



CIHEAM
International Centre for Advanced
Mediterranean Agronomic Studies

CIHEAM Strategic Agenda 2025

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Understanding the CIHEAM's Identity and Mission



Overview

In the on-going repositioning process of the CIHEAM that is aimed at improving the strategic policy of the Organisation, a schematic document was adopted during the 135th Governing Board meeting held in December 2015. It provides an innovative framework identifying the Organisation's cooperation mission revolving around 4 pillars of development, divided into 15 thematic priorities.

In 2016, the goal is to define the **CIHEAM Strategic Agenda 2025** in a more tangible way. The 11th Ministerial meeting of the CIHEAM in Tirana could provide a significant political validation in September 22.

This CIHEAM Strategic Agenda 2025 aims to fulfil **7 complementary objectives**:

1. To give a medium-long term perspective to the CIHEAM's repositioning process driven by the Governing Board.
2. To clarify the CIHEAM's offer for cooperation and better communicate on its actions.
3. To prioritise the CIHEAM's actions (already ongoing for most of them) addressing the contemporary regional issues.
4. To contextualise the Global Post-2015 Agenda in the Mediterranean Region.
5. To promote the mobilisation of complementary funding sources to conduct cooperation.
6. To strengthen institutional synergies (between regional and international organisations, cooperation actors...) in the Mediterranean.
7. To facilitate the implementation of the CIHEAM Affiliate Centres Initiative (as from 2017) that aims to better map the needs of complementarities between the CIHEAM expertise and the competency of the national institutions that could become affiliated.

This CIHEAM Strategic Agenda 2025 is in line with the Organisation's cooperation missions in the fields of agriculture, food, fishery, rural world and climate.

The CIHEAM Strategic Agenda 2025 is structured around **4 pillars** corresponding to the major issues of the Global Post-2015 Agenda and its 17 Sustainable Development Goals (SDG).

- A. Protecting the Planet
- B. Food Security and Nutrition
- C. Inclusive Development
- D. Crises and Resilience

This Agenda, based on 4 pillars (A, B, C and D), is divided into **15 thematic priorities**:

- A. Protecting the Planet "*by Struggling Against Triple Waste*"
 - 1. Sharing knowledge and preserving traditional knowhow
 - 2. Managing natural resources and energy
 - 3. Reducing agricultural losses and food waste throughout food chains

- B. Food Security and Nutrition "*by Boosting Sustainable Agriculture*"
 - 4. Promoting the Mediterranean diet
 - 5. Enhancing Agro-biodiversity conservation and Agro-Ecology practices
 - 6. Improving food safety and quality
 - 7. Increasing access to food

- C. Inclusive Development "*by Investing in New Generations and Fragile Territories*"
 - 8. Youth employment and life-long learning
 - 9. Development of rural and coastal regions
 - 10. Gender Equality and vulnerable groups participation
 - 11. Agro-Smart Business

- D. Crises and Resilience "*by Preventing Risks and Managing Tensions*"
 - 12. Population mobility and migration
 - 13. Climate Change mitigation and adaptation solutions
 - 14. Animal and plant health
 - 15. Agricultural markets

CIHEAM Identity

Founded in 1962, the CIHEAM is an Intergovernmental Organisation composed of 13 member states (Albania, Algeria, Egypt, France, Greece, Italy, Lebanon, Malta, Morocco, Portugal, Spain, Tunisia and Turkey). It operates through 4 Mediterranean Agronomic Institutes (MAI) based in Bari (Italy), Chania (Greece), Montpellier (France), and Zaragoza (Spain) and a General Secretariat located in Paris (France).

Our vision is that of a united Mediterranean, where the sustainable development of agriculture and fisheries, food security and territorial cohesion are the seeds of social stability, inclusive growth and the vitality of the region.

Our mission is to promote multilateral cooperation in the Mediterranean, in the fields of agriculture, food, fishery and rural territories, through specialised training, networked research, scientific diplomacy and political partnership. Through these tools we contribute to regional stability, food and nutrition security for the daily life and health of populations, more sustainable food production and better protection of the environment and an effective access to the job market of the Mediterranean youth.

Our action is supported and guided by our core values. We strongly believe in intercultural exchange and the promotion of diversity. Several nationalities and religions coexist within CIHEAM. This intermingling of cultures encourages curiosity, tolerance and openness between individuals.

We also believe in knowledge sharing and in the enhancement of links between knowledge and development needs. Aimed at providing tangible solutions and useful knowledge, our actions are developed within an accountability framework and implemented through a result-based management approach.

We promote political dialogue in the Mediterranean, through the organisation of periodical meetings of the Ministries of Agriculture of our Member States. At the same time, our education and training activities promote cultural and scientific diplomacy by bringing together, every year, a highly international community of students, who create long-term bonds of friendship, understanding and cooperation.

We operate in the very strategic area of the Mediterranean where all the global challenges of development, sustainability and solidarity are concentrated. The work of the CIHEAM has for long addressed the root causes of the instability of the region, proposing deep, long term and long lasting solutions to today's integrated problems.

CIHEAM Assets

CIHEAM is a unique organisation that has specific elements of added value, which mainly derive from its institutional setting, the combined utilisation of different and complementary tools and a **specific geographical focus on the Mediterranean**. Education, training, technical assistance and regional political dialogue are interlinked. Agriculture, food, fisheries and sustainability challenges are interdependent and require integrated approaches.

Since its establishment in 1962, the CIHEAM has never experienced any interruptions or setbacks. It has always been able to move forward progressively. These fifty-four years of continuity should not be underestimated as they reflect the strength of the CIHEAM and the trust that has gradually increased between the countries and among our partners.

The combination of education, research and technical cooperation activities allows the CIHEAM to be an **effective and attractive education provider**, with an increasing number of students enrolling to its trainings and Masters courses. Moreover, it allows the CIHEAM to be a **solution-oriented research institution** whose results are readily applicable and widely shared through knowledge networks. Finally it allows the organisation to implement technical cooperation programmes that are **specifically tailored to the needs of beneficiaries** thanks to a broad capitalisation of knowledge and expertise.

