemented in the Greek area. The combination of the above aspects is a difficult mix and there are no significant measurements to distinguish which benefits have greater impact on the incubator members (Ewert, 2012). Essentially, an incubator farm is a comprehensive integration farm program, where there is guidance of prospective farmers so that risk of failure is minimized.

Administrative structure of an incubator farm

The majority of incubator farm projects are organized as non-profit (Winther et al, 2013). Furthermore, in several cases an incubator farm operates under the aegis of an existing non-profit organization. This advantageous management structure (non-profit) favors the goals of a typical incubator farm, since it is an organization providing educational and financial services in favor of public benefit and growth. Tax exemption through this management structure offers several advantages, but also implies strict compliance requirements. Rarely, incubator farm projects operate under hybrid organizational types (e.g. non-profit/academic) to develop a social supply food system or environmental sustainability. Less common management structures are for profit structure and cooperative structure which are implemented from fewer incubatorfarms.



Identification of potential stakeh

The proper operation of incubato al interested stakeholders. There ar to lead such endeavors and they usually provide services and technical knowledge in their areas of expertise. Partnerships between various businesses, universities and non-profit organizations are more likely to receive funding from prospect donators, foundations, government grant programs etc. Identification of potential stakeholders is not an easy

process, since entities genuinely interested may not be as obvious. In order to identify ideal partners, some features of real interest should be illustrated:

1) Obvious and declared interest in the positive outcome of the incubator
2) Will to provide assistance and resources (knowledge, time, funding etc)
3) Consistent ability to communicate with the incubator's staff during the whole project (concept, implementation and management)

Stakeholder network could be broad and even relate to services which do not fully correlate with the respective incubator. Therefore, a distinction between potential stakeholders is needed. Incubator farm stakeholders could be divided into three categories:

1) Educational institutions: The necessary technical knowledge should be provided by educational bodies which have the required specialization in the agricultural production sector. Rutgers University has the needed educational capital and qualifications to provide technical know-how to new farmers in an incubator. Also, other educational organizations which could be partners in Greece are the Agricultural University of Athens, the department of Agriculture Crop Production and Rural Environment of the University of Thessaly, Department of Agricultural Development of the Democritus University of Thrace and some other Agricultural Institutes.
2) Public bodies: Within the smooth integration of new program in Greece, such as an incubator farm, cooperation with public bodies related to agriculture is significant. The National Agricultural Research Foundation (NAGREF) and the Greek Agricultural Organization Dimitra are two public bodies that could provide land and technical knowledge to an incubator, as well as support to new farmers.
3) Private bodies: Consulting, project management and continuous optimization of agricultural practices are necessary services for an incubator farm, provided by private bodies. Cooperation with private bodies such as ERGOPLANNING Ltd and GAIA is quite important and contribute to the improvement of the incubator farm provided services.

The development of a strong stakeholder network is a huge pillar in the establishment of an integrated regional food system. Identification and cooperation with specialized institutions is a significant aspect of the outset process in a new incubator farm.

Organizational table of an incubator farm

Before the initial investment, an economic, functional and organizational table could be prepared with the information above, with the following information (Schwartz και Thilmany, 2014):

- Overview: It highlights the company establishment dates, size, implemented farming practices etc.
- Eligibility requirements: It highlights the required experience, age and all the other required characteristics by the incubator for the participants.
- Fees and services: It highlights all the necessary financial data (subscriptions, rent, etc) needed from the new participants.
- Curriculum: It highlights the study program and all the abilities that the new trainees will develop, whether these are basic agricultural skills or financial and business skills.
- Infrastructure: It highlights all the available services to new incubator farm participants.
- Tenants: It highlights all the demands the incubator farm will have from new farmers such as e.g. business plan, evaluations etc.
- Communication: It highlights the relationships and ways of contact that the incubator will adopt with the participants.
- Markets: It highlights the approach regarding the marketing of agricultural products. The possibility of assisting or not the new farmers to access markets for their products.
- Measures of success: Each incubator farm has different evaluation measures of success. Therefore, guidelines should be given and the definition of success for each incubator.
- Transition: It highlights the timetable for the new farmers and the transition prospects in the farming profession as entrepreneurs later on.
- Funding: It highlights the incubator farm financing programs, donations etc.

One such table addressing all these decisions could be fixed as follows (incubator structure example):

Farm Incubator	
Overview	Founded in…, … acres. Requires …. practices
Eligibility Requirements	….. Months application process. ….. years/months experience. Business plan (yes/no)
Fees and Services	Rent: ….€/year. Land management : …. €/year
Curriculum	Lessons (with mentor/as a team etc) fees for classes
Infrastructure	Following …. Principles. Equipment (given or owned) – (accessible all day or partly)
Tenants	Evaluation (required or not). When? Relationships between new farmers
Communication	Formal or informal communication
Markets	Help farmers to access markets or not? Purchase products from farmers? Marketing practices?
Measures of success	Successful transition is when …..
Funding	Grants, community support, donations

Development of a new farmers' program by production sector

Depending on the services provided from an incubator farm, different programs based on the production sector are created. Thereby, separate incubator farm programs are created based to the crop production that an incubator could develop and to preferences of new farmers. Therefore, four different scenarios for an incubator farm could be

developed which are divided into annual crops, tree crops, livestock production and fruit and vegetables production.

Livestock production incubator farm

The establishment of a livestock production incubator farm is an expensive investment; thus subscription fees of new farmers could be higher. The area for a livestock production unit for new farmers may range from 0.8 to 10 hectares depending on the farm animals.

The most common farm animal production is cattle. A cattle unit for a new individual farmer could be covered with 0.8-0.9 hectares of land, in order to provide all the necessary services and operate under good conditions. Furthermore, goat or sheep units require approximately 4.5-5.5 hectares in order to be efficient. Finally, pig fattening units require fairly large areas (about 11 hectares) and are quite difficult to implement. Normally, a mix of different production categories can be done and balance the leased hectares, reducing disparities.

Tree crops incubator

Tree crops are a very popular industry with great appeal to aspiring new farmers. It is an industry thriving in Greece and very efficient. The required land for a individual tree crop establishment range between 0.9 and 2.5 hectares, in order to achieve sufficient outcome.

Specifically, for olive or pomegranate production, new farmers should lease 1.6-2 hectares so that yields are satisfactory. Relating to citrus fruits (orange, lemon, tangerine etc.), a start-up farm should hold around one hectare, because they are quite labor intensive. Also, apricots, peaches and nectarines require about 1.2 to 1.3 hectares of land. Finally, nut trees production such as almonds, walnuts, peanuts etc require 1.8-2.5 hectares of land in order to achieve efficient production. A mix of tree crops is possible if the infrastructure is suitable and if the new farmer is willing to do it.

Fruit and vegetable incubator

Certain fruits and vegetables could be cultivated outdoor or in the greenhouses. Cultivations made in a greenhouse are labor intensive and usually demand small parcels of land. Field cultivations have fewer work hour requirements and require relative fewer hectares of land at the same time.

In particular, greenhouse products (e.g. cabbage, eggplant, peppers, lettuce, beans etc) require 0.25 hectares of land in the greenhouse in order to be efficient. There are crops such as tomatoes or cucumber which generate sufficient returns on smaller parcels (≈1 ha). Regarding field crops for the abovementioned products, required stretches of land fluctuate from 0.35 to 0.7 hectares. The development of an integrated farm with field and greenhouse products could create a variety of experiences for new farmers and benefit them for the later transition to the entrepreneurial sector.

Annual crops incubator

Annual field crops require very few work hours and therefore the development of a sustainable lucrative farm needs huge stretches of land. The composition of a mixed business plan (annual crops and other cultivation) is a necessity, in order to minimize the leased land for the new farmers.

A farm producing wheat or barley requires about 40 hectares of land, making the exclusive cultivation of them in an incubator unprofitable. Lower land requirements exhibit products such as cotton, vetch, oat, sugar beet, alfalfa, sunflower and some other crops, but still the land requirements fluctuate between 3 to 10 hectares.

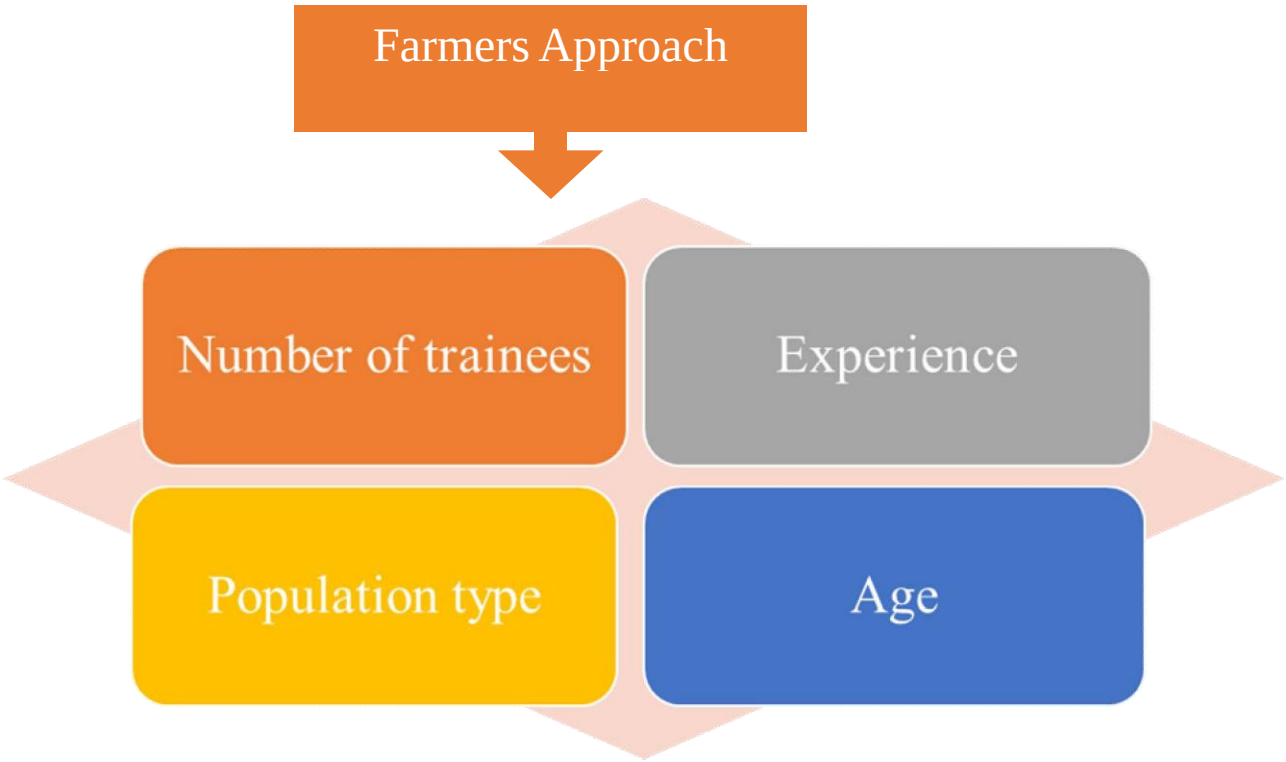
Under the protection of an incubator farm, several crop combinations could be cultivated. The conditions for the establishment of an incubator farm in Greece are ideal, since the thriving crop types are numerous and differ depending on their location.

Potential farmers approach

Since the population in the agricultural sector, in rural areas and in Greece as well appears to grow older the last years (European Union, 2013), the approach of young people for agricultural professions are becoming stronger. Nevertheless, a population decrease in rural areas and at the same time a rise in the urban population is making

imperative the implementation of innovations in agriculture, aiming towards rural development through incubator farms (Nicolic et al, 2014). Furthermore, a massive role is played by a community's socio-economic components, which define the reasons of pursuing the farming profession. Therefore, there are some characteristics that distinguish aspiring farmers by:

1. Population: A banality for incubator farms is focusing in specific population groups and the most common target group is beginner farmers. There are also incubator farms targeting at refugee groups, socially disadvantaged groups and people with low income. Basically, three categories converge to the formation of target groups and these are a) organic practices farmers, b) new farmers and c) immigrants, disadvantaged groups (Melon, 2006).
2. Experience: Usually, the purpose of incubator farms is the acquisition of experience for the new trainees, but depending on the incubator type the demanded experience from the provider may differ.
3. Age: According to Eurostat's data (2014) on life expectancy until 2080, life expectancy for men will increase by 8.9 years and for women by 7.4 years. Combined with the aging rural population, incubator farms in several regions function as new farmers' schools, because they introduce inexperienced people in farming and could assist in solving the above problem.