The CIHEAM is the pioneer of a **Mediterranean Union**. In order to accomplish its tasks, the CIHEAM works in close cooperation with the ministries of agriculture, fisheries, research and environment of the Mediterranean States and with several international and regional Organisations operating in the area, but also with many other stakeholders (local authorities, civil society, foundations, private companies, etc.). Since its establishment, the CIHEAM has worked for the promotion of secure and sustainable food systems, anticipating the global consensus gathered today around the Sustainable Development Goals. Also, the CIHEAM's efforts are strongly in line with the updated European Neighbouring Policy's objective of developing the neighbourhood.

The CIHEAM is flexible and can rapidly adapt to new situations and new requirements. This model ensures our success in responding to the demands formulated by our Member States and Partners. This reactivity is all the more enhanced by the plurality and complementary nature of the expertise inherent to CIHEAM. This allows the formulation of concrete and operative proposals to resolve sudden and complex problems. This inter-activity is also built on working methods based on listening, thoroughness and collective entitlement, so that all stakeholders feel engaged in a win-win partnership approach.

CIHEAM Highlights

More than 40,000 persons have been trained by the CIHEAM since 1962. At the level of Masters of Science degree, over the period from 2003/2004 to 2014/2015, approximately 5,200 students participated, 80% of which come from Member States of the CIHEAM and 50% have received a scholarship or a mobility grant. With regards to short-term specialised training courses, over the period from 2004/2005 to 2014/2015, almost 10,200 persons have completed a course of the CIHEAM, with approximately 45% of grantees among them and approximately 75% coming from Member States of the CIHEAM. Therefore, over a decade, almost 15,000 persons have been integrated in the CIHEAM's training devices. The Network of CIHEAM Alumni (NCA) is an essential foundation to win the loyalty of the young people trained by our Organisation and should both be able to keep in touch with the CIHEAM and with their classmates.

The CIHEAM is currently involved in more than 115 transnational projects, representing a total financial volume of approximately 110 million Euros, mobilising nearly 50 countries, that is, more than 600 different organisations and research centres. The CIHEAM efforts in scientific diplomacy and multilateral cooperation brought significant benefits to the Mediterranean research and political dialogue. We are currently engaged in the promotion of several high-level networks, including ERANET-MED, ENPARD, MED-Amin, SAMEFood, FORESTERRA and MOAN, whose activities contributed to the establishment of strong synergies among Mediterranean institutions - e.g. with the launch of joint research call for proposals – and the creation of a common language and a shared development discourse.

The CIHEAM is very active in research programmes and knowledge sharing. We intend to provide analyses and interpretative aids for a broad public (students, researchers, journalists, etc.) as well as the community of stakeholders operating in the Mediterranean (public institutions, private companies, civil society, international banks, etc.). The objective is to have agriculture, food, fisheries and sustainability as central themes in scientific, technical and political discussions on the Mediterranean Region and to place the Mediterranean perspective at the heart of the debate on food security and agricultural development worldwide. Each year, the CIHEAM publishes around 200 articles in its 4 collections (*Mediterra*, *Options*, *Watch Letter*, *New Medit*) and participates in many scientific publications through its projects and networks but also thanks to an active contribution in external reviews or journals.

The CIHEAM is also contributing to the regional policy dialogue. We have strong relations of trust with the decision-makers of our Member States but also with the ones of the different countries in which we are operating. The close relationship maintained with International and Regional Organisations and the strong involvement in several high-level meetings and political fora enable the CIHEAM to be recognised at the highest levels of influence at the service of its mission. The 10 meetings of the agricultural Ministers of our Member States reflect the governments' interest and constant support they give to CIHEAM since the establishment of this event in 1999.

Mediterranean Challenges

The Mediterranean can no longer be considered as the center of global economy, but it is today the backbone of international relations where contemporary forms of tension are concentrated. The current situation of social and political upheavals in the Mediterranean Basin invites us to reflect upon the state of economies in its bordering countries and the potential leverages for a better development in the region. The improvement of living conditions is one of the major demands of these populations who are faced with a multidimensional insecurity that plunges them into vulnerability. The Mediterranean countries face numerous challenges that are strongly related to food, climate and rural insecurities and that contribute to social unrest.

At the crossroads of three continents, the region undergoes rapid and drastic changes. Even if Mediterranean countries are highly diverse, common issues exist across national and local realities. Conflicts remain, new tensions emerge, development marks time and economies are stagnating, both on the northern and southern shores. The social demand is enormous. Despite the growth and good macroeconomic performance recorded in several States, economic and territorial injustices have exploded in recent years. Unemployment, particularly among young graduates, is a major problem. Inequalities between poor rural hinterlands and urbanised coastal areas have not yet been resolved.

In the next several decades, the Mediterranean region will face a historical challenge and opportunity at the nexus of food security, economic development, and the environment. The region needs to be more food secure and the countries need agriculture and rural territories to contribute to development. They are experiencing social, economic and political situations that can be understood only by taking account of the constraints of a specific geopolitics, where the climate is always capricious, natural resources are rare, food security is not achieved, where major gaps still exist between people and territories and risks and tensions are rising.

Environmental protection, food security and nutrition, inclusive development and resilience to crises and tensions are therefore the four core Mediterranean challenges. These are precisely the main axes of the work of CIHEAM, which adapts its cooperation mission to the new context and emerging needs of the region.

Struggling against the triple waste

The Mediterranean countries are facing the following difficulty: producing more with fewer resources, using them more sparingly. In this perspective, the issue of waste and losses is becoming essential for food security policies. The problem of food losses and waste has various dimensions (social, economic and environmental) and should be approached from three different yet complementary perspectives. Indeed, combining the analysis of natural resources, production and knowledge allows the issue to be situated more globally from a sustainable development perspective, where human beings are the priority.

The struggle against waste can act as leverage for Mediterranean cooperation. Water and land resources must be preserved, as well as biodiversity, forest systems and the marine wealth of the Mediterranean Sea. Then, we must fight against post-harvest waste, during transport, storage, processing, retailing and consumption. Finally, it is also appropriate to struggle against waste of knowledge as, in agronomy or the environment, traditional knowledge should be valued and protected.

Synergies and interdependence among the three pillars: economy, society, environment, of sustainable development needs to strengthen. Preserving the planet is essential, but generating wealth and assuring its equitable distribution is equally important. People must be the highest priority of the SDGs. It is thanks to the human ability to find innovative solutions and accumulate knowledge that we succeed in adapting to change. For many years now, innovation has been closely related to sustainable development and it is time to give to it a distinctive place. Firstly, by recognising it as the human capacity to create change, to further advance science, to feed knowledge and to make giant leaps forward for mankind. Secondly, by underlying the importance of taking into consideration the specific cultural, economic, social and geographical features of the different societies during the implementation of the SDGs at local level. Innovation for development is necessarily local and distinctive. Therefore, we must take account of territorial specificities in order to efficiently connect knowledge with practices, needs, and constraints of each context.

A global consensus has been reached on the need to reconcile the imperatives of producing more and producing better, but it will not be easy. Success will depend on the good will of people and on the public policies that will be implemented, on the mobilization of global agriculture and on the future involvement of young people. Demographic ageing is a global trend that results in two dangers: food insecurity and overcrowded labour markets (excluding agriculture). New agricultural models could be an effective solution to mitigate these problems, as agriculture can be a source of employment and income, if people really want it. Human beings should be in the first place when discussing sustainable development. The main purpose of agriculture is to feed people. In this perspective, the capacity of reducing waste represents a determinant factor.

Even in Europe, people, should be focusing on managing natural resources in a sustainable way and decreasing the loss of water, arable land, and biodiversity. Then, they should consider as part of their everyday's routine to decrease the losses produced all along the agro-food value chain. These actions will certainly contribute to reducing and limiting collective food insecurity. However, we also have to fight the waste of knowledge. In agriculture, this is a crucial issue. Traditional know-how deserves the greatest attention and local solutions should be better disseminated across the territory. This can be widely enabled by modern communication technologies, which can help catalyse the process of better circulation of knowledge. The credo should be: Feeding knowledge by sharing experiences, ideas, education and knowledge systems. The circular economy of knowledge is incredibly powerful. Innovation is not only the creation of "novelty", but more importantly, it is the power of joining energies and intelligences and to put them at the service of common goals such as the SDGs.

The accumulation of research work with no sharing, the multiplication of ideas and projects with no coordination or even the lack of synergy between actors, are other facets of the same problem, that is the waste of knowledge. Training is therefore a crucial point to maintain throughout a farming career. If we want to establish sustainable food security, we must also struggle against this waste!

Food and nutrition security

Agriculture and fishery are the basis of Mediterranean identity and decisive for the region's societies. In 2020, due to demographic growth, there will be some 530 million persons to feed in the region. Agriculture remains a major economic factor in Mediterranean countries, as it employs one-third of the active labour force in the majority of them. Overall, agriculture represents more than 10 % of GDP in many States and agricultural products represent an average of 10 to 25 % of trade for several Mediterranean countries.

The Mediterranean is one of the most vulnerable regions to climate change and it is predicted to become even hotter and dryer than it already is. These phenomena add complexity to the already vulnerable situation of the Mediterranean agriculture, which struggles in increasing quantity and quality of production, while preserving scarce natural resources at the same time. Producing more but better with less...This is the very complex equation to be solved by the Mediterranean countries.

In the Mediterranean region, nutrition and quality of diets are becoming problematic as it deteriorates with changing eating habits. The Mediterranean diet is losing ground at a time when its virtues are recognised worldwide. This diet raises major questions concerning nutrition, product quality, food, health and care behaviours, research and innovation, the construction of a food model, and also the preservation of biodiversity and natural resources. Moreover, the issue has a political facet, as discussing the Mediterranean diet also entails launching a debate on social responsibility in production, retailing and consumption, but also to promote preventive nutrition for human health, to question how food chains are organised, to explore both the commercial opportunities and the legal risks, to scrutinise the globalisation of trade and to debate public action in the food domain (education, local authorities, regulations, taxes and prices, urban planning).

Food security in the Mediterranean cannot be based solely on securing food imports, but must include the adoption of adaptation strategies at several levels. States must reintroduce strong agricultural and food policies in order to guarantee a minimum of national food sovereignty and to contain rocketing prices in the agro-food trade. Steps must be taken to improve access and availability of safe and nutritious food for the most vulnerable, particularly children, through national food security programs for instance. Small-scale agricultural producers represent another crucial segment and the bulk of production in many Mediterranean countries. Increasing their production and income would directly improve access to food among the most vulnerable and improve supply for local and domestic markets.

The food system must also be organised more efficiently and its strategic components must be modernised, in an inclusive way. Significant progress must be made in logistics and the transport of agricultural commodities and food products. Product conditioning and storage, the cold storage chain and retailing methods are parameters that should be at the core of strategies, in particular for

adapting to climate change. With regards to dietary practices, it must be stressed that the new ecological order calls for more responsible attitudes in eating habits and consumption. However that has to be made possible in the context of increased urbanization, societal transitions and cultural evolutions.

Investing in new generations and fragile territories

Mediterranean countries have strong human, economic and agricultural assets. Nevertheless, there are also inequalities. A series of economic, social and demographic indicators show a general improvement in standard of living, but in a context of major disparities between and within countries. Non-inclusive development, precarious labour and unemployment accentuate the pressure within countries (rural migration) but also between countries. In this context, Mediterranean countries share a common problem: migration of its youth in search of a more promising future. This is a true squandering of the human resources of the entire region. In particular, students engaged in agriculture, rural development and food security matters expect to be able to get involved in these sectors, by having decent incomes and working conditions. Agriculture is a difficult occupation, full of uncertainties and risks (such as those linked to climate, diseases or fluctuating prices), making it not so attractive to youth, especially in areas where underdevelopment still predominates. Given the regional challenges, the human capital trained in professions that are indispensable for the lives of populations and the political stability of the States cannot be wasted. Education and knowledge is one of the pillars to increase food security. However, this knowledge must be adapted to the needs of Mediterranean countries thus facilitating its transformation into practical and innovative solutions for development.