Staffing

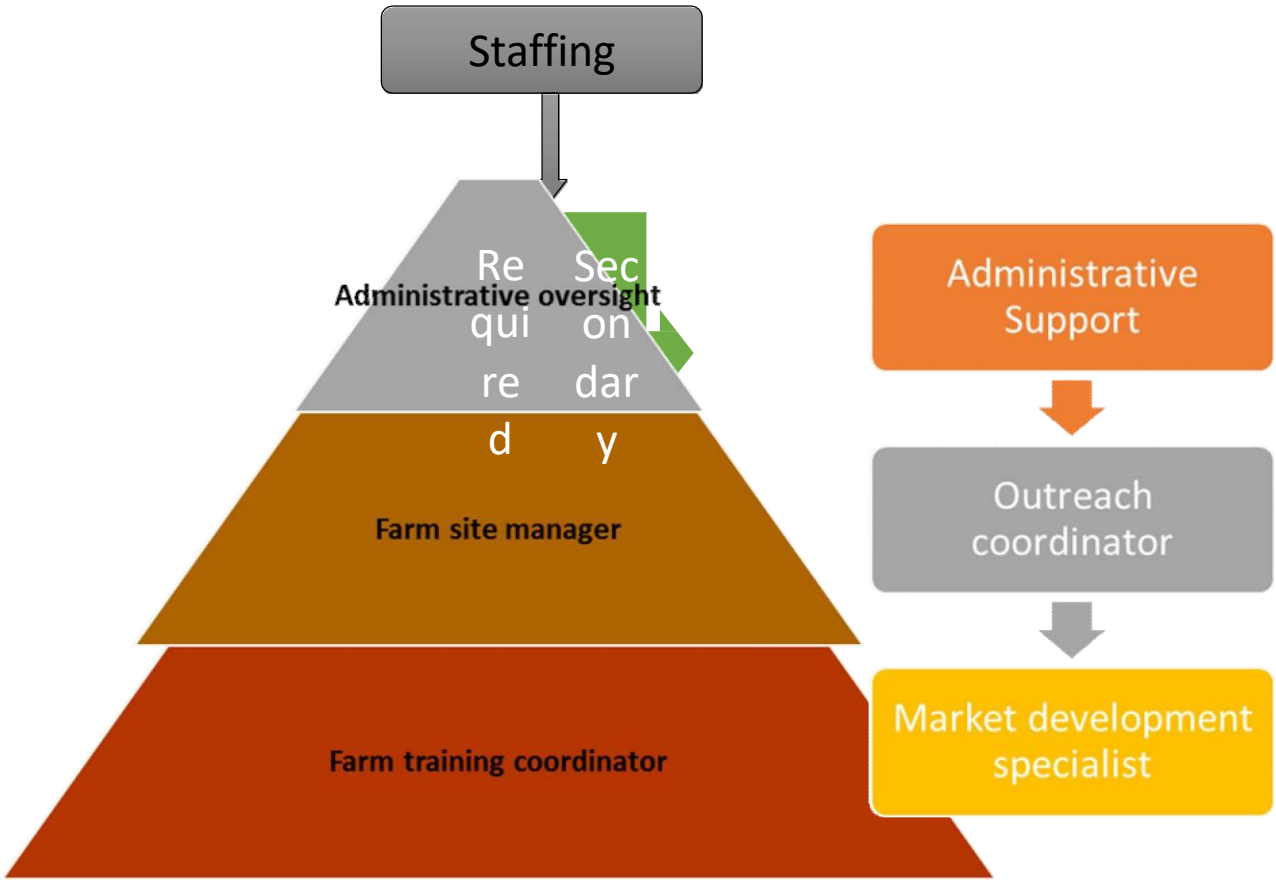
Developing a well-organized staff team is essential for proper management and success of an incubator farm. The employees' characteristics and the number of employees needed, depends on the number of participants, the possible grants and the available funding.

Typical staff positions in an incubator farm

Generally, there are some typical positions to be filled in every incubator farm (Winther et al, 2013):

- Administrative oversight: Usually has the role of project manager and he/she is responsible for the strategic planning, budget - grants management, staff management, program evaluation and for secondary issues such as communication, procurement, design etc.
- Administrative Support: He/she has the responsibility of bookkeeping, financial management and office support.
- Farm site manager: The main objective of this position is infrastructure and equipment management. Also, he/she could conduct field training.
- Farm training coordinator: The formation and coordination of a complete curriculum is one of the responsibilities of this position. Also, he/she conducts classroom and field-based trainings along with the provision of one-on-one technical assistance.
- Outreach coordinator: He/she promotes and enrolls participants in the incubator farm programs and promotes the overall incubator project to the general public, so that the incubator could achieve greater recognition and advertising.
- Market development specialist: The contribution of each responsible specialist is to provide all the necessary knowledge to farmers to access markets and promote their products.

The abovementioned positions are indicative and there is no need for all of them to be filled in an incubator farm. These positions are the framework of a successfully operating incubator for the optimal management of new farmers and facilities.



The mentor

The mentor of an incubator farm plays a very significant role. A mentor is the one who gives incentive and conveys his knowledge to new farmers. It is a very unique work because the new farmers have the opportunity to learn in real conditions and the relationships created between the mentor and the new farmers are special. Therefore, for the mentor position a talented person should be selected and not just someone with cultivation techniques knowledge. The mentor could be any staff member of an incubator but usually this position is filled by a tutor. Focusing on the right mentor is not subject to the position itself, but in the way of communication with the new farmers. There are three mentoring models implemented in incubator farms (CR-FAIR, 2013):

- Peer mentoring between new farmers.
- One-to-one mentoring with the new farmer and their farm mentor.
- Group mentoring during training.

Volunteering and internships

Incubator farms recruit interns from training schools to gain experience and to benefit from their work. The interns are recruited through university programs, legislative halls, apprenticeship programs, social activities etc. Often interns work part-time for limited amounts of time and perform simple tasks in the incubator farm.

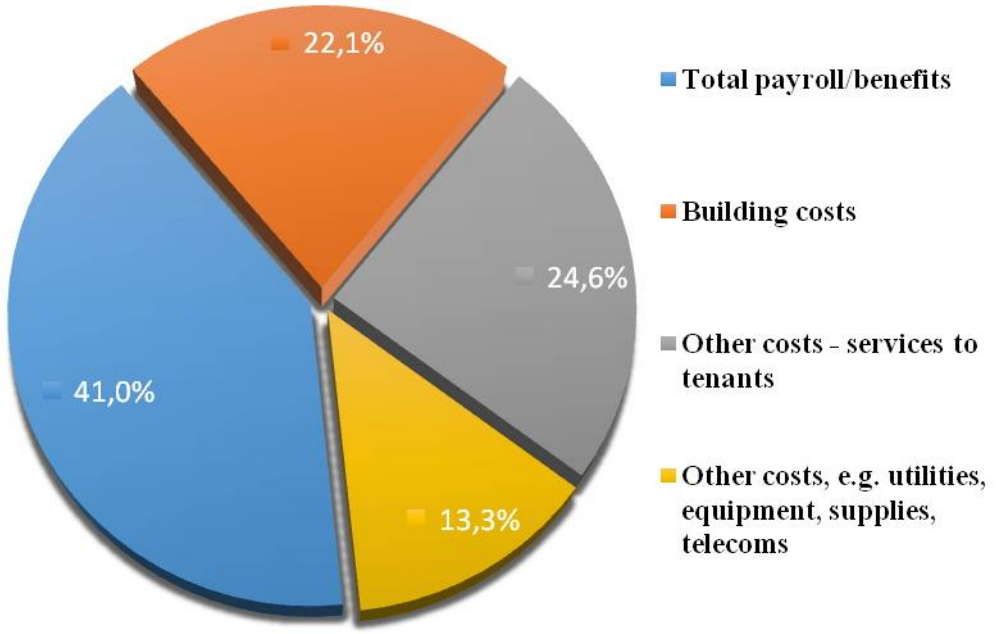
Several times interns perform voluntary work joining the volunteer team. Volunteer approach and the creation of a support volunteer network is an important aspect for the development of an incubator farm. Several incubator farms base their activities and operation on voluntary work from people interested in environmental preservation. Therefore, voluntary work is vital for the operation of an incubator farm, whilst requires minimum expenses.

Expenditure analysis by categories of services in a business incubator

The offered services of an incubator are divided into management services, financing services, business support, space provision and access to networks (Carayannis and Zedtwitz, 2005). All the provided services require funding in order to develop and manage them. Business incubators, whether they operate as nonprofit or not, should cover specific expenses in order to ensure their viability. Expenditures for establishing and operating an incubator are quite a lot and funding is usually given from national or local grants. The second source of funding for most incubators is European programs, followed by loans from banks and finally research and development grants in cooperation with universities (CSES, 2002).

As for operating expenditures, an average incubator presents an outflow of approximately ≈ €500,000, according to the European Union Center for Strategy & Evaluation Services research (2002). Furthermore, according to the same survey, the majority of money spent (41% of total expenses) consists of salaries and related benefits (insurance etc). Subsequently, other expenses are classified to services to tenants (24.6%) and building costs (22.1%) e.g. maintenance. Other costs (13.3%), e.g. utilities, equipment, supplies, telecoms complete the operating expenses puzzle.

Graph: Business Incubator Operating Costs



Source: CSES, 2002

Since labor cost represents the largest amount of operating expenses, it is rational to seek for the necessary number of employees in an incubator. On average a business incubator employs ≈ 5,6 people, divided into managerial and professional personnel (2,3), secretarial personnel (1,4) and other supporting personnel (1,9) (CSES, 2002).

Expenses for the establishment of an incubator farm

Normally, statistics provide simplistic guidelines in formulating economic strategies for every incubator type. These results are the research outcome for many different incubator types and not only for incubator farms. Therefore, the needs of an incubator may vary depending not only on the type but also on size and area of the incubator. Most incubators face significant start-up costs related to equipment procurement, land lease and infrastructure establishment. In order to minimize start-up costs, one could exploit abandoned establishments or donations to gradually build up the necessary infrastructure. Albeit the high start-up and operation costs, a research for entrepreneurship in Oklahoma (U.S.A.) revealed that the most incubator investors consider their businesses successful in total (Brooks et al, 2010).

The necessary expenses for an initial installation of an incubator farm depend on the subsistent infrastructure, the size of the incubator and needs presented by each geographic region. Overall, the requirements for every incubator farm are summarized below (CR-FAIR, 2013):

- Acreage to support and expand farmers' plots
- Roads, walkways and parking
- Water access, irrigation set-up, a wash station
- Electricity access and hook-ups
- Equipment for sharing such as tractors, implements, tillers, rototiller, various hand tools, wheelbarrows, etc.
- Barn for equipment storage
- Cold storage
- Greenhouse
- Fencing and
- Land development in the first year (e.g. tilling, weeding, etc.)

The different needs and goals of each incubator farm create a relative determination of initial establishment costs. The table below illustrates the establishment expenses of a representative incubator farm in the Greek area and it recreates a scenario where the necessary structures are designed from scratch.

Infrastructure and equipment	Initial Cost	Notes
Land		
Land purchase (≈ 6 ha)	180.000 €	Establishment of a 6 hectares incubator farm with possibility of extension
Site preparation	5.000 €	Tree removal, roads and paths creation, cleaning etc
Fencing		
Farm fencing	9.000 €	Perimeter protection in all farms. In order to cover 5 hectares of land, 1000 meters of fencing are required (8-10€/m.)
Livestock fencing €	2.000	Perimeter protection throughout the livestock facility. In order to cover 1 hectare of land, 200 meters of fencing are required (8-10€/m.)
Building		
Warehouses for goods, coolers, equipment etc.	50.000 €	Common facilities to serve new farmers
Livestock infrastructure	300.000 €	Facilities formation, septic tank, cesspool absorbent. Also, livestock housing, milking facilities, feeders, watering holes, wheelbarrows for feeding, mixer, weighting machine, silo etc
Classrooms €	200.000	Apart from the building infrastructure, there is a need for electrical infrastructure, workshops, whiteboards, equipment, toilets etc

Greenhouses	25.000 €	The number of new greenhouses depends on new farmers demand for greenhouse products
Water supply		
Irrigation	15.000 €	Irrigation lines for all the farms
Well	15.000 €	
Tractors and vehicles		
Tractor (1) 45hp	20.000 €	A higher horse power tractor may be needed
Tractor (2) 85hp	80.000 €	
ATV vehicle	3.500 €	
Equipment and tools		
Coolers	30.000 €	Assuming the use of one cooler for all products, without counting the need for several coolers set to different temperatures
Water supply and standardization table	5.000 €	Necessary components for the hygiene of new farmers
Tools and machinery (e.g. rototiller, plow, arboricultural, mowers, weeders, rakes, shovels, etc)	80.000 €	The number of tools and machinery is determined by the needs of the incubator. We assume that the equipment is new
Other		
Electricity	10.000 €	Installation and main lines cabling with greenhouses, building and the water supply network
Total costs	1.035.500 €	
Website	6.000 €	Website development in order to promote and advertise the incubator farm

have the ability to manage plant crops and livestock simultaneously. Naturally, the start-up costs are quite high and if we calculate payroll and annual operating costs, the expenses will further increase.

Consequently, since all the above requisites are covered and in the ideal situation where all infrastructure is available, annual costs are limited to payroll and administrative costs in an incubator farm. Expenses for seeds, gloves, pots etc. are usually covered by the new farmers and are not calculated to annual expenses.

Annual budget for an incubator farm

Based on the available information and analysis, a preliminary outline of a rural training center (theoretical and practical) could be synthesized. A new incubator farm could operate using a small share of land, about 3-5 hectares, with abilities for the new farmers to interact with greenhouses, storages etc. The structure for the provision of courses and workshops should be developed, while the cultivations engaged by new farmers should be annual. Since the infrastructure is adequate an incubator for livestock production could be developed, but not before the full growth of the conventional incubator. The products from the incubator farm will be available for sale through the market channels of the incubator farm.

Land rents could counter as compensation in order to cover economic obligations to employees and to maintain a form of sustainability in the nonprofit organization. The number of visits in the farms and the hours dedicated to activities will be specified in the signed contract between the organization and the new farmer.

Educational activities can be connected in a parallel program (cooperation with a college-school), where specific employed agricultural practices will be learned along with agricultural production tuition. Within this educational system, internships for students (maybe paid relationships) could be developed, where their responsibilities will be to monitor and assist new farmers in exchange for credits and certificates.

Furthermore, additional activities could be developed but it depends on the organization and public interest. These activities may include community gardens, commercial incubator kitchen with the agricultural products from the farm etc. Therefore, it is necessary to coordinate all these activities, meaning that one person at least will manage different program aspects and will be responsible for:

- Daily operations
- New farmers' recruitment

- Curriculum coordination
- Progress reports
- Outreach programs
- Monitoring all the working processes

The operating cost of an incubator farm includes staffing expenses and farm management expenses. These expenditures are quite different depending on the region and on the size of the incubator farm. According to the National Incubator Farm Training Initiative (NIFTI) the average annual cost for staff is fixed at $50,000 and for administrative costs at $20,000. Intervale Farm in Vermont estimates that the annual operating costs fluctuate to $110,000 and also about $55,000 for building and equipment depreciation. Of course all the above costs are calculated without the initial investment. Economic data differs for each country so straight data comparison with an equivalent incubator farm in Greece is unrealistic. The economic condition in Greece is quite diversified in comparison to the one of the U.S. but the above example still provides some guidelines on expenses allocation.

An austere notional budget for the activities provided from an incubator farm is given in the table below. Respecting the available data, the deficit to be covered by grants and donations is about 55,000 €. These expenses do not include any start-up costs or infrastructure and equipment purchases.

Table: Sample Annual Budget for an incubator farm

Expenses	
Salary	80.000 €
Operations	60.000 €
Educational expenses	30.000 €
Maintenance	20.000 €
Legal expenses, marketing, consulting	14.000 €
Total	204.000 €
Revenue	
Rent from commercial operator on 6 hectares	12.000 €
Trainee fees	12.000 €
Misc. Fees and Sales	2.000 €
Total	26.000 €
Gap to be covered by grants or donations	152.000 €

The above table illustrates the facing challenge of every aspiring incubator farm project, in economic terms. In addition, there are specific requirements to be addressed in a new business. These needs could be summarized as follows:

- Insurance for activities and participants needs to be obtained.
- Water rights need to be clarified (potable water, irrigation)
- Access to existing farm equipment and any remaining needs identified. Additional needs may arise and should be explored.
- Minimum improvements to existing infrastructure and equipment. If there is a need for improvements and maintenance, these improvements are not easy to identify in a premature budget.

Grant proposals to establish an incubator farm program should be done soon in order to start new farmer registrations for the cultivation period 2016-2017.

Expenditure analysis for new farmers

Incubator programs charge certain fees for the provision of services to new farmers. These fees aim to cover the basic operational expenses, to develop an incentive to adhere to rules and to recreate a realistic expenditure scenario related to their farm business. Numerous uncertain factors are included to the preparation of an expenditure table for new farmers. Usually, subscription fees and various payments for equipment, land lease, infrastructure and other activities are based on market values and are essential for maintenance of the facilities. A list of expenses for new farmers includes:

1) Land lease, fencing costs, roads and site maintenance. Administrative costs, legal fees, accounting fees and sometimes insurance are also calculated in the land lease fee. Land lease is calculated per hectare and usually prices are equal or below market values.
2) Equipment fees, which cover maintenance and replacement reserves costs. These expenses refer to tractor, tools and consumables usage in the incubator farm.
3) Facilities rental fees to cover maintenance costs for warehouses, coolers etc.

4) Charges for water usage, in order to cover maintenance expenses for the water network and the main irrigation lines. Charges should be based on the usage rate of each individual farmer.
5) Sewerage and waste management fees, which mainly focus on incubator farm with livestock.
6) Technical assistance fees. In the framework of one on one education and technical assistance provision from professionals, payments from farmers are made in order to retrieve help.
7) Counseling charges from public and private entities on subsidies, new crops etc.
8) Electricity payments which if possible are based on usage rates. Otherwise, a fixed price is paid depending on the leased land.

In the view of the above, a table of participation costs from new farmers could be prepared for an incubator farm program. Several provisions are optional and fees are indicative without a prospective subsidy from a financing program.

Provisions	*Fee*	*Fee includes*
Land lease	200€ / ha^{-1} / year Readjustment per year	-Primary tillage -Sanitary facilities -Access to water -Production storage -Access to irrigation and electricity -Access to courses
Tractor work hour	40€ - 60€ /	-Usage for all the necessary works (e.g. plowing, mowing etc.)
Equipment fees	100€ / year	-Use of rototiller -Use of backpack sprayers -Use of hand tools and wheelbarrows

Technical assistance	20€ / hour or 250€ / year	-One on one technical assistance -Disease identification -Insect identification -Field training -Best practices information - Printed materials on farm and production related topics
Pesticide fee	50€ / year	- Use of approved pesticides and fungicides and provision of implement advices
Cooler use year	150€ /	-Use of coolers depending on the incubator regulations

Provided that the new farmer will make use of all the benefits described, the initial costs fluctuate between 730 to 770 $€ \cdot ha^{-1}$ per per year without taking into account potential subsidies. Moreover, an incubator farm could have several farmers engaged in different production outcomes. Therefore, the cost analysis could create several scenarios depending on the sector that the new farmer is employed (animal production, field crops, tree crops, fruit and vegetables).

Investigating possible farm incubator funding

Investigating possible financing sources is a large part of a successful investment, especially when there is no investment history in the land. The capital financial management, namely raising funds from prospective investors or creditors, has several aspects which need to be considered. When considering such an investment an important role is played by:

1. The cost of borrowing: If interest rates are low and cost of borrowing is cheap, then it is a good option for a prospective investment. In Greece, although interest rates are relatively low, the reduced money liquidity in conjunction with the current period of uncertainty minimizes the possibility of financing through loans.
2. The economy perspective: If the expected return on an investment exceeds the cost of borrowing then the business movement has true potential for success.

All the above apply in the case of incubator farms as well. This business venture is new in Greece, therefore funding examples for incubator farms abroad should be quoted.

Educational funding sources in the agricultural sector.

Most incubator farms mainly use government grants and there is a wide variety of them, though it requires the appropriate technical group to prepare right proposals (Leech et al, 2014). The submission and evaluation process is time consuming, complicating the financial management of incubator farms, especially in their early stage. Long-term planning is much more complex and most incubator farms prepare a business plan incorporating a multitude of funding mechanisms. Furthermore, incubator farms operate in parallel and in collaboration with stakeholders (private and public), in order to identify revenue generating opportunities. Even though in Greece the idea of incubator farms is new in the U.S.A., the abundance of agricultural educational programs created an assortment of grant opportunities. Specifically according to Williams and Zimmerman (2010) some funding opportunities related to agricultural production and development are summarized as follows:

- Economic Development Agency - Comprehensive Development Strategies Grants: E.D.A. finances activities relating to regional economic development strategies in the context of innovation acceleration, entrepreneurship, competitiveness, generating private investment etc.
- New York State Farm Viability Institute: It is a farmer-led nonprofit group that awards funds for applied research and educational programs to help farmers increase their income.
- USDA Farm and Foreign Agriculture Service: Risk Management Agency (RMA): It is a Community Outreach and assistance Partnership Program (COAPP) which offers funds to organizations for providing risk management training to limited resource, beginning farmers etc.
- USDA Marketing and Regulatory Programs: Agriculture Marketing Service: It is divided in two different funding programs. The first one is the ''New York State Agriculture & Markets: Specialty Crop Block Grant Program'' and the second one is the ''Farmers' Market Promotion Program (FMPP) grants''. Both of them grant new market development and the integration of new farmers in them.
- USDA Research, Education and Economics: National Institute of Food and Agriculture (NIFA): This category includes the most widespread grant programs for incubator farms and they are divided into three subcategories. The ''Beginning Farmer and Rancher Development Program (BFRDP)'', the ''Community Food Projects Competitive Grant Program (CFP)'' and ''NIFA's Sustainable Agricultural Research and Education (SARE) program''.
- Specialty Crop Grants (CO Dept of Ag): These grants relate to producer groups, local and larger organizations. In the context of enhancing specialized crops competitiveness in Colorado, the local department of agriculture provides funding to cover some expenses.
- Wallace center: The aim of the grants through the Wallace center is to support young entrepreneurs and communities to create new healthy food systems and create sustainability in economic and environmental terms.
- Gates family foundation: Through a three-month process, the foundation funds nonprofit organizations related to the development of rural communities (linking food channels between rural and urban areas).

- Packard foundation: The foundation grants initiatives related to land conservation and river protection.

Investigation of financing sources of existing incubator farms (13 examples quotation)

According to the published research of NIFTI (National Incubator Farm Training Initiative) for incubator farms in the U.S.A., the majority of projects (54.9%) were funded through national grant programs (e.g. Beginning Farmer and Rancher Development Program) or immigrant integration in agriculture programs (Refugee Agricultural Partnership Program). Several incubator farms rely on subscription fees or land rental fees to cover at least a part of their expenses, but the budget percentage of those fees differs between incubator farms. The following list includes specific incubator farms funding resources:

1. The Farley Center Farm Incubator: This incubator farm has a hybrid structure (nonprofit and farmers' co-op) and was founded in 2010 in Springdale of the U.S.A. This current incubator farm was funded in 2010 by a national grant program. In particular the Beginning Farmer and Rancher Development Program (BFRDP) was given by the U.S. Department of Agriculture (USDA). It is program which benefits organizations with training initiatives, providing guidance and technical support to new farmers and ranchers. Moreover, the Farley Center Farm Incubator was donated about 8 hectares of farmland rent-free from a neighbor entity.
2. Headwaters Farm Incubator Program: It was founded in 2013 and it is owned and managed by a government agency. The incubator farm is located in Gresham (U.S.A.) and it covers 12 hectares in a area declared as a special purpose district. The Headwaters Incubator Program (HIP) is one piece of a broader array of conservation programs including conservation practice, cost-share initiatives, urban outreach and education and environmental land conservation in order to deal with the aging rural population problem in the area. As said before the area is declared as a special purpose district and in consequence the incubator farm is entirely funded by local taxes and administrated by democratically elected members.
3. Horn Farm Center for Agricultural Education: Located in Hallam in the U.S.A. and it is a nonprofit organization which started the incubator farm program in 2010.

The incubator farm provides approximately 3.4 hectares implementing organic practices for the entire production. The project is partly financed by land rents and subscription fees, but it is also funded by private grants and donations. This incubator farm is not subsidized by national fund programs as BFRDP. In addition, the farm enhances public participation through various events incorporated in the incubator and a big part of work is done by volunteers and people who want to help.

4. The Intervale Center: It is the oldest incubator farm program in the U.S.A. since it was established in 1988. The incubator programs refer to new farmers with at least one year of experience in agriculture. The funding programs for this incubator farm are difficult to investigate since the Intervale Center was long ago founded. However, in 2014 and 2015 the nonprofit organization of Intervale received funds from High Meadows Fund Supporting Organization. High Meadows Fund belongs to the Vermont Community Foundation which aims to promote active communities and encourage long-term sustainability in Vermont by rewarding initiatives regarding environmental sustainability. Furthermore, the incubator farm is supported by volunteers and usually organizes entertainment events to become more popular and to spread the idea of its incubator farm to the general public.
5. Minnesota Food Association: Minnesota Food Association is a nonprofit organization which developed the Big River Farms programs located in St. Croix in the U.S.A. The program was founded in 2007 and operates under the framework of a Community Supported Agriculture (CSA) model. The incubator farm program occupies new farmers from Asia, Latin America, Africa and other immigrants. Financially the incubator program depends on new farmer fees and on the exploitation of the Community Supported Agriculture model. More extensively a part of the production is bounded by the organization in order to be sold as its own product and at the same time the association helps new farmers to promote their products. On top of that, Minnesota Food Association was funded for market development and upgrade for the marketing department. Mostly the organization seeks funding for new markets development and for new farmers access to markets.
6. Growing Farmers Training Program: The current incubator farm program belongs to the organization Community CROPS (Combining Resources, Opportunities, and People for Sustainability) and began its operations in 2007. It is a nonprofit organization located in Lincoln, Nebraska (U.S.A.). Although, the organization is funded from various private organizations, crowd funding was a very

significant side-helping tool. Local and national funding sources for the incubator farm are (Community Crops, 2015):

- Corporation for National Service (AmeriCorps)
- Dillon Foundation
- Dolezal Foundation
- HUD Community Development Block Grant
- Lincoln Community Foundation
- Nebraska Environmental Trust
- USDA Beginning Farmers and Ranchers Development Program
- USDA Farmers Market Promotion Program
- USDA Specialty Crop Block Grant
- United Way
- Cooper Foundation

7. Juniper Gardens Training Farm: This particular farm belongs to Cultivate Kansas City in Kansas of the U.S.A. It is a nonprofit organization founded in 2008 to develop a more healthy, environmental friendly and economic society. The trainees are mainly immigrants or low income farmers. The major source of funding is a combination of national grant programs, namely the Refugee Agricultural Partnership Program (RAPP) and the Beginning Farmer and Rancher Development Program (BFRDP). The main goal of this incubator farm is the immigrants' integration in agriculture and in the local society.
8. Dirt Works Incubator Farm: With an area of 4 hectares available for the incubator farm, the nonprofit organization of Lowcountry Local First was founded in 2012 and employed 6 farmers in 2012/2013. The incubator farm is located in Charleston, South Carolina. Main source of financing for the incubator farm is land rent and equipment rent, which is $2,000 per year. Furthermore, in 2014 Dirt Works incubator farm won $50,000 in a national contest to accelerate small business growth sponsored by the U.S. Small Business Administration.
9. Farm Enterprise Incubator: Groundswell is the nonprofit organization which owns the incubator farm and started its operation in 2011. The available farmland for the incubator farm is 3.8 hectares and is located in Ithaca, NY. The incubator farm employs socially disadvantaged and low income people, who meet the requirements of the USDA agricultural programs. The Farm Enterprise Incubator farm is a relatively new incubator with few new farmers (two farmers in 2013) and

their funding was supported by national and regional subsidies, institution grants and private donations.