Agriculture remains inseparable from rural issues. In Mediterranean Countries, where a third of the population lives in the countryside and where one job out of six is in the agricultural sector, it is impossible to consider the development of rural areas without taking account of agriculture. It is likewise unreasonable to attempt to make urban development sustainable without reconnecting cities with hinterland rural areas as such a geographic split is politically unsustainable. Even if it is not the only one, agriculture is a source of jobs and income in the hinterlands and an essential factor to revitalise the rural economy, which has a crucial role to play in consolidating the ongoing transition in the South and East of the Mediterranean. In addition, despite the great involvement of women in agricultural development and food security, gender inequalities are stronger in rural areas than in cities. Employment in agriculture and in rural areas should therefore be better considered. Services in rural worlds need to be improved and diversification of income generating activities is compulsory.

The combination of social and spatial inequalities leads to social and political instability. Territorial fragmentation entails a double risk: uncontrolled city growth, on the one hand, and the proliferation of isolated areas on the other. The non-inclusion of the rural population in the national political strategy feeds the exodus towards cities, which allows for an unplanned urban extension and harms diversity and integration within the urban area. Therefore, the establishment of inclusive development ensuring social and territorial cohesion is an absolute priority for Mediterranean countries. There will be no rural development in the Mediterranean region without dynamic agricultural policies, and there can be no agricultural development without rural vitality. Therefore agricultural and rural worlds have also to be promoted as strategic sectors/issues for economic growth

and political stability. Agriculture is multi-purpose. Besides providing food, the sector is also a provider of jobs and stability in often-marginalised rural areas where more inclusive policies (both social and economic) must be implemented. Public policies should implement innovative and inclusive approaches designed to increasingly involve vulnerable groups in the governance and the decision-making process.

In the light of the intended outcomes, it will also be essential to open the debate to include all stakeholders (farmer's organizations, social and development partners, civil societies, companies, associations, public authorities, etc.) in order to consolidate constructive ongoing dialogue and to support joint construction of development projects. In isolated areas, where the challenges of sustainable development are still insufficiently understood, increased efforts to raise awareness must be made. The role of the States and of international cooperation is important, but a better development calls for a greater mobilisation of local stakeholders, civil society and private operators. Inclusive, smart and responsible agro-business will be essential to create employment and economic activities in the marginalised territories.

Preventing risks and managing tensions

The Region sadly holds some of the world records in terms of conflicts and insecurity, demographic growth, unemployment, migration, food dependency, natural resources' scarcities and depletion, and climate change expected impacts. The current displacement of populations is forcing us to see this phenomenon as a two-fold challenge. In the first place, we have to manage the humanitarian crisis and meet the political challenge. However, we also need to look into a more distant future and identify the most effective instruments to alleviate the tensions in the Mediterranean region on the long term. Insecurity related to water, land and climate cannot be dissociated from economic and social migration and environmental problems. Rural territories are particularly vulnerable: poverty and despair fuel migrations, radicalisation, and instability. Most of rural populations depend on agriculture, and most of the food insecure populations lack secure employment and social protection which also encourages young generations to migrate to major cities or to other countries. The consequences of conflicts and migrations will have serious spill-over effects not only in the across the Mediterranean, but also in Europe.

Agriculture is central in climate-change discussions. At a time of scarcity, access to natural resources (water, land) is strategic for food security. Mediterranean agricultural systems have often had to demonstrate resilience and ingenuity to overcome these numerous difficulties. Today, this unprecedented capacity for relative resilience is being put to test because the region is one of the world's most vulnerable to climate change. In Mediterranean countries, droughts are occurring more frequently, desertification is progressing and arable land is shrinking. The example of water alone illustrates the huge tensions that can be generated in the allocation of a scarce natural resource.

In a context marked by the intensification of trade, the acceleration of population and goods mobility and climatic changes, crops are becoming increasingly vulnerable to pests and diseases, invasive species also manage to adapt to the spaces they invade and may significantly change existing ecosystems. They consequently become a growing problem for the countries as they affect the key sectors of their economy and present a series of emerging risks. This is particularly the case in

Mediterranean countries. Another important challenge is the management of animal health in the region. In a very sensitive political and sanitary context and also given the globalisation of trade and of human and animal mobility, the prevention and the control of animal and plants diseases, the epidemiological surveillance and the animal health information exchanges outside of each country's borders are becoming more than ever essential for the domestic production, export and import.

Agricultural trade is fragile in the Mediterranean area. Imports are massive, especially of cereals, sugar and milk. Exports are generally composed of fruits and vegetables, olive and olive oil and some specific national products. However, for the majority of the countries the food balance depends on agricultural imports. This trade is also becoming globalised: food increasingly comes from countries outside the region. These characteristics make the Mediterranean countries particularly vulnerable to international food price volatility. Many of those countries are net food importers so higher international agricultural prices can worsen the balance of payments and threaten foreign exchange reserves, as well as fuel domestic inflation and increase budgetary outlays dedicated to the protection of poor consumers. The impact of international food price volatility on a country's food security depends on the extent of volatility itself, of price peaks, the level of exposure to international markets, the ease of price transmission and the degree of vulnerability or resilience. Policy measures can seek to reduce international price volatility itself or ameliorate its consequences. International and national actions can seek to mitigate food price volatility and its impacts on vulnerable people. However, long-term resilience must be built. Investing in agricultural productivity growth and resilience is paramount to addressing food price volatility. The establishment of regional networks focusing on the main strategic commodities traded in the Mediterranean and the promotion of producers association are therefore essential.

Agriculture, food and rural development amongst Mediterranean priorities

Political instabilities, poor economic development, demographic growth, urbanisation, as well as the depletion of scarce natural resources and meteorological extreme events will continue to put pressure on the region's capacity to feed its population. Agricultural, food, fisheries and rural issues have to be placed at the core of the Mediterranean cooperation agenda. This is extremely important because the challenge of food security is both colossal and vital. It is colossal because the constraints are becoming more pronounced: shortage of water and land, effects of climate change, demographic growth and socioeconomic changes are modifying social equilibriums, diets and trade balances. It is vital, because it influences the day-to-day existence of populations, the development of societies and geopolitical stability.