10. Lansing Roots Incubator Farm: The nonprofit organization Greater Lansing Food Bank founded this incubator farm in 2012 in Mason of the U.S.A. In 2012 the organization was given a three-year grant of about $365,000 in the framework of the Beginning Farmer and Rancher Development Program of the USDA. Another source of revenue is the land-rent and various fees paid by the new farmers for equipment.
11. Rosita's Farm Incubator Program: In contrast to the former mentioned incubator farms, this particular incubator has a sole proprietorship structure and it was founded in 2012 in Alabama. All the grants provided to the incubator were created through the collaboration with the A&M University of Alabama. Under the Beginning Farmer and Rancher Development Program of the USDA, a part of the aggregate grant ($586,508) was received by Rosita's Farm for the smooth integration of disadvantaged groups and immigrants in agricultural production through the incubator farm.
12. Elma C. Lomax Incubator Farm: Located in Cabarrus County this incubator farm is organized as nonprofit in an area of 12.2 hectares. The Cabarrus County Board of Commissioners has established a fund for the exclusive use of farmland preservation and agricultural development from the deferred taxes paid on farmland coming out of present use tax. Furthermore, this incubator receives grants from North Carolina Agriculture Development and Farmland Preservation Trust Fund and from The Cannon Foundation.
13. Agriculture and Land-Based Training Association (ALBA): The organization of ALBA existed from 1972, though it took the current form (nonprofit organization) in 2001. It is a huge educational unit for new farmers that integrates an incubator farm. Located in Monterrey of California, this incubator provides a wide variety of services, thus many potential sponsors and donors support this organization. More specifically regarding the USDA grant programs these are:

- The National Institute of Food and Agriculture: Beginning Farmer and Rancher Development Program (BFRDP)
- The Natural Resources Conservation Service: Conservation Innovation Grants
- The Office of Advocacy and Outreach: Outreach and Assistance for Socially Disadvantaged Farmers and Ranchers (OASDFR) Program

Furthermore, the donations were made by the:

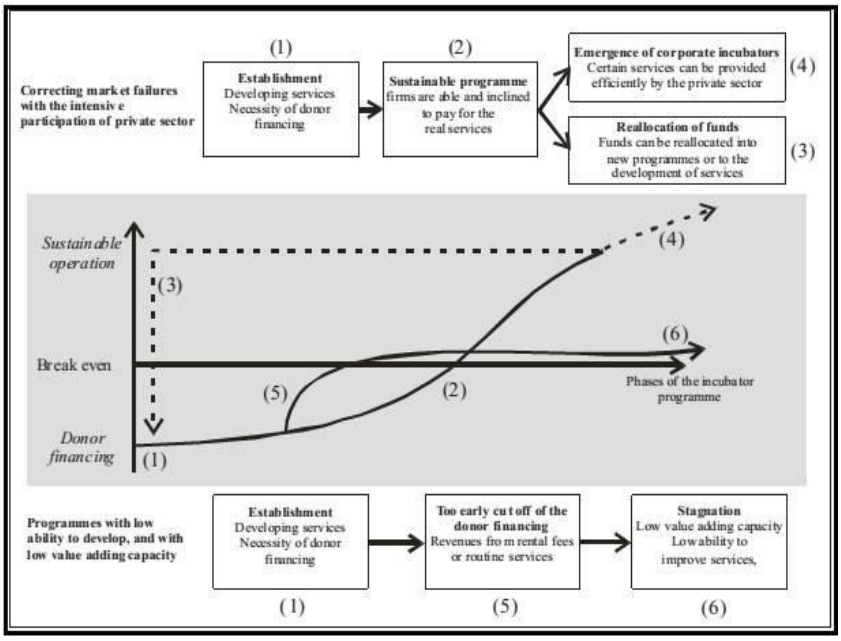
- California Organic Fertilizers, Inc., Fresno
- California State University Monterey Bay, Watershed Institute / Return of the Natives, Seaside
- Carmel Mission, Carmel
- Clinica de Salud del Valle de Salinas, Salinas
- Community Agroecology Network, Santa Cruz
- Roots of Change, San Francisco
- Ross Graphics, Santa Cruz
- Salesforce Foundation, San Francisco
- Taquerva Hidalgo, Chualar
- Vegetable Grower Supply, Salinas
- Wrath Wines, Soledad

Strategies of private financing in farm incubation

A business financing scheme could have many different sides. Therefore, any kind of business can be financed from various sources, while a series of parameters could affect it. Parameters such as the return of invested capital, the prevailing interest rates, the economy's prospect etc.

Every incubator farm could follow different financing strategies, meaning that every move will have an impact on the future course of the incubator (Bajmocy et al, 2007). First (1), an incubator program needs donor financing. In order to develop a sustainable incubator program (2), the properly elaborated services should create added value until the interested parties are able and willing to pay a market price for them. Revenue growth means an increased interest for investments in new incubator programs or provision of new services from the incubator (3). The other path is the emergence of corporate venture types of incubators (4) which is difficult to implement in an incubator farm. In case of failure or in case of a sudden financing interruption (5), an update to current retail prices needs to be done for the provided services of the incubator. Also, the incubator could introduce new services in order to raise revenue. In this instance, the incubator is led to a stationary state (6), where the ability to improve services is limited. The diagram below illustrates these different financing strategies for an incubator.

Diagram: Financing strategies in business incubation



Source: Bajmocy et al, 2007

Identifying funding sources in Greece (excluding financing through programs) and recording capabilities

Identifying funding opportunities is a fundamental pillar of business development. The creation of an incubator farm requires a huge investment and therefore constant and continuous investigation of potential financing sources, in order to achieve sustainability. Most incubator farms seek various financing sources and (almost always) do not depend entirely to fees from new farmers. In the current chapter an attempt to record all the potential financing sources, besides national or European programs, will be conducted so that potential exploitation prospects could be explored.

Self-financing

The simplest way of an economic impulse to a new project is self-financing. Capital from the available business reserves could be allocated to initiate the investment. Also, mortgaging assets could raise the required money liquidity for the organization in order

to invest. Self-financing is mainly used by public bodies and covers a wide range of investments, while investments in the agricultural sector are included in these investments as well (Tsivilis, 2004). Therefore, self-financing is possible only if the available capitals from the investing organization are quite enough and without any help from external entity.

Private donations and sponsorships

Donations are mainly given from private businesses, institutions, organizations, social groups etc with the right relationship management. Also, large charity establishments provide donations to organizations which attempt new innovative movements with social and economic impact. An example is the Foundation of Stavros Niarchos, which operates solely through donations to nonprofit organizations. Some other foundations operating through donating are the Onassis Foundation and the John S. Latsis public benefit foundation. It is a common way for non-profit organizations, such as an incubator farm, to be financed through donations from foundations. The foundation provisions could take different financing forms like annual funding for operating expenses, start-up cost coverage for infrastructure and equipment, land provision, technical knowledge and assistance provisions etc.

Donations from individuals usually are given through products promotion in restaurants or through the organization of luncheons with prospect donators, in order to raise awareness. The development of various events, presenting the produced outcome and the operational way of the incubator farm, is another way to raise awareness and recognition of the effort, in order to bring more prospective donators to the incubator farm.

Promoting the proper functioning of an incubator farm and gaining recognition from local and other businesses, could develop new sponsorships from them in order to be associated with an organization which promotes social and environmental sustainability.

Borrowed funds

The banking system in the current period of time is affected by the lack of liquidity, so loan approval for new businesses is quite limited. The banking system could accept to

grant a loan if several assets are guaranteed or the whole investment itself. Borrowed funds from banks are divided in short term and long term. Regarding an incubator farm investment, a long term loan should be looked for in order to establish and purchase various infrastructure and equipment. The amount of funding through borrowed funds could reach 100% of the whole investment. However, as mentioned before, in the current period access to borrowed funding through the banking system is very limited. Also, there are other financial tools through the banking system such as factoring, forfeiting and leasing.

Venture Capital

Venture capital businesses intend to finance aspiring organizations or companies in exchange for the acquisition of a part of their shares. In addition, funding could be done through a convertible bond loan. In Greece legislation regulating venture capitals is the

Ν. 2992/2002. Naturally, venture capital businesses consider the future prospects of their investment in order to proceed. The funding rate varies between businesses and corresponds to the requested funding amount by each business. Venture capital businesses usually finance innovative ideas that promise high returns and are exposed to higher risks. In several cases except from financing, strategic planning assistance (marketing, staffing etc) is also provided if requested. In Greece businesses successfully financed by venture capital funds are Chipita, Germanos, Goody's, Cofeeway etc, while in international level Microsoft, Amazon, Yahoo. In Greece Venture Capital Businesses are summarized in the Hellenic Venture Capital Association (HVCA) with members (companies) large organizations such as:

- ALPHA VENTURES S.A.
- ATTICA VENTURES S.A.
- AIMS MANAGEMENT S.A.
- GLOBAL FINANCE S.A.
- GLOCAL SYSTEMS MANAGEMENT S.A
- IBG MANAGEMENT S.A.
- I4G-ΘΕΡΜΟΚΟΙΤΙΔΑ ΝΕΩΝ ΕΠΙΧΕΙΡΗΣΕΩΝ ΕΥΡΩΣΥΜΒΟΥΛΟΙ S.A.
- 7L Capital Partners
- OXYGEN MANAGEMENT S.A.

- PARTHENON TRUST S.A.
- ΤΑΜΕΙΟ ΑΝΑΠΤΥΞΗΣ ΝΕΑΣ ΟΙΚΟΝΟΜΙΑΣ S.A.
- THERMI VENTURES S.A.
- VCI (VELTI CENTER FOR INNOVATION) S.A .
- PIRAEUS CAPITAL MANAGEMENT
- VECTIS CAPITAL S.A.
- NEW MELLON
- LOGO VENTURES
- DIANKO
- LEAD FINANCE
- First Athens S.A.
- Odyssey GP Sarl
- Openfund

Business Angels

Business angels supply specific expertise, funds and experience in new businesses with developed prospects in the form of long-term investment. There is no institutionalized legislation framework for this financing method in Greece and that is why it is not sufficiently widespread. In relation to financial institutions business angels do not rely on technical and economic data for their investments, but rather to smart ideas with better outcome in the future. Therefore, business angels take on more risks than any other financing institution. In Greece there is the Greek Business Angel Association (GREBAN: Greek Business Angels Network), while there are foreign organizations with significant activity such as The European Trade Association for Business Angels (EBAN) and GIVE & FUND association.

Crowd Funding

Crowd funding is a new and innovative financing method, slightly different from the traditional ones. More widespread abroad and less in Greece, especially in the agricultural sector. The internet is the main financing road for crowd funding and sometimes organizing events could gather attention as well. The cost for a software

installation capable for handling crowd funding is low and firm presentation through the social media is free. Participation in social media, attractive website presentation providing special offers to donors are ways to increase crowd funding. All the above conclude that activities promoted through the net are necessary and could bring rewarding results. However, it is a financing way which gathers small amounts of money and in conjunction with the small impact it has in Greece, crowd funding is not a very effective funding tool. Though it could be used as an additional funding mechanism for side actions. For example, when the Community CROPS incubator had to relocate its establishment, they needed a rapid way to raise money inflow in order to improve the infrastructure in the new location. Subsequently, the organization launched a crowd funding campaign to raise awareness and this led to an accumulation of
$22,295, whilst the entire relocation expenses were $28,000 (Winther, 2013). Therefore, crowd funding could be a collateral financing form and concurrently a tool of broader recognition.

New stock market

It is a relative recent market for alternative source funding in Greece. In the new stock market, new dynamic businesses with innovative projects are integrated, but they could not participate in the main or the parallel stock market of Athens. A prerequisite for entering the new stock market is the organization's equity to exceed 586,941 € (N. 2733/1999), which makes it difficult to entry the market without high initial capital.

Evaluate the scope for synergies with existing national and EU-funded programs

Albeit the fact that last 5 years national economic funding sources in Greece are minimized the, a few funding programs still financed, partially or not, by the Greek government exist. In chapter 6, alternative forms of financing will be presented with features of some special significance.

National grants and subsidies could be transformed through various programs. Thus meaning, that the available given sources could be transformed into various provision forms and not only direct payments. National grant programs could be divided into three subcategories:

- Direct payments: Financing for infrastructure, equipment and various services with relative tolerant control mechanisms on the business's budget distribution.
- Tax exemption: It is common for national grant programs to be implemented through tax relief tools, in order to assist new businesses.
- Employment programs: Another tool of collateral investment assistance is employment programs. Through fast procedures investment employment schemes reduce the staff expenses for several organizations.

Furthermore, some conditions and prerequisites should be fulfilled in order to be financed through national grant programs. The initial budget plays a huge role in the subsidy percentage and in the amount of the aggregate grant. Also, the seed capital and the business's contribution rate is a very important aspect when national grants are requested. Finally, deadlines for the new business completion are very strict and every step should be monitored until the final subsidy dose. Usually, the percentage rate that a new business qualifies for is determined by various factors:

- The organization's size (small, medium, big)
- Geographical region (prefecture) of the investment
- Type of the investment

Public Investments Program (P.I.P.) 2015-2018

Public Investments Program is divided into two sub-programs, the national P.I.P. and the co-financed P.I.P. Public Investments Program finances development policies in Greece, contributing to the increase of public and private economic capital and supporting the long-term modernization of the country. In the current critical phase for the Greek economy, the implementation of P.I.P. 2015-2018 aims to accompany the fiscal endeavor with development actions and contributions to the restoration and enhancement of Greek entrepreneurship.

The available sources for the implementation of P.I.P. 2015-2018, reach to an aggregate amount of 26.5 billion Euros. The basic fiscal goal for national investment budget for 2015 is the immediate outset of all the new period (2014-2020) programs, in order to successfully inflow the co-finance grants.

The national P.I.P. due to the extreme difficulties in the current period in Greece, finances projects after the elimination of every integration possibility to a co-financed program. A Technical Project Report is submitted in order to be financed from a national program and in the report an analytical presentation of all the necessary data should be displayed. Though, a proof from other co-financed programs rejections should be submitted as well. Financing through solely national resources is not a viable way of financing nor an easy one. Thus a detailed presentation of the co-financed programs will be quoted in the next sub-section.

Capital Fund JEREMIE

The initiative JEREMIE (Joint European Resources for Small and Medium-sized Enterprises) provides to the E.U. members, through their national and regional Administrative Authorities, the potential to use financial resources for funding small and medium-sized enterprises. A medium-sized enterprise, according to the EU definition, is one that employs up to 250 people and the annual turnover does not exceed the amount of 50 million Euros. JEREMIE was developed by the European Commission (Directorate General for Regional Policy) in cooperation with financial institutes and the European Investment Bank Group during the 2007-2013 programming period.

In the programming period of 2014-2020 the European Investment Fund is currently investigating market needs across the EU member states, in order to design the new standardized funding agreements and partnerships with national agencies. The basic goal of the JEREMIE provisions is the enhancement of enterprises with repayable aid (loans, guarantees, venture capital participation etc.) and not with direct payments. In Greece loans are financed by the cooperating banks (NBG and Eurobank) through their own resources and the resources of the NSRF. The benefited enterprises will pay interest only for 50% of the loan, which is contributed by the bank's own capital, while the remaining 50% of the loan is interest free due to the JEREMIE initiative.

The beneficial JEREMIE loans serve purposes of general entrepreneurship and appeal to enterprises which fulfill some requirements:

- Up to 250 work crew and annual turnover not exceeding 50 million Euros or current assets up to 43 million Euros.
- Established, operating and tax based in Greece
- Doing business in the Code Activity Numbers (CAN) 2008 with some exceptions

Another difficult part of the JEREMIE provisions is the investigation about what an enterprise could finance. Thus, the initiative JEREMIE finances:

- Investment loans for the acquisition of tangible and intangible assets
- Working capital for the development and expansion of business activities
- Working capital for new business development or expansion of an existing business

Refinance or restructure of existing loans as well as financing already funded by European Union financial products is restricted. Loans can be up to 500,000 Euros, whilst each enterprise could participate in the program more than once, on the condition that the total amount of financing will not exceed 500,000 Euros.

European Investment Bank (EIB) Programs

The European Investment Bank is owned by and represents the interests of the European Union Member States. The EIB is the largest multilateral borrower and lender, whist being an advising and blending organization at the same time. While

supporting projects that make a significant contribution to growth and employment in Europe, the EIB's activities focus on four priority areas which are innovation and skills, access to finance for smaller businesses, environment and climate and infrastructure.

There are two open financing projects from EIB for the Greek territory: The EU Funds Co-financing 2014-2020 and the Grouped Loan for SME II.

The EU Funds Co-financing 2014-2020 program

The EU Funds Co-financing 2014-2020 is a program co-financed with EU Structural Funds of priority investments in the Hellenic Republic under the 2014-2020 programming period. The objectives of this project are the promotion of economic and social cohesion, the support of SMEs, the promotion of economic knowledge, the renewal and regeneration of urban and rural areas, environmental protection, sustainable transportation and energy efficiency. The referring sectors of the program are:

- Services
- Urban development
- Industry
- Solid waste
- Water, sewerage
- Credit lines
- Health
- Education
- Energy
- Transport

The proposed approximate amount of EIB's finance contribution reaches 1,000 million Euros, whilst the total costs approach the amount of 14,958 million Euros which will be funded from other sources. For the implementation of the current program, there are certain environmental issues. Greece, as an EU Member State, has harmonized its environmental legislation in line with the relevant EU Directives 2011/92/EU and 2001/42/EC. The EIB will focus on the assessment of the promoter's environmental management capacity so that the EU Strategic Environmental Assessment (SEA) Directive 2001/42/EC, the EU Environmental Impact Assessment (EIA) Directive

2011/92/EU, as well as the requirements of the Habitats and Birds Directives are properly applied.

Before the Board of Directors give their approval and before loan signature, the prospective projects are under appraisal and negotiation. Below, an indicative allocation of sources is quoted based on the applied sector:

- Education: EUR 100,000,000
- Energy: EUR 50,000,000
- Urban development: EUR 187,000,000
- Industry: EUR 33,000,000
- Credit lines: EUR 250,000,000
- Transport: EUR 30,000,000
- Health: EUR 50,000,000
- Solid waste: EUR 60,000,000
- Water, sewerage: EUR 90,000,000
- Services: EUR 150,000,000

Based on the abovementioned, the agriculture branch is missing though the program's focus on renewal and regeneration of rural areas in conjunction with the educational EIB's financing provisions, form a matching combination for the development of an incubator farm.

Grouped Loan for SMEs II program

Another EIB financial program implemented in Greece is the Grouped Loan for SMEs II program. The promotion of this program will be handled by a number of commercial banks with strong SME lending activities in Greece. The implementation way of the current program is through loans from banks operating in Greece (including branch networks of foreign banks), for the exclusive financing of projects promoted by small and medium-sized enterprises (SMEs). The objectives of this project are summarized to:

- Financing of projects carried out by SMEs
- Improvement of access to medium and long-term finance supporting SMEs

The proposed EIB finance is 500 million Euros, while the complete distribution of the total funds is not announced yet. The Guarantee Fund for Greek SMEs (''SME GF'')

which was set up in 2012 by the EIB in close cooperation with the European Commission and the Greek Authorities, is responsible for signing the operation approval of the project. Naturally all the final beneficiaries will be requested to comply with the applicable national and EU legislation, as appropriate.

European structural and investment funds

Five main Funds cooperate to support the economic growth of all EU countries, in line with the strategic objectives of ''Europe 2020'': The European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD), the European marine and fisheries fund (EMFF). Each EU region can take advantage of the support of the ERDF and ESF. However, only the less developed regions are eligible for support from the Cohesion Fund.

Focusing on agricultural initiaves, the European Agricultural Fund for Rural Development (EAFRD) is responsible for all the prospective financing movements in agriculture. The EAFRD will contribute to the achievement of three goals, which are in line with the three pillars of agricultural policy of the EU, namely:

- ✓ The improvement of competitiveness of agriculture and forestry by supporting reforms
- ✓ The improvement of the environment and rural areas, by supporting spatial management
- ✓ The improvement of quality life in rural areas and the encouragement of diversification for economic activities

The national agricultural development strategy is implemented through the Greek Agricultural Development Program (ADP). Due to the transition from the 2007-2013 to the 2014-2020 Agricultural Development Program (ADP), a presentation of the new program relevant projects, prepared for submission to the European Commission after the negotiation process, will be quoted.

Training activities and skills acquisition for the effective implementation of the ADP measures

An incubator farm operates as an educational training organization, therefore actions for in-service training are necessary for proper function. The need for well-trained and skilled in new technology farmers is a necessity. That being the case this measure's actions for training and skills acquisition regards beneficiaries under the measures M03, M04, M08, M09, M10 and will include (ADP, 2015):

1) Training programs with live and e-learning courses for new and old farmers
2) Training programs for forest owners, forest workers and forest managers

The educational training providers could be public or private entities while having proven expertise in the field of educational training. The planned overall expenditures for the current measure are 125 million Euros.

Support for local development through the LEADER program

The aim is to enhance new and more innovative approaches, based on the new developed data and tools (such as the return to agriculture trend, social initiatives, enhancement of alternative distribution channels, linking agriculture with tourism, environmental sustainability etc.), increasing relevant synergies in order to promote competitiveness and sustainability in the agricultural sector.

The thematic directions indicatively could involve the following (ADP, 2015):

- Interconnection between different sectors and economic factors
- Supporting local entrepreneurship and the promotion of local identity
- The implementation of social actions to achieve social cohesion and the fight against poverty
- Promoting participation, cooperation, networking and exchange of knowledge between different regions, partners and states
- Strengthening actions and interventions for the environment and climate change
- The improvement of living conditions and quality of life of local people
- Enhancing innovation and innovative interventions
- The improvement of competitiveness and particularly improving the competitiveness of the agri-food value chains

- The introduction of practices for sustainable development of the region

The huge spectrum of thematic directions is indicative of the variety of new prospective implemented actions in the agricultural sector. Beneficiaries of this preparatory phase are existing or new Local Action Groups acting at certain regions. The planned overall expenditures for the current measure are 400 million Euros.

New farmers program

This program aims to the support for setting up farm businesses by new farmers. Beneficiaries are natural persons fulfilling the new farmer definition under the article 2§ιδ of the Reg. 1305/2013. This measure in conjunction with an incubator farm could be the appropriate start for a new farmer in order to minimize the risk of failure and start-up expenses for a new farm.

The program objectives could relate to one or more indicative guidelines for the development of a farm as:

- The improvement of financial sustainability (e.g. increasing production capacity, implementation of actions to modernize agricultural production)
- The adaption of various production direction (for example in areas that serve the strategy of the ADP or regional strategies for the agricultural sector)
- The improvement of environmental sustainability and market access (for example inclusion in organic certification, implementation of water saving or energy measures, packaging and product certification).

The planned overall expenditures for the current measure are 376.8 million Euros.

Hellenic Fund for Entrepreneurship and Development (ETEAN)

ETEAN SA is an integral part of the wider Greek financial sector focusing in the design, implementation and management of specialized financial actions through the application of innovative financial instruments, delivered by financial institutions to the small and medium size enterprises. ETEAN SA, as a specialized financial institution, is subject to supervision by the Bank of Greece in terms of capital adequacy, liquidity and in terms of investment in cash reserves.

The Fund for Rural Entrepreneurship (ICF) was established to facilitate the financing of investment projects which integrate with the Agricultural Development Programs of the Ministry of Rural Development. The IFC provides loans for investment projects within the following measures:

- Measure 121: Farm Modernization
- Measure 123: Investments in Agricultural Products Processing and Marketing
- Measure 311: Diversification into non-agricultural activities
- Measure 312: Support the creation and development of micro enterprises
- Measure313B: Encouragement of tourism activities

Favorable loan conditions relate mainly to the low interest rate, which is achieved due to the contribution from the Fund at a zero rate. Practically, the provisions from the IFC are related with zero interest rate from financing and not with direct payments from a current public or private body. The bank responsible for distributing and managing the available capital of the IFC in Greece is Piraeus Bank.

Competitiveness and Innovation Framework Programme (CIP)

The Competitiveness and Innovation Framework Programme (CIP) supports innovation activities (including eco-innovation), provides better access to finance and delivers business support services in the regions. The current program promotes the increased use of renewable energies and energy efficiency, while encouraging at the same time better take-up and use of information and communication technologies (ICT) and helps the information society.

The CIP runs from 2007 to 2013 with an overall budget of € 3,621 million. According to an indicative breakdown, 60 % of the overall budget (€2,170 billion) is allocated to the Entrepreneurship and Innovation Program. One fifth of this (€430 million) is earmarked for promoting eco-innovation. 20 % of the overall budget (€730 million) has been allocated to the ICT Policy Support Program, and the last 20 % (€730 million) is for the Intelligent Energy – Europe Program. The CIP is divided into three operational programs. Each program has its specific objectives, aimed at contributing to the competitiveness of enterprises and their innovative capacity in their own areas, such as ICT or sustainable energy:

- The Entrepreneurship and Innovation Programme (EIP)
- The Information Communication Technologies Policy Support Programme (ICT-PSP)
- The Intelligent Energy Europe Programme (IEE)

Performance assessment criteria for the incubator farm project, in terms of economic and community outcomes

Criteria for performance evaluation of the existing farm incubator projects

The number of the participants and graduates of a farm incubator program is not the only kind of evidence needed for a program to identify its effectiveness. An increasing number of rigorous standards of performance-based metrics is required, both by most foundation and funders, but also by farm incubator itself. Gathering good quantitative and qualitative data can ensure a programs' longevity by garnering the support of program funders and the communities served. At the same time, an internal evaluation of the program is also required, to check its efficient and effective operation and whether the desired results are being achieved.

Through multiple surveys and evaluations, the National Incubator Farm Training Initiative (NIFTI) has become clear that one of the major challenges for farm incubators is the capacity to accurately measure the outcomes of their work and tell a powerful story about what they do and whether or not and to what degree it is working. Each farm incubator is unique, and as one, it has to develop its own distinctive approach, adapting tools and resources found in guides of other similar programs, to best serve the program and its beneficiaries according to its goals and capabilities.

To decide what to measure, organizations need to understand the goals in measuring in the first place. Understanding the goals of the program and what it is supposed to accomplish, will definitely make it easier to formulate a list of outcomes that will be both meaningful and ultimately useful to your program.

According to NIFTI, planning an evaluation plan should fall into two major categories: those that are internally motivated and primarily about how you decide to allocate the resources, and those that are externally motivated and involve gathering support from funders and the community.

Defining the internal and external motivations or goals for creating evaluation plans is intertwined with being able to articulate what the program is trying to accomplish as an

organization in a way that is meaningful for the program, its participants, the staff, and the supporters.

Internal Evaluation Goals

Most farm incubator projects are trying to solve very big problems – like ensuring the ongoing sustainability of our food supply – with very limited resources, both in terms of funding and staff time. This means that every hour, dollar, and effort should be allocated as efficiently as possible to achieve your desired outcomes.

Metrics and evaluation need to be build into the everyday operations to see if the programs, classes, and resources the program provides are having the desired impact on its participants. The available time and resources could be determined and then they could be allocated to each of the programs activities, based on how impactful they are in comparison to each other.

Some benefits of developing internal metrics and evaluation, based on the NIFTI toolkit, are the improvement of effectiveness of program operations, the increase of participant "buy-in" and outcomes, the ensurance of efficient allocation of resources and the improvement of long-term organizational sustainability.

Conducting credible and targeted evaluation and assessment protocols throughout the life cycle of your incubator farm project serves multiple purposes, as the ones that follow:

- Improving the project and programs to achieve stated goals
- Meeting the needs and goals of current and future participants
- Obtaining stakeholder support
- Communicating successes to the public
- Documenting project efficacy to garner additional funding
- Recruiting new farmer participants.

While anecdotal success stories are helpful to bring texture and life to marketing materials and improve staff morale, effective evaluation and assessment strategies carry more credibility and can articulate specific areas for improvement, help to focus your organization's efforts on your strengths, and identify areas where you may seek additional support, knowledge, and partnerships.

External Evaluation Goals

To ensure long-term program success and sustainability, you will need the support of many external stakeholders including funders, community members, local, state and federal agencies, and other organizations that have similar or related missions. The types of data that you gather to present to these different audiences may be similar, for example in the case of larger potential funders and municipalities – which both have a tendency to focus on quantitative metrics – versus the more qualitative "farmer highlights" in a weekly newsletter that tell CSA customers a story about why it's so important to support beginning farmers. We will discuss the process of gathering different types of data in the next section of this guide, but understanding how you will use your metrics is the first step to developing evaluative tools – whether qualitative or quantitative – that are appropriate for your audiences. Just like a farmer should understand their unique market niche and what needs they fulfill for their customer, we must also understand our stakeholders and what they expect to see from our organization.

Methods of Evaluation and Assessment (Strategies)

Start with developing an evaluation question—what is the story you want to tell? Do you want to tell a story of developing new small, organic farmers? Or a story of refugees in your community that used the farm skills they know to develop sustainable businesses in their adopted community? Maybe the story is one of land preservation— how the incubator farm has an impact on regional farmland preservation by creating new working small farmers.

Once the evaluation question is specified, the audience with whom you'd like to articulate the results should be considered — is it the general public, who may respond more to qualitative (narrative) data, or is it a major funder, who desires quantitative data that is standard to their foundation's requirements. With the evaluation question and the audience defined, selecting the most appropriate evaluation and assessment method is much easier.

One strategy for measuring the success of an incubator farm project is to measure "outputs" of the program. These are largely easily quantifiable elements, and include things such as the number of farmers graduated from the program, tonnage of food

produced, acreage under cultivation, number of participants in training or outreach programs, food donated to local food security agencies, etc. This strategy is an accounting of things produced by your incubator farm project.

Another strategy is to measure ultimate impacts as short-, mid-, and long-term changes

in knowledge, attitudes, skills, aspirations (KASA), and behavior as a result of the project, which are harder to quantify, and also more difficult to directly correlate with the efforts of each project. Nevertheless, strategies that measure changes in behavior and knowledge are often much more informative, descriptive, and useful to crafting a successful incubator farm project.

Other types of outcomes – namely improved skills, knowledge, and attributes of the program participants – are much easier to measure and attribute to the program activities. These are considered "short-term" outcomes and happen as a direct result of the outputs – educational opportunities, technical assistance, the provision of access to land, equipment, and farm infrastructure, etc. They are easier to measure because they primarily involve programs' beneficiaries with whom each organization have extensive contact throughout the duration of their participation. For example, a farmer participant who previously did not know how to write a farm business plan now has these skills, and one who didn't know much about integrated pest management now has enough knowledge to utilize those methods in his production.