Furthermore, multilateral cooperation in the Mediterranean area must be promoted to establish good relations in the field of food and to pool resources and tools aimed at reducing hazards. If the main goal of a renewed regional cooperation is to collaborate on projects which are capable of affecting everyday life of the concerned populations (in a practical demonstration of solidarity) and to deal with subjects which are at the centre of regional concern, agriculture, food, rural development and food security must then become main issues to be addressed in the Mediterranean context.

The multi-faceted nature of food and nutrition insecurity in the region and the potential effects in the neighbouring regions call for collaborative efforts, partnership, networking, joint analysis and

advocacy among key stakeholders. Greater synergies between the actors working for Mediterranean development must therefore be explored as a priority. The emphasis should be put on agriculture and rural development because they are a reservoir of solutions. The agricultural and food issue is indeed decisive for the future of the Mediterranean Basin, as it is at the junction of politics, economics, trade and society. Questioning the situation of agriculture and its future in the Mediterranean region is ultimately equivalent to questioning the destiny of the Euro-Mediterranean project at a time when the latter seems to be running out of steam, caught in a crisis of lack of convergence and vitality.

We must advocate for a Mediterranean region that works together in order to reduce insecurity, to deal with common challenges, and to advance towards an inclusive development. Above all, human security is about access to food, employment and knowledge access. Rebelliousness, radicalisation, and migration are the results of an unacceptable living conditions. We should recognise that the primary needs of Mediterranean populations are focused on issues such as food security, employment and better living conditions in rural areas. If the issues are not addressed in the coming years, the Post-2015 Development agenda in the region will prove to be obsolete and the strategic Mediterranean space could become ungovernable.

How relevant is the Mediterranean multilateral cooperation in the future? What sectors should be targeted? Which segments of the populations should the investments be aimed at? Should we focus on a small number of major strategic issues in an attempt to maximise the impact of Mediterranean cooperation? If Mediterranean integration remains a long-term geopolitical ambition, each step taken towards a greater multilateral solidarity in this region is most welcome. As regards agricultural development and food security, complementarities and responsibilities should be at the heart of the debate in the Mediterranean region, at a time when the world is going through the restructuring of its geopolitical and geo-economic balance.

One cannot fight geography. If the Mediterranean countries wish to be more than just neighbours and become joint owners of a common future, they must seize this opportunity and choose not to disregard their interdependencies. We need to promote specific initiatives fostering human development in the long term. Agriculture, food, fisheries, rural development, innovation and climate change adaptation are all strategic issues in the Mediterranean and a potential field for tangible solidarity. If Mediterraneans wish to coexist in their diversity they must join forces to plan and manage their resources together. There must be union in adversity.

The Mediterranean in the Post-2015 Development Agenda

The sustainability of natural resources, climate, agricultural and fishery production, inclusive growth (both social and territorial) and food security are central issues in the new Sustainable Development Goals (SDGs) established in the framework of the Post-2015 Development Agenda, adopted in September 2015 by the Annual General Assembly of the United Nations. This constitutes one of the main matrices of international cooperation for the next fifteen years. Some SDGs are totally consistent with CIHEAM's mission and its activities with the countries of the Mediterranean: achieving food security and improved nutrition, ensuring sustainable consumption and production patterns, as well as sustainable management of water, marine resources and terrestrial ecosystems. These SDGs are crucial for the Mediterranean region, where the populations' primary needs concern the access to a healthy, affordable and balanced diet, with food production that respects natural balances and the chance to live a decent life in rural areas. By tackling these challenges in the coming years, we will contribute to human security, inclusive development and sustainability of resources in the Mediterranean.

The CIHEAM therefore welcomes this global framework that redefines development priorities with clear-sightedness. We should therefore act accordingly to strengthen the CIHEAM's mission and align it with this Post-2015 strategic framework. This means giving it greater visibility, articulating it better with other initiatives (global or Mediterranean) and conducting it with more synergy with other actors committed in these fields and in our region. In order to identify more clearly the CIHEAM's fields of intervention and the uniqueness of its approach, including the combination of several complementary cooperation tools (training, research, networks, information and technology platforms, technical assistance, political dialogue), it seems appropriate to propose an intelligible and compelling note in the form of a strategic framework for action in the Mediterranean, capable of gaining the attention of decision-makers, of attracting eventual investors and of interesting a wide audience sensitive to development issues. This framework will also reveal how CIHEAM is working on the Post-2015 Agenda SDGs at the Mediterranean level. Such a framework is also aimed at giving greater visibility to Mediterranean initiatives rooted in these global priorities which are implemented and coordinated by CIHEAM or to which the Organisation contributes in a significant way.

This strategic framework for action could be a real plan for concrete and emerging initiatives contributing to a better development in the Mediterranean in the next ten years. This framework that may become "The Strategic Agenda 2025 of the CIHEAM" will be presented to the Ministers of Agriculture of the 13 Member States of the Organisation during the next meeting scheduled in September 2016 in Tirana.

CIHEAM

Strategic Agenda 2025



15 Thematic Priorities for Mediterranean Development

The Mediterranean region is the cradle of great civilisations built around agricultural traditions. Throughout its History, several practices adapted to the natural conditions of the region have been developed and passed on to new generations. Over time, farmers have acquired skills and knowledge of which they are the primary guardians. This knowhow should be shared, transmitted and preserved to meet the requirement of agricultural production. The establishment of networks for the sharing of scientific, technical and empirical knowledge enables to promote and spread this knowledge combining tradition and innovation.

What we do

Knowledge sharing through training programmes and networking is our strongest assets and it is at the core of our educational activities. We are training a great number of professionals in different thematic areas through our long-term Master of Science programs and short-term courses; in the last years more attention was paid in designing and developing a service of *e-learning*, useful for reaching students and other stakeholders (especially farmers and fishermen) in all our member countries; trained persons are now actively involved in the new established Alumni Networking; and further training is also provided for high professionals through the establishing Doctoral/PhD platform. Then, we are strongly involved in the establishment of Mediterranean knowledge networks, linking researchers, farmers and professionals of the sector. This is the case of the project *Feeding Knowledge*, initiated to capitalize on the results of Expo2015 in Milan and used to share best practices and lessons learned on food security.

This core asset plays a significant role also in the other activities of CIHEAM. Our research projects are developed through an action research approach, where farmers are active stakeholders of the process and contributes to creating and sharing knowledge. Moreover, the educational and training activities of CIHEAM are highly solution oriented, as they aim at building the capacity of Mediterranean professionals to solve specific problems on the field. Usually, the results of our research projects constitute a knowledge base for our programs of technical assistance and the lessons learned on the field feed and shape our Master of Science programs and are shared in our periodic publications (*Watch Letters, Mediterra, Options Méditerranéennes* and *New Medit*), in scientific journals and in technical meetings.

Finally, we highly encourage cooperation among the research institutions of the Mediterranean Countries, through the establishment of multi-stakeholders' research and innovation platforms like ERANET-MED, MEDSPRING or ARIMNet.

Our Objectives during the next 10 years

- Improving the Network of CIHEAM Alumni (NCA)
- Developing the CIHEAM Doctoral/PhD Platform
- Reinforcing the CIHEAM E-learning service
- Improving the CIHEAM publications and dissemination
- Support publications of relevant research developed by CIHEAM in scientific journals and proceedings
- Support presentation of CIHEAM research at different events relevant at national and international levels
- Support the establishment of dedicated network on relevant topics for the Mediterranean region
- Support the development of platform and networks (like the *Feeding Knowledge* Plat-form, promoting the Agricultural knowledge and innovation systems (AKIS), and the establishment of the long lasting and stable partnership for research and innovation in the Mediterranean area (PRIMA)

Agriculture is which relies on the use of natural resources and energy. Agricultural activity has a severe impact on fresh water resources, arable land and on maritime and terrestrial biodiversity. The sustainable development goals adopted by the United Nations include the preservation of terrestrial, marine and forest ecosystems as well as responsible consumption and production. Agriculture must therefore adapt its activities to, not only use but also preserve and protect these natural resources while reducing its dependence on polluting fossil fuels. The restoration of arable land, the improved irrigation efficiency, the conservation of forest systems, biodiversity enhancement and the adoption of green energy are therefore fundamental elements for sustainable development.

What we do

Our efforts against the waste of natural resources are, first of all, implemented through human resources development and capacity building, in our 3 M.s SC. in *Land and water resources management: irrigated agriculture; Geoinformation in environmental management* and *Agricultural and Territorial Management* and in trainings and international study tours on sustainable resources management.

On the field, CIHEAM holds a specific focus on the waste of water, as the latter is an increasingly scarce resource in the Mediterranean. Our researchers work for establishing a water-food-energy nexus, carrying out studies for the analysis of the water demands of the region, establishing a shared knowledge base (WADEMED) and elaborating decision support tools for water allocation and different socio-economic scenarios. Also, CIHEAM carries out technical assistance programs in order to improve, on one side, the participatory management of water resources (PARD ILGEOT and AcquaStress) and, on the other side, to establish agriculture techniques which are more water efficient (ECOPONICS). Finally, we activate institutional networks for exchanging information and agreeing on common actions for improved water management, through initiatives like NEMEDCA and MELIA. At the same time, we develop a wide range of activities concerning other natural resources. We work for the preservation of forests, through fire prevention projects (FireParadox) and institutional knowledge networks (FORESTERRA). We promote the use of renewable resources- like solar one in DIDSOLIT-PB- and we develop policy advice instruments and knowledge networks on sustainable land management (FONCIMED).

Our Objectives during the next 10 years

- Developing professional training sessions for professionals (including the forestry sector and encompassing/mentoring/coaching) on how to use better their natural resources and to conserve biodiversity.
- Contributing to the setting up of an inter-institutional regional platform to strengthen cooperation in the forestry sector and ultimately promote innovation and job creation in rural areas
- Enhancing the implementation of wastewater reuse in agriculture while assessing health and environmental risks associated with wastewater reuse in agriculture.
- Developing water demand and yield prediction models using UAV's and remote sensing.
- Improving Renewable Energy Systems within CIHEAM infrastructures, campus and laboratories.
- Introduction of methods using remote sensing data to young scientists, with applications on vegetation, soil and water management
- Promoting applications and contributing in the improvement of policy instruments for energy saving technologies and renewable energy sources in public buildings, through new projects, continued cooperation with local/regional/national authorities and stakeholders, and the organization of information/sensitization campaigns.
- Developing decision tools for farmers and advisers in order to promote environment friendly plant protection techniques and practices

A third of the food production for human consumption in the world is lost or wasted. From production to consumption, food loss and waste are observed throughout the food chain. These losses are mainly caused by financial and technical limitations as well as by the behaviour of actors along the food chains. Modernised infrastructure and increased awareness among consumers, retailers and agro-food industries could allow a significant reduction of lost amounts and thus improve food security and the economic growth of Mediterranean countries.

What we do

In order to limit food waste from production to consumption, we work for improving the efficiency of agri-food value chains. To this purpose we deliver training to young professionals through our M.Sc. in *Food Value Chains and agri-logistics*. Young, research-oriented scientists get training on the use of innovative genetic approaches to extend the postharvest life of fruits and vegetables of importance for the Mediterranean basin through the M.Sc. course on horticultural biotechnology

On the field, we analyze the extent and nature of food losses and waste in the Mediterranean, through multi-stakeholder's surveys and studies. A specific research is conducted by CIHEAM in reducing food losses during pre-harvesting, storage and processing by the implementation of innovative environmental friendly technologies. Several technical protocols have been developed for different fruit and vegetable crops.

Moreover we develop technical cooperation projects to reduce food losses and waste by improving both the efficiency of Agri-food value chains (inbound logistics, operations, outbound logistics, marketing and sales, services) and minimizing waste in post-harvest phase, procurement management, developing innovative technologies and infrastructure, and strengthening, human capital, particularly in post-harvest phases, e.g. proposing more efficient innovative technology, as in SAMSIMIFA project. Also, we promote policy dialogue and networking of local authorities for preventing and/or reducing food waste in retailing, for example waste of horticulture perishable products circulating in the Mediterranean, through projects like EHPPC-Med.