Measuring short-term outcomes, collecting baseline data from the participants when they come into the program – upon enrollment in classes, before being given an incubator site, pre-trainings, etc. – allows the organization to show a comparative improvement when they complete whatever module delivered.

Mid-term outcomes are what the farmer chooses to do with the information, tools, and resources that provided to him. The incubator project only has so much influence over how much initiative, capacity or commitment a farmer has and indicators like improved yields, higher incomes from farming, health of the land, and more "entrepreneurial leadership" exhibited are good things to measure, but not entirely attributable to the work done by the incubator. Similarly, the external challenges and circumstances that

influence farmers' mid-term outcomes should be taken into consideration, otherwise, no realistic expectations from the incubators' work and from the farmers themselves can derive.

Mid- and long-term changes are harder to attribute to the program (and therefore to measure) because there are many external factors that can influence the outcome. For

example, the long-term success of a farmer running his or her own farm business

depends not only on the knowledge gained during their participation in a farm incubator training program, but also on:

- Propensity for entrepreneurship,
- Family obligations and needs,
- Financial factors: access to credit and capital,
- Availability of land,
- Health,
- Motivation,
- Many other factors.

These are not always aspects that the incubator farm program can address, but nevertheless have an impact on the mid- and long-term outcomes for farmer participants. However, an accurate and objective assessment of the long-term success of farmer participants may reveal new opportunities for programs within an incubator farm project.

Common Evaluation Tools

Surveys, questionnaires and self-assessments are viable methods for evaluating and assessing certain aspects of a farm incubator project. Staff satisfaction, professional development and farmer knowledge gained are three of the most applicable aspects where these evaluation instruments could be utilized.

Other forms of evaluation and assessment include tracking indicators to determine change within a system without specifically asking about that change through a survey

or direct questionnaire. This method of assessment works best for evaluating eco-system services or changes within the food system. For example, monitoring the soil health at the incubator farm can be an indicator of the adoption and successful utilization (or not) of sustainable farming techniques. Similarly, the degree of weed infestations within individual plots can be an indicator of the corresponding farmer's ability to manage their weed population. However, note that there are situations where a farmer "inherits" a plot with a substantial weed bank. In that case, solid baseline information on weed populations and continued monitoring will result in a more accurate assessment of the farmer's performance.

Community impact assessments are helpful when your incubator farm project has goals that extend beyond the incubator farm and farmer participant and into the community. For example, some incubator farm projects aim to alleviate food insecurity in their community. Assessing the impact of the incubator farm project on community food insecurity can be tricky because many other external factors are at play. Consider a simple yearly survey of agencies that your project interacts with—ask them to review your performance, noting key benefits or places of improvement.

Existing farm incubator program use annual surveys, to access the performance of their project. For example, Intervale Center uses Farm Reports and Self Evaluation reports. In that way, they are able to evaluate their participants progress annually. Questions about farm's primary market, direct or wholesale marketing, estimated volume of farm products provided at reduced cost to low income community members and total farm income, are addressed to the participants. The participants are asked to evaluate their household income levels, providing income indicators (gross sales, total expenses, net income) as the grant reporting of the program requires information on the income of owners and workers on each farm. Moreover, the number of people working on the farm (full time year round, part-time year round, full time seasonal, or part-time seasonal) is recorded, along with their race and ethnicity information. Another part of the survey covers issues like the land use protocol compliance, the cover cropping, available livestock, significant problems such as diseases, pest or weed problems, infrastructure improvements on the farm and plans for infrastructure projects next year.

There is also a self-evaluation survey, conducted each year by the time of lease renewal and the update of the business plan of each participant. In that survey, participants are asked to evaluate certain criteria, such as: whether the farm met its financial and

production goals, if the participant is satisfied with his farm's operation the past year, and what are the plans for future change. Moreover, a matrix is provided to the participants, in order to evaluate their self-sufficiency, regarding issues about the production processes they follow (soil preparation, transplants, farm planning, pest control, irrigation, harvesting, farm management), their marketing skills and language skills.

A Financial Worksheet is annually used by the New Entry Sustainable Farming Project, while it helps each participant work through his business finances, provides accurate information for both the program and the grant reporting. Participants are asked to answer questions about farm income (sales, expenses, farm labor/jobs information, net farm income, financing), business balance (assets and liabilities) and household information and income, while there are also some questions regarding farm progress, meeting business goals, additional services ar assistance needed and expectations that were not met.

Investigation of Economic performance benchmarks for incubator farms in Greece

Methods used for collecting data should be reflective of the principles of empowering farmers and the communities served, so to ensure the fundamental work of farm incubators their long-term success and the sustainability of farmers. Evaluation protocols should be designed thoughtfully, good tools should be used, taking into account how the data will be collected, compiled and reported, so that putting undue burdens on farmers would be prevented and guarantee that farmers will benefit from the end results of the efforts made.

Moreover, limitations in terms of time and resources regarding the organization that will conduct the survey should be taken into consideration. Using time efficiently is essential, giving adequate time and attention to high quality, rigorously designed metrics and evaluation can also save time, money, and effort in the long run by increasing access to resources and improving the overall program operations.

The audience for the necessary reports should be the primary guidepost for the data the organization chooses to collect. Outcomes such as the improvement of community food security or cite studies or reports that show that activities like the ones the organization

conducts have been shown to improve community food security indicators are "long- term" outcomes or "impacts", and are the most challenging to measure accurately, but they also tend to form the underlying value structure and big picture priorities of the organization.

Ideally, everyone in an organization should have some role in the evaluation process whether they are developing the metrics for specific programs or activities, actually administering surveys/quizzes/etc. or collecting and analyzing data. If the program staff, administration, board, and participants all understand the importance of collecting this information and how it directly contributes to the long-term sustainability of the project, then hopefully this awareness can create a culture wherein the processes of gathering and evaluating data can become integrated into everyday activities. This is more efficient and – most importantly – more accurate because the people who are closest to the work are the ones making sure information gets collected in a timely fashion and in a way that reflects the true nature of the work being done. If need be, the help of consultants could also be enlisted to help strategize around developing the evaluation protocols.

In the following table, the proposed economic performance criteria for the incubator farm project and specific for the beneficiaries and the whole structure are shown.

INDICATOR	TRACKING MECHANISM
Farmer income	Gross sales through cooperative marketing and other avenues - gathered annually or quarterly from farmers
Diversity of markets accessed	Number of marketing outlets sold to
Monetary value of crops grown and sold	Gross sales
Current or past participants make their livelihood from farming	Percentage of total annual income from farming
Land in active agricultural	Number of hectares farmed by current and past

use	participants
Health and economic impacts for farm families	Amount and value of produce consumed in the household, physical activity engaged in by farm families, increase in income from farm products
Diversity of farm enterprises	Number and type of products produces and sold
Financial literacy and stability for farmers	Number of farmers with complete farm financial statements, utilizing regular record-keeping mechanisms, and able to access credit and financing
Farmers meeting their business and personal goals	Requires documenting farmer goals prior to program participation and reviewing and updating these goals on at least an annual basis
Completed business plans	Number of completed business plans
Connection to off-program resources (conferences, classes, etc.)	A list of these resources – farmers can check off which ones they have taken advantage of

In the following table the proposed social performance criteria for the incubator farm project and specific for the beneficiaries and the whole structure are shown, based on evaluation plans/questionnaires commonly used by the existing farm incubator projects around the world.

INDICATOR	TRACKING MECHANISM
Graduates in farm-related careers	Can include farm worker, farm educator, non-profit farm manager, etc.
Health of the land	Number of organic/sustainable/conservation practices used by program participants
Community economic health	Amount of money (in terms of value of produce, wages paid, etc.) recirculating within the community as a direct result of new farm business
Community food security	Amount of fresh, local products entering into local and particularly underserved markets
Production knowledge gained	Pre- and post-skills surveys with entering farmers
Leadership qualities developed (committees, decision-making, engagement in advocacy, etc.)	Determine potential indicators of incubator and community leadership based on specific context
Farmers connected to mentorship	How many farmers have a mentor – how much time have they spent with their mentor over the past year

Evaluation Timing

Given the seasonality of the work of farmers, a practical evaluation plan should take into account the time when stakeholders are likely to participate in any data gathering efforts. Below is a list of different types of evaluations and when it makes the most sense to administer them.

- Base line assessments: Essential for being able to compare post-participation and thus measure the impact of programming. Conduct as soon as possible with all participants.
- Annual farmer survey: Can encompass an end of the season "wrap-up" to discuss how well farmers met their goals as well as a goal setting conversation about priorities and a "learning plan" for the coming season. These can also happen separately in the fall and spring and should include basic performance data (income, yields, etc.) alongside qualitative components.
- Educational pre-and post assessments: Specifically for field trainings, classroom-based learning and workshops. Measure knowledge, skills, and aptitude immediately before and after participation to show change that is directly attributable to the efforts made by the project.
- Program graduate surveys: Stakeholders are often interested in knowing how successful programs' graduates have been, multiple years after their participation. Without going into as much depth as with active participants, an annual follow-up can gather a few key indicators, while still establishing long-term impacts such as whether or not they are still farming, how much land they utilize, and what percentage of their income is derived from the farm business.
- Other program surveys as appropriate: You may conduct activities that serve audiences beyond the core incubator farmers – such as other area farmers, or the general public – and it behooves to measure at least how many of these groups take advantage of the program and ideally some indicators of what benefit they gained from their participation. Timing of evaluation administration will vary.
- Internal evaluation: While these types of evaluation more often than not happen in time with grant reporting deadlines, it also makes sense to have some sort of independent annual internalized review schedule for the program where feedback is gathered from staff, board, community members, and other stakeholders on the program operations and think strategically about how to improve the work based on the core values of the project.

Proposed road map from the establishment to the maturity and financial sustainability of the incubator farm

The purpose of this chapter is to provide a descriptive analysis of the strategic plan to be followed from the establishment to the maturity and financial sustainability of an incubator farm.

This planning process will be described with the intent to provide a blueprint for the development of regional farm incubators in "high farming potential" sites throughout Greece, with the purpose of creating a new generation of farmers to maintain a strong and vibrant local economy.

The possibility of creating a network of farm incubators directed by a competent administrative body is further to be taken into consideration.

This chapter is divided in the following subchapters:

- Structure traits of the proposed farm incubator
- Development stages of a farm incubator
- Farm incubator's operation after establishment.

Structure traits of the proposed farm incubator

While the offerings of "site specific" incubator farms differ across the country depending on geography, local markets, demographics, urban proximity and a host of other factors, the overall purpose remains to minimize the barriers and risk to entry for beginning farmers and provide professional development to increase the likelihood of success.

The basic traits of the proposed incubator farm are as follows:

- Management structure
- Funding
- Resources and services offered
- Production philosophy
- Site Selection

Management structure

Although it is most common for incubator farms to be structured as nonprofit organizations, in most cases, incubator farms are either operated under the umbrella of an existing nonprofit, or to pursue their own status upon initiation. This management structure is conducive to the goals of a typical incubator as an organization operating in the interest of the public good through delivery of training and economic development. The tax exempts status offers obvious advantages but also carries with it strict compliance requirements.

On the other hand, abroad there are examples of farm incubators in existence operating

as for-profit businesses or under some form of partnership, but this is much less

common.

According to the particular circumstances and needs of Greece, as analyzed in the previous respective chapters, the set-up of farm incubator or of a net of farm incubators to be proposed would be the nonprofit one.

Funding

The costs to be covered within the tenure of a farm incubator participant could be divided as follows:

- Start-Up Phase: Initial capital costs + Annual operating costs during this phase
- Stabilization Phase: Incremental capital costs through end of phase + Annual operating costs during this phase
- Final Phase: Incremental capital costs through end of phase + Annual operating costs during this phase.
- Ongoing Maintenance: Annual operating costs.

The aforementioned costs could be partially or fully covered by potential sources for funding such as the following:

- Grant-making private philanthropic organizations such as the "Stavros Niarchos Foundation" or the "Alexander S. Onassis Public Benefit Foundation".
- European Union "Young Farmers" program could be adjusted so as to become a source of funding for individual incubator farmers. Originally, the financing of the aid program for Young Farmers is realized through national resources, and through the structural funds of the European Union. This financing scheme for young farmers includes measures for a single payment for their first installation, financial assistance in the form of an interest rate subsidy and supporting investments in farms through special investment programs.
- Local sources of funding such as family foundations, community foundations, corporate sponsors and private sponsors should be also researched and reached.

While grant funding remains a primary source of incubator funding, it is critical to plan for the long term. It will be much easier to make the case for startup funding but creating a case for long-term support and operational funding may be more challenging. It is essential to develop a smart business plan that incorporates a variety of funding mechanisms for the incubator and work with the respective stakeholders to identify income generating opportunities.

Apart from the aforementioned, funding sources are more thoroughly analyzed in chapters 5 and 6.

Resources and services offered

Although there are slight variations on what could be offered by incubator farms, there are some common features in the resources and services offered such as:

- Land: typically, available for rent in small increments at reduced or graduated cost
- Water: typically, available for rent in small increments at reduced or graduated cost
- Personnel: Participation in agriculture can be as important as health care and other social services e.g. for unemployed or newer refugees for whom an

agrarian heritage is so fundamental to who they are and to their aspirations as they struggle to make a new life in Greece.

Operationally, there are many roles to fill within the program that include but are not limited to:

- Program Director/Manager: Oversees the program and financials, helps build and strengthen partnerships, sources funding, provides support to project team and does the program evaluation.
- Program Coordinator: Manages all aspects of the process of the program. They will run the show in getting the program organized by sourcing materials, hiring trainers, recruiting and matching mentors, interviewing and selecting New Farmers, scheduling training, working with the Farm Manager to support New Farmers with resources, tracking, and financial and business planning.
- Farm Manager: May assist with the set-up of the farm infrastructure; supports new farmers throughout the growing season; ideally lives on site for security.
- Instructors/Trainers: Facilitate training for New Farmers
- Farm Mentors: Support New Farmers throughout the program description.
- Program Participants/New Farmers: Follow the guidelines and procedures of the program, attend training, meet and communicate progress with the coordinator/manager and mentor, develop and follow a business plan.

Some of the necessary program processes that will help to ensure success for the new farmers include:

  - Scheduled trainings
  - Regular check-in meetings between Program Coordinator and New Farmers
  - Tracking and data collection
  - Scheduling equipment
  - Transportation

- Equipment: shared equipment offered at low fee for use among incubator clients. Equipment and machinery is a large expense when setting up an

incubator farm program. Properly training new farmers in how to use and maintain the equipment will help to keep repair costs low, and charging a small rental fee may be necessary to recoup some of the expense. Establishing a work schedule between the new farmers to use the equipment will help keep everyone organized.

- Infrastructure: access to electricity, water supply, storage, cooling post harvest facilities, washing stations, bathrooms, hoop houses, etc.
- Training: formal and informal group and one to one training and technical assistance. A comprehensive list of training topics that will support the learning process of new farmers could be separated into two sections as follows:

A. Farm Production Training

- Soil management
- Farm management
- Crop planning and field schedules
- Bed/Field preparation
- Plant biology
- Greenhouse management
- Weed, disease and pest management
- Water and irrigation
- Nutrient management and composting
- Equipment use and maintenance
- Harvesting and postharvest handling
- Food safety, grading and packaging

B. Business Management

- Business planning
- Financial planning and budgeting
- Insurance and taxation
- Leadership development
- Marketing
- Land tenure models/access

Curriculum development is often established in partnership with an agricultural institution, while facilitators/instructors may be sourced from institutions, specialized community organizations, associations, consulting firms, experienced farm mentors, etc.

- Mentoring: personal developmental relationship in which a more experienced or more knowledgeable person (mentor) helps to guide a less experienced or less knowledgeable person (mentee). The experience for both the mentor and mentee can be mutually beneficial. The new farmer has a unique opportunity to ask questions based on real-life complex challenges to someone who has already gone through that experience. There are a few models of mentoring that may take place throughout the incubator farm experience:
  - Peer mentoring between new farmers
  - One-to-one mentoring with the new farmer and their farm mentor
  - Group mentoring during training
- Market Access: assistance in finding and accessing markets or collaborative marketing. Gaining access to markets is another barrier that many new farmers face. It is essential for a farm incubator to incorporate market access into its programming to some extent. Following are certain examples of marketing outlets that can be utilized and collaborative marketing opportunities for consideration:

  - On-site Markets: One opportunity to provide market access for the

    incubator clients is to enable on-farm sales. Clients can sell directly to

    consumers on the incubator's property either independently or collaboratively. There are several key considerations to developing

    on-farm sales that will need to be evaluated in the early planning stages:

a. Regulation/Licensing: Are you eligible to be licensed for on farm sales?

b. Site traffic: Do you have sufficient consumers traffic to support on farm sales?

c. Competition: Are there many other farm stands in your area?

- Farmers Markets: Farmers Markets are excellent venues for incubator farmers to try out their salesmanship and get consumer feedback. They are also very time consuming and can be tough to access. The incubator may have an opportunity to get a collaborative market space in individual markets, although there needs to be sufficient planning on how to brand the product and how to allocate sales to individual farmers, as well as how to staff a collaborative market booth.
- Wholesale opportunities: Small-scale producers often do not meet the needs of wholesale or institutional buyers on their own. The advantage of an incubator is the ability to combine produce from multiple farmers to fill orders. If successful, selling to wholesale buyers, institutions or restaurants may be an opportunity to teach beginning farmers valuable skills such as relationship building, account management and food safety. Contrarily, quality assurance will be a critical undertaking as wholesale relationships rely on consistency and quality of the product. Moreover, there is a potential possibility of incubator farmers having the ability to continue their relationship with wholesale buyers after transitioning on their own land.

o Capital: many incubators feature assistance developing needed tools to access capital

o Transition: incubators typically assist in finding suitable off-site land access

for transition upon the conclusion of a client's tenure.

Production philosophy

The production philosophy and practices taught and applied on incubator farms vary, but mostly tend to focus on sustainable practices and/or organic farming techniques in order to promote an environmental protection and sustainable environmental development philosophy. Commonly, it is encouraged that nonprofit organizations undertaking new projects must identify a public service that addresses a community need that aligns with a local, regional, or national initiative.

Site selection

As analyzed in chapter 4, "the aim of incubator farms is to support and develop an agricultural based system in an area, with the provision of low theoretical and practical training cost. Providing all the above mentioned services is a difficult task and therefore incubator farms are classified in three categories:

- Educational Incubators
- Land-based Farmer Training Incubators
- Land-based Agricultural Business Incubator".

However, towards the selection of the best site for the establishment of a Farm Incubator a further classification could be made as follows:

- Urban Incubators:
  Incubators in urban areas should follow the same basic guidelines for establishment as in rural areas but there will be significant distinctions in terms of available land, zoning, ability to integrate livestock and access to the consumers. These will typically, but not always, be focused on smaller plot sizes and smaller scale production than in rural ones.
- Suburban Incubators:
  Incubator programs located in suburban areas may enjoy the "best of both worlds" when it comes to balancing proximity to marketplace and safety from public overexposure.
- Rural Incubators:
  Rural incubators also come with distinct considerations and characteristics to an extent. An incubator startup may be more likely to find a site that was traditionally agriculture is zoned appropriately and has existing infrastructure

that may reduce startup costs. Moreover, the potential threat for nuisance complaints is lower, especially if there is insite compost, livestock or noisy machinery to deal with. There is also greater potential for incubator clients who transition out of the program to find a site for their own business that more closely resembles the site they have transitioned from.

Development stages of a farm incubator

Program development steps and timeline

Every incubator program arises from different circumstances and has unique challenges. The following figure is an attempt to lay out the typical steps/activities that will take place as to develop an incubator program. Average time frames for each of these parts of the process are far too dependent on circumstances to attempt a typical timeframe. This figure list is presented with the caveat that some pieces of the process may be more or less relevant to each situation.

Even when having gone through a full cycle of strategic planning and having the program developed, there will still be a need to return to the plan periodically, re-evaluate, and continue to adapt to changing circumstances. Program development and strategic planning are iterative and continuous processes.

Program implementation

Farm internships and apprenticeships provide an opportunity to gain farming experience on an established farm, through hands-on training and mentoring. Incubator farms take the next step by providing ownership over the land the new farmers will be farming. It

is up to the new farmer to develop a business plan, design their crop plan and manage the farming process from the beginning to the end of the season. While an incubator program offers much support in the form of land, capital, training, mentoring, infrastructure and marketing, the specific model for any independent incubator farm will vary depending on a number of factors. Land availability, land use restrictions, funding opportunities, program guidelines, mission and goals of the facilitating organization and others all come into play when designing an incubator farm program.

Recruitment processes and requirements vary. Most programs have an application process and some require an interview, reference check, and even a background check. Most require a farm business plan. Many do not require farming experience to access land, although it is often highly encouraged. In all cases, after the recruitment stage, program implementation starts including the following phases:

1. Startup phase (Establishment) - Operation phase (Stabilization to maturity)

   - Final phase (Completion of the program)

   The basic incubator farm program model will offer a new farmer in their first year a set amount of land to start. They will participate in a number of training initiatives, and receive technical assistance and mentoring in the field. New farmers will also receive support in developing their business plan, record tracking, financial bookkeeping, marketing, etc. Upon successful completion of their first year, new farmers will have the option to improve on their business plan and expand on more land, continuing this process up until about 3-5 years before ideally transitioning to their own farm.

2. Ongoing Maintenance (Transition to independence)

   Identifying how to "transition" is another important aspect for incubator farm projects to consider. Once participants have completed the program, what are the next steps? The transition for farmers differs greatly between programs. Some of the programs offer no formal transitioning process, with no formalized time limit for how long farmers can stay on the land. Other programs identify land- linked programs, where farmers can find usable land within the community. Programs may also assist in helping farmers get loans from the bank to start their businesses, and certain times this requires the formation of a detailed business plan. It is estimated that the average time farmers are expected to stay

on the land is between 3 and 5 years. One of the major concerns brought up is how to formalize transitional programs for farm incubator participants. Because of the differences in land availability across the country, creating an effective transitioning program for farmers varies greatly between communities.

Program evaluation and assessment

Conducting credible and targeted evaluation and assessment protocols throughout the life cycle of a farm incubator serves multiple purposes such as:

- Improving the project and programs to achieve stated goals
- Meeting the needs and goals of current and future participants
- Obtaining stakeholder support
- Communicating successes to the public
- Documenting program efficacy to garner additional funding
- Recruiting new farmer participants.

Farm Incubators' alternative model scenarios

Alternative Scenario I: "ALBA's (PEPA)" model " A. Preliminary intensive education program of 9 months + B. 3-5 years small farm incubator program

Model: Using a graduated model, initially the participants follow a nine-month intensive education and training program that includes both classroom instruction and field-based training. Each year, 30 participants are enrolled in the college-accredited curriculum. Upon graduation from this education program, many participants return to their own farm land, use the credential to find better employment or continue studying at local colleges. Between 10-12 participants, however, stay in the core program, entering the main farm incubator 3-5 years program, where they spend up to five years establishing their farming business in a supervised low-risk environment. This incubator program should offer participants:

- Subsidized access to land starting at small area and scaling up to a larger e.g. 5-6 fold area, depending on the production section as analyzed in chapter 4.4, over 3-5 years
- Access to tools, equipment and irrigation systems
- Access to markets

- Free crop/livestock planning and production assistance
- Free business assistance, including business planning and assistance in legal, regulatory and certification compliance.

Alternative Scenario II: A. 1-month assessment of applicants + B. 3-5 years small farm incubator program

Model: Using a similar graduated model as in the previous scenario, the applicants are assessed and evaluated in a one-month recruitment stage. Between 10-12 participants, are going through this period and enter the main farm incubator that lasts 3-5 years program that is similar to the aforementioned alternative scenario I.

Alternative Scenario III: "Farm Start" model " A. 3 years (start-up farms) + B. 2 years (Enterprise farms)

Model: Using a graduated model, new farmers start as test croppers who are given 0,05

- 0,1 hectares of land to test products and develop a business plan for the first year. Parallel, by the end of the first year test croppers are expected to have completed the "Exploring Your New Farm" core course (three days/12 hours per week) before starting their new farming season.

New farmers then apply to manage and maintain their own "Start-Up Farms" for the following two years. Land amounts range from 0,1 to 0,4 hectares or more depending on the land available and the operation. New farmers receive a 20% cost sharing during the start-up farm period.

After the third season they are considered "Enterprise Farms", where the farm operations provide a renewed business plan for approval to expand their acreage and stay for two more years. At this time, they pay full costs while they receive support to help them research, plan and prepare and make the transition on to their own farm property. They may also provide mentoring to newer farmers in the test cropping and start-up programs.

Farm incubator's operation after establishment

A more integrated incubator farm model may offer additional services exclusive to their incubator farm programs, such as consultation advisory services to other start-up incubator farms, training courses or workshops for the general public, regional conferences and other food security services, as well as resources or programs that connect producers and the community.

Program and Product Marketing

Engaging the community is the best way to gain support for any incubator farm. Program marketing can be generously supported by building strong relationships with various local food security organizations and associations, in collaboration with the partners involved and through community participation. Ways to ensure the program has community buy-in can include methods such as:

- Hosting an open house or community forum during the design phase of the program
- Building relationships with local stakeholders
- Engaging local media by highlighting local concerns the project will address
- Encouraging the community to participate by donating or volunteering their time.

Product marketing is commonly done through community supported agriculture, farmers' markets, farm gate sales, and sales to wholesale outlets, restaurants and small grocery stores. However, the competition among sellers, especially in smaller communities has to be taken into consideration. Trying new and innovative ways to engage the community in purchasing local food could help to tap into a slightly hidden market. This could include supplying university culinary programs, cafeterias, seniors' facilities, community recreation centers, hospitals, food banks, school programs, etc.

Because an incubator farm is considered "subsidized farming", it's important to develop clear policies and guidelines around competition. Bringing in the local farm community or advisory committees early on is helpful as many of these groups support the entry of new farmers into farming.

Post-Incubation and future opportunities

Most incubator farms have a limit of five years for new farmers to participate in their program, so assisting them to transition onto their own farm is often part of the support of the process.

It begins with continued focus and development of the new farmer's business plan by keeping it updated with any changes as they progress throughout the program. Some programs will encourage farmers to begin planning their transition process in their second or third year. While it's believed that the sooner they connect with lending agencies, available land, tools and equipment, the better, it is also recommended that during the first three years the focus should be on developing a solid business plan before taking the risk of acquiring capital and debt.

Through a specialized training workshop, the questions new farmers need to consider when selecting their new farms are:

- What amount of acreage, soil range, location and infrastructure will be required based on their crop and business plans?
- Whether to rent/lease or purchase land capital
- How they will cover costs - will they need help with loans or credit?
- Any decisions that may still be outstanding around production, financial management and marketing related to scaling up.

The incubator should support the process of transitioning farmers by providing a reference when applying for land and connecting them with other organizations and land access programs. A "New Farmer Transitioning Program" could be created by the incubator serving to provide technical assistance or referrals related to:

- Farm business planning
- Finding and assessing farmland
- Recommending small farm equipment
- Providing examples of lease agreements and land conservation plans
- Advising on farm production practices and management
- Ordering seeds and applying for permits
- Applying to farm credit and loan programs
- Contacting custom farm services (land preparation, fertility)

- Applying for crop insurance and conservation planning
- Helping in accessing suitable markets
- Contacting mentors, who are often a great resource by lending support and advice based on their experience, knowledge and contacts.

Management body for community outreach

To reach the local community and farmers, the foundation of a new body or usage of an existing body that may run dissemination and technical assistance programs to serve the incubator farm program across Greece would be essential. This body would offer a great deal of information through:

- Webinars
- An online resource center
- One on one technical assistance that includes certain hours of free consultation with any of the established incubator farms.

With a "communities of practice" approach it will promote documentation of project development and experience by sharing stories, case studies, best practices and lessons learned. Furthermore, it will offer availability to facilitate discussions between farmers, service providers and staff operating land-based incubator farm projects.

Roadmap to implementation of farm incubators

Phase 1 Introductory (12 months)

A period of testing the Farm Incubator model before moving into the extended range of facilities is an important stage in the implementation process, as learnt from other farm incubator models implemented in practice. The implementation program needs to include a transition period before moving to dedicated facilities.

During the first year of operation, programs and services need to be developed gradually, building on a network of resources to meet the needs of the identified prospected clientele and ensure that sufficient demand exists before the actual investment on production facilities.