In the Mediterranean area, precise and accurate data regarding food waste and losses should be enhanced, especially in a context where the food security of the region's countries is fragile and the sustainability of development is threatened. During the 10th meeting of the CIHEAM member states agriculture ministers, the food waste issue was strongly emphasized. CIHEAM is active in the research analysis and multilateral dialogue related to the Food Waste and Losses, thanks to its publication, but also some side-events organized and an active contribution to the G20 Turkish Presidency in 2015.

Our Objectives during the next 10 years

- Working with the International Technical Platform on the Measurement and Reduction of Food Loss and Waste (FLW) established at the occasion of the G20 Turkish Presidency
- Developing an online course on FLW in the Mediterranean area.
- Developing research and training to reduce FWL in horticulture and to improve post-harvest behavior of Fruits and Legumes
- Contributing to the dissemination of best practices and strategies (including from private sector) targeting awareness-raising and information campaigns and education programs
- Developing research and studies on seafood waste and losses but also the FLW in the touristic sector especially the air companies with the catering challenges
- Implementation of post-harvest infrastructures and innovative practices using environmental friendly technologies applied in research projects by CIHEAM (i.e. passive refrigeration, Ozone and Electrolyzed water)

The Mediterranean diet is considered a model for a healthy, sustainable and environmentally friendly lifestyle that is conducive to local producers. Yet, the Mediterranean region is currently undergoing changes affecting its traditional diet. International trade exchanges and changes in lifestyle are disrupting the eating habits of the region. Under-nutrition and malnutrition are still present in the South and East of the Mediterranean while all Mediterranean countries are increasingly faced with the issue of obesity and with diseases that are related to poor diet. A "return" to the Mediterranean diet should therefore be encouraged.

What we do?

Since the Ministerial Conference in Athens of June 2001, CIHEAM has launched activities to promote the Mediterranean Diet as leverage of sustainable rural development. After investigations and discussions that lead to the Conference, we reached the consideration that the Mediterranean diet is more than a reference nutritional model and healthy dietary pattern, but also as an expression of the cultures, traditions and lifestyle of the Mediterranean peoples and a model that holds environmental, socio-cultural and economic benefits.

In 2011, the Mediterranean Diet was identified by CIHEAM and FAO as a joint case study for characterization and assessment of the sustainability of dietary patterns in different agro-ecological zones. Through a series of international workshops and meetings a methodological approach with indicators was developed, which was later tested on some Mediterranean territories.

The 2012 edition of the CIHEAM Report *Mediterra* takes the mobilising potential of the Mediterranean Diet as a basis and proposes a multidimensional itinerary involving sociodemographic, health, ecology, enterprise, geo-economics and citizens' initiative.

During these years the capacity of all the Mediterranean Countries to implement project researches on the subject has been strengthened, in programs like Food for Life. Then, knowledge produced is been widely shared through institutional networks, as the one on Protection of the Mediterranean Diet, coordinated by CIHEAM, in the frame of the inclusion of the Mediterranean Diet in the Representative List of Intangible Cultural Heritage of Humanity since 2010.

Our Objectives during the next 10 years

- Strengthening the existing international network on the Mediterranean diet sustainability.
- Developing a CIHEAM master course on the sustainability of diets and food systems with a particular reference to the Mediterranean diet.
- Implementing a pilot project in Mediterranean countries for assessing and improving the sustainability of diets and food consumption patterns in the context of sustainable food systems.
- Carrying out educational and communication activities, using innovative tools, to raise awareness about multifaceted sustainable benefits of the Mediterranean Diet, presented as a sustainable and popular diet.
- Co-Organizing a periodical world conference on the Mediterranean diet (outside the region).
- Creating a database of traditional recipes of each country based on the Mediterranean diet model
- Developing knowledge and projects on the Mediterranean Diet and the Urban Food Plan

All Mediterranean countries should take active steps to implement the FAO Global Plans of Action for animal, plant and forest genetic resources for food and agriculture, and the Strategic Plan for Biodiversity 2010-2020, in order to achieve the Aichi Biodiversity Targets adopted by the CBD, which promote Agro-biodiversity conservation. Agro-biodiversity is defined as 'the variety and variability of animals, plants and micro-organisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry and fisheries. It comprises the diversity of genetic resources (varieties, breeds) and species used for food, fodder, fibre, fuel and pharmaceuticals. It also includes the diversity of non-harvested species that support production (soil micro-organisms, predators, pollinators), and those in the wider environment that support agro-ecosystems (agricultural, pastoral, forest and aquatic) as well as the diversity of the agro-ecosystems'.

Agroecology is a way of developing agricultural systems based on the benefits provided by ecosystems. The aim is to increase or maintain agricultural production while reducing pressure on the environment and natural resources. Thank to a holistic, knowledge intensive approach to farming and the use of nature and biodiversity as a factor of production, the technical and economic results can be maintained or even improved.

What we do

Practices of agro-biodiversity conservation and agro-ecology are often thought to be in synergy with sustainable agriculture, in particular organic agriculture. CIHEAM explores and spreads this knowledge in our M.s.sc. about *Mediterranean Organic Agriculture*, about *Sustainable Agriculture* and about *Horticultural genetics and biotechnology*.

Our work to support and develop agro-ecology has a strong focus on biodiversity. The Mediterranean Basin is one of the 25 hot spots of global biodiversity, it is testimony to the peculiarity of this geographical area, while the center of origin and/or diversity of different food species, forages, aromatic and medicinal species. We work for the protection of this bio diversity in the Mediterranean, in partnership with the Ministries of Environment, through projects of protection of endangered species (like MEDISLANDPLANT) and of research and conservation of local and ancient species like the CWR (Crop wild relatives). To make sure that our efforts last in time, we carry out institutional capacity building and we promote networking among national plant conservation centers, in programs like GENMEDA. Moreover, we carry out activities of: analysis of sustainability of agriculture and natural systems; management of cropping systems soil quality; and participatory approaches in the management of natural resources.