1. Establishment of initial governance structure

Research on agribusiness incubators, highlights the critical importance of strong governance to facilitate the viability of the planning process for the establishment of farm incubators and for the implementation of the activities at a later stage. Establishing a collaborative scheme aiming in the SME development of the agro sector, the criteria to base decisions on the final objectives for the development program of the incubator, need to be established first.

1.1. Nomination of Steering Committee

The role of the Steering Committee is to provide strategic guidance to management and enable building of complementary relationships in the communities that the farm incubator operates. The Steering Committee at the initial stage provides the support needed to realize the goal of establishing the farm incubator and approves selection criteria on the basis of the objectives of the specific business incubator, including the development of selection criteria for the farm incubator sites and specific subsector priorities. The Steering Committee, will analyze and evaluate the stakeholders'

proposals regarding the initial stage of preparations for creating the incubator, whilst making the final decision on proposals from the stakeholders and regions.

The Steering Committee should be composed from the incubator manager and of representatives from the external partners, including those that will provide the financial and material resources to establish the farm incubator. Special effort need to be put in order to attract members from every area in which the farm incubator has special interests.

A proposed membership of the Steering Committee, is:

1. Rutgers University
2. American Farm School
3. Agricultural University of Athens
4. University of Thessaly
5. Stavros Niarchos Foundation
6. Piraeus Bank

An advisory group of experts to the Steering Committee, could consist of:

- Legal Advisor
- EU Policy Advisor
- Management Accounting Consultant

1.2. Appointment of a project team

For the farm incubator to accomplish its goals, it is critical to deliver increased value to targeted tenants and clients. This value should derive from one side from the perceptions of the entrepreneurs and from the other side from the perceptions of their potential clients which however vary within different markets and among different demographic/socio economic sectors in specific markets. Hence, a multitude of background expertise needs to be gradually built within the incubator, to include knowledge and skills from various disciplines. However, in the initial stage, a less

extensive range of skill and expertise is expected to be possessed by the incubator project team; at this stage the incubator needs to rely on a qualified and experienced team of professionals that will be able to get involved in the development of the core activities of the business support. Within this context, the initial project team needs to be composed of:

- Project Manager/Interim Director

Strong management will attract clients, stakeholders, funding and will help the incubator become viable. The incubator director is expected to bring a mix of entrepreneurial skills and experience to the farm incubator. As discussed in literature, ideally, the director needs to be a professional with a proven record of employment in the private sector and experience from managerial positions in the farming industry; a proven understanding of the operational framework of local and international farm product and food value chains together with understanding of a multitude of international business cultures. Identification of demands and international opportunities by establishing contact linkages with buyers, importers and distributors in attractive international markets, is a key qualification that needs to be internalized within the farm incubator in the introductory stage of the incubator to facilitate the development of an extroversion focus to the project.

- Implementation team

The implementation team needs to bring technical expertise to comply with a variety of diverse needs at the introductory stage. A network for each one of the services that the incubator is going to offer to its clients will be required. Some of the critical services will be built in-house whilst some of them will be outsourced to partner institutions. The implementation project team in the first stage of the incubation development, needs to include:

  - Agronomist and Veterinarian

Dedicated to develop solutions for the incubator services that will be developed during the introductory and intermediary stage. The agronomist and/or veterinarian (depending on the focus of the incubator; i.e. plant or animal production) needs to be a professional with a proven record of employment in the private sector and a proven networking skills

in the agribusiness value chain. A proven understanding of the operational framework for commercialization of innovative agro-food products with the adoption of compatible technologies, is a key qualification that needs to be internalized within the food processing incubator in the introductory stage in order to facilitate the adoption of relevant processing technologies that offer the potentials for value addition to each sectoral food value chain, in order to open up new opportunities for the farm incubator tenants and facilitate the development of innovative enterprises capable to compete on value rather than price.

- Secretary/ Assistant to Director

Secretarial services, which at a later stage could be shared with the incubator tenants, are necessary on the basis of an independent and autonomous operation of the incubator with its own budget and cost center.

- Support teams from partner institutions

The incubator needs to build on networks outside its entity to complement its expertise and expand the opportunities to provide technical and entrepreneurial expertise to clients. Financing, production suppliers, legal services, market dynamics, nutritional analyses, distribution, transportation and many more related with the incubator's business development, are the key areas of focus for the partner network development.

2. Development of funding plans for the introductory stage

Achieving operating break-even requires usually 5-8 years, according to literature. When the incubator starts the operations of planned activities, income will flow from the provision of services. In the introductory stage though, the initial funding should be expected from local administration, stakeholders and the state to provide the incubator with financial sources or any other kind of input until the incubation activity reaches its maturing stage and becomes stabilized to ensure considerable income.

The establishment of a nonprofit incubator, which is focused on employment and social results will be able to finance operations through grants and subsidies.

The estimated operating costs for the initial stage during the introductory phase of the incubator, are estimated as follows:

Payroll		USD 130,000
	Director	USD 60,000
	Agronomist	USD 35,000
	Veterinarian	USD 35,000
	Assistant (shared with Food Incubator)	USD -
Office Expenses (shared with Food Inc.)		USD 10,000
Travel Expenses & Remunerations		USD 20,000
Total Operating Costs		USD 160,000

The cost of advisory experts is not calculated above.

Furthermore, prior to the establishment of the food incubator, planning for the funding input would be necessary to cover the costs of detailed business plans for the selected business lines, funding capital, registration of the incubator entity, networking activities locally, nationally and internationally, covering of the operational costs and the project team, promotion of the project, etc., as discussed below. Hence, an estimated amount of USD 200,000 might be needed to support the incubator activities, in the introductory stage.

3. Identify the regional inventory of existing facilities and resources

At the early stage of the incubator establishment, it is important to establish an inventory of resources available at local, regional, and national levels. Existing facilities and resources may include competences, organizations, sources of information and data, farms with appropriate farming capacity and other assets that could support the farm incubator project. The utilization of existing facilities at the introductory stage at selected institutions is going to be used as the basis to deliver a selection of services at the initial stage. Furthermore, the tracking process of could facilitate networking and mutual understanding among stakeholders and the incubator team.

A survey of existing local resources should address mapping of the following providers and evaluation of existing facilities (minor improvements might be needed):

- Existing innovation and research capabilities on farming in the region
- Existing higher learning institutions and research centers focused on agrifood
- Existing availability of physical space or adequate farm facilities
- Complementary organizations already in operation to house the incubator
- Existing research labs and storage facilities
- Existing suppliers of equipment and machinery
- Existing training specialists and relevant education programs
- Existing entrepreneurial support services
- Existing food value chains that could strengthen the role of new business
- Existing market institutions that could enable access to new market potential
- Existing food, feed and fiber certifying organizations

4. Identify and engage stakeholders

The stakeholders of the incubator are defined as members of the local communities, as well as universities, research centers, business organizations, the government, local government authorities, and banks which are also important, although currently they have limited capacity to offer liquidity and capital to the food processing incubator.

Critical stakeholders however, for the introductory stage, are entities that could provide access to:

- Available farming land incubator building facilities

• Political leaders relevant to the business either locally or nationally

• Local Authorities and Regulators (issuing required licenses, permits, etc.)

• Banks that could be aware of abandoned or under used land and facilities

- Machinery & equipment (as discussed in sectoral studies)

• Suppliers

• Technology sources (e.g. Universities, research centers, technology companies)

• Trade associations

• Professional associations

• International networks

- Financial resources for operating and capital expenses

• Financiers (banks, venture capital, funds)

• Government agencies that sponsor programs for SME development

• Ministry of Economy, Development and Tourism

• Ministry of Rural Development and Food

• Intermediary Managing Authorities of the Regional Operational Programs

• The Hellenic Managing Authority of European Territorial Cooperation Programmes

• International donors and investors dedicated to supporting agribusiness incubators

The incubator' personnel approach should be focused in developing an engagement strategy for the above important stakeholders.

A parallel action needs to be undertaken in order to map all of the existing stakeholders and the future potential stakeholders who may be affected by the success or failure of

tenants entering new food markets. Special considerations are needed to include stakeholders that could facilitate the entrance or expansion of participating companies into a new product or service market. Same way, it is critical to separate natural potential partners from potential adversaries in each new market opening effort. Such entities, could include:

- Technology sources (e.g. University, research centers, technology companies)
- Emerging producer groups and possible farm and food clusters
- Suppliers (inputs, intermediate products, equipment providers)
- Farmer organizations (cooperatives, associations, groups)
- Financiers (banks, venture capital)
- Government agencies that sponsor programs for SME development
- Political leaders locally and nationwide
- Regulators (issuing licenses, permits, etc.)
- Retailers and relevant Associations
- Chambers of commerce
- Trade associations
- Professional associations
- International network
- Business development services providers (accountants, management consultants, trainers, etc.)
- Logistics agents
- Lawyers

A strategy needs to be developed in order to identify the interests that have an influence on the provision of each support service to the tenants of the incubator, knowledge needs, opportunity or personal influence needs to be applied in the development of processing activities, in order to maximize the support for the processing tenants.

Further, an action plan needs to be developed that identifies the activities to engage them in the provision of the expected support.

5. Identification of co-founders and founding partners

Identification of co-founders and founding partners, committed in identifying, nurturing and supporting companies and individuals active in the farming sector and clarification of roles, relationships, expectations.

At this stage decisions need to be make regarding the:

- Type of legal entity
- Creation of founding charter
- Partner selection at national level
- Founding capital contribution to the farm incubator entity

It is worth noting that although, reaching the goal of a self-sustaining food processing incubator is not to be expected in the short run, the acquisition of shares in the farm incubator is not expected to offer any financial benefits, however it could enhance the influence and reputation of founding partners because of its social impact.

6. Development of business plans for the selected business lines

The overriding purpose of the incubator is to demonstrate that new business models can operate profitably and that added value production (i.e. processing, packaging etc.) integrated into value chains can create sustainable wealth and new employment. Their additional role of the business plans is to communicate relevant information to potential tenants interested in forming new food processing businesses. The incubator, need to exploit the establishment of communications and networks with relevant stakeholders and partners to produce credible and sound business plans to incorporate actionable information on added value. Once created this information has tremendous economic value for potential tenants, who are hence challenged and motivated to undertake additional private investment when they graduate from the incubator.

7. Development of an international network of importers

Value chain development has gained enormous momentum over the last decade.

In this approach the key idea is to increase competitiveness and bridge the gap between the farmers and markets through the development of contracts and partnerships with potential clients of the incubator service recipients. This in turn will ensure that farm production is responsive to market demand and value addition is increased and shared among the stakeholders in the chain. A special focus in the implementation of this approach relates to strategy development for enterprises and subsectors that will be in line with the needs of food importers in key international markets with strong food imports, such as US, England, etc

8. Identify and engage capital providers

In the intermediary stage, the incubator will be confronted with the need to assist the incubator tenants in securing financial assistance including venture capital, as well as short term credit with which to survive until their cash flow becomes positive. Hence, it is vital to identify and establish relations with potential seed capital providers for the incubator service recipients (lenders, business angles, venture capital etc.); it may also include leveraging of donor funds, the engagement of strategic buyers who are willing to offer collateral contracts, and the communication with managing authorities to secure subsidization of the tenants from the National Strategic Reference Framework

9. Promotion of project in the local communities

A communication plan needs to be developed at the initial stage. Within this context, the incubator should aim to organize a network of local support from the local community, regional and city administration, NGOs, and local media. Communication campaigns could focus on press promotion through relevant articles and announcements, press conferences, promotional letters containing information about the incubator and its activity, periodic meetings with journalists, participation of the incubator project team in events promoting SMEs organized by other institutions. The communication objectives need to be focused in the familiarization of the local community and potential stakeholders with the idea of a farm incubator establishment,

and the benefits it could bring to individuals and the local community. There will be organized awareness events, promotional campaigns, presentations at the seminars and conferences, etc. The implementation of such promotion activities will attract local media and will facilitate the promotion of the farm incubator and offered services, current activities and instructions on how to obtain further information, for interested potential tenants. Similar announcements will be used to advertise trainings, workshops and other important events. Special information brochures need to be prepared for the unemployed and for the local entrepreneurs. "Open Days" need to be organized by the incubator in order to present the social impact of the farm incubator to potential stakeholders. At a later stage, the established communication network could facilitate the development of joint promotional campaigns for the incubator itself and its tenants, providing the opportunity to communicate information about the products and services available in the incubator whilst at the same time build connections between consumers and the processing tenants of the incubator.

10. Development of funding plans for the farming facilities

Prior to the actual establishment of the farm incubator operations planning for the funding input is necessary to cover the costs of designing the processing facilities for the selected business lines, funding capital, registration of the incubator entity, formulation of a three-year business plan, covering of the operational costs and the project team fees, training, promotion of the project, etc. The European Structural and Investment Funds (ESIF) could provide a significant percentage of the capitalization needs of the incubator. Furthermore, a plan needs to be the development on attracting grands or an investment fund that would provide a combination of debt and equity financing for the early stage of the incubator establishment to cover the needs of the planning interim stage.

Phase 2 Interim (12 months)

Upon the completion of the first phase of the program, a second phase should be introduced, to include:

- Establishment of the Farm Incubator(s) as a legal entity
- Secure location for establishing the appropriate farming facilities
- Formulation of a three-year Business Plan for the farm incubator to define:
  - mission and strategic objectives
  - farm incubator design
  - operating framework of the farming facilities
  - facilities and services
  - organizational structure
  - financial estimates
- Appointment of management, administrative, technical and consultancy teams.
- Training and technical assistance in the development of business incubation skills within the organization
- Creation of organizational chart and manuals of rules & regulations
- Establishment of MIS
- Establishment of Information & Communication System (link to deliverable of relevant e-commerce project), to include:
  - Interactive portal
  - Distance Learning & consulting
  - E-business
- Establishment of relations with existing and emerging producer groups and clusters (link with EU funded projects)
- Promotion of the farm incubator

Phase 3 Operational

- Annual Operational Business Plan, review of three year Business Plan.
- Certification of facilities by appropriate authorities.
- Signing of formal agreement of collaboration with farm incubator centres.
- Application for membership to national and international organisations/ collaborative schemes.
- Promotion of the incubator as a "soft landing spot"
- Creation of a Farm Cluster dedicated to Exports

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