Our Objectives during the next 10 years

- Reinforcing the Mediterranean Organic Agriculture Network (MOAN) established by CIHEAM since 2003
- Developing the activities and services offered by the Mediterranean Plant Conservation Unit (MPCU) based at CIHEAM-Chania.
- Setting a short term course on agro-ecological practices in the Mediterranean context, with a focus on agro-biodiversity, in partnership with national institutions of CIHEAM Member countries and building a Master on Mediterranean agro-ecology, operating from 2020.
- Contributing to the Global Conferences dealing with sustainability and ecology (as the COP annual meetings) by injecting Mediterranean perspective and agro-ecological experiences
- Participating in the National Biodiversity Strategy implemented by the Mediterranean countries
- Supporting programs and initiatives developed by small-scale farmers and based on agro-ecology in the Mediterranean countries
- Support of Mediterranean networks of stakeholders working on the conservation, enhancement and management of plant genetic resources (such as GENMEDA network).

Food security is not only quantitative. The qualitative dimension is equally significant. Food safety is a major component of the chain that links producers to consumers. Throughout this chain, products can be exposed to multiple risks as for contaminants (pesticides residues, microorganisms and mycotoxins) that could affect the quality in terms of nutritional, healthy and safe aspects. It is claimed that mycotoxins contaminate 25% of food with major negative consequences for human health. It is therefore essential to develop best practices in the production, handling, processing and distribution of food products meeting product traceability, too. In this context, logistical and commercial issues are also crucial and may play an important role in reducing food losses and extending the shelf life of products, thus supporting market development dynamics. In fact, people are actually more demanding healthy and traceable food, but they also seek diversity in the food they consume. Prevention is the best way to reduce contaminants ensuring food safety and quality. To this aim, an adequate legislation and efficient tools for contaminants detection should be developed and adopted at Mediterranean scale.

What we do?

CIHEAM faces the above challenges, first of all, by training Mediterranean young professionals in our M. Sc. in *Food quality and chemistry of natural products*, in *Sustainable Integrated Pest Management Technologies for Mediterranean fruit and vegetable crops* and in the *ERASMUS Mundus EDAMUS in Sustainable Management of Food Quality*. The laboratory in Chania of Analytical Chemistry of the FQC Programme is accredited by ISO17025 for various analyses in different matrices (honey, olive oil and water), but also for GMO detection in agro food products and seeds

Then, we study and experiment the application of improved and environmental friendly methods in pre and post-harvest, transformation, certification and distribution of Mediterranean food products to increase their safety, quality, shelf-life and economic value. In this perspective, CIHEAM has a special focus on olive oil, fresh fruits and vegetables. Our knowledge and expertise about olive oil led to the establishment of a dedicated M.sc. in Olive growing and oil technology. At the same time, through initiatives like DURABOLEA, we conduct technical and socio-economic and value chain analysis in different regions producing olive oil and then we propose solutions and tools for product and value chain upgrading and sustainability, in projects like EVolea, OLIVEMED, Olio Libano, BIOLMED, ASDO IT-AL , Assistance to improve quality of olive oil in Syria, TERCOM, etc.. Several initiatives (ECOFRUIT, ECO-ORT, PROECOFRU) were successfully conducted for the setting up of technical protocols and transfer of innovative tools (ozone, electrolyzed water, passive refrigeration) to end-users in pre-harvest, post-harvest and green transport. We also calculate the trade-offs between nutritional value, economic profitability, environmental and societal impacts along food value chains with direct involvement of professionals (FLONUDEP, ACYDU, ILLIAD).

Moreover, we promote network and capacity building of local and national authorities for formulating, applying and harmonization food standards, norms and certifications. Examples of such networks are MOAN on organic agriculture and Safe Mediterranean FOOD Network (SAMEFood). Quality standards and specifications as well as sustainability guidelines are used as a tool for the valorization of typical and traditional quality products in the Mediterranean region (e.g. projects such as Agriculture & Quality, Fooding, Intra). Also, we encourage the improvement of distribution systems of highly perishable products, such as fruit, vegetable and fish, with participation of local authorities in the Mediterranean. In addition, we support efforts by farmers' organizations and governments to establish and implement regulation on geographical indications.

Our Objectives during the next 10 years

- Supporting programs and initiatives developed for the enhancement of typical and traditional agri-food products with quality schemes (PGI, PDO, TSG and Optional quality schemes) in the Mediterranean countries by highlighting linkages between quality, safety, innovation, tradition and sustainability.
- Improving the SAMEFood Network by involving more EFSA and WHO.
- Organizing Euro-Mediterranean Conferences devoted to the Food safety and quality
- Fueling the debate for the post-2020 EU-CAP and the implementation of the Deep and Comprehensive Free Trade Agreement (DCFTA) between EU and the Mediterranean countries.
- Promoting the establishment of a Mediterranean Week in the big retailers that would engage a strong CSR in the field of the Mediterranean Diet and emblematic products
- Working for the establishment of a Mediterranean Label that will be an umbrella for emblematic regional foodstuffs that are safe and nutritious and highly marketable.
- Design and developing a online course in innovative solutions in post-harvest and green transport management.
- Design and developing a Mediterranean model of an innovative platform for products management in post-harvest and transport
- Setting up of innovative rapid and accurate tools for detecting toxins, pesticide residues and other food contaminants on large and small scales
- Development of technical protocols for the use of ecofriendly methods for reducing contaminants in main Mediterranean food products
- Improvement and harmonization of legislation on food contaminants,
- Developing research and training on the use of innovative genetic approaches to improve the nutritional value of fruits and vegetables of importance for the Mediterranean basin.
- Organising course on quality assurance matters that will improve the knowledge of the students on the ISO quality standards, and help them to understand better what a quality management system is and how to implement it.

The concept of physical and economic access to food is an important pillar of food security. To ensure Mediterranean population's access to food is necessary to act simultaneously on production and consumption phases of the food chain. The ability to produce, to have the means to produce or to buy food for a nutritious diet, and thus have the necessary purchasing power, affects food security. This access must be stable, sustainable and continuous, including in adverse circumstance (conflicts, disasters, etc.). Access to food regards also farmers' access to inputs (land, water, seeds...), markets as well as available services (e.g. credit) to facilitate the use of technologies. Water is the most important food product. Water is the lifeblood of ecosystems, on which depend the food security and nutrition of present and future generations and supports the economic growth, and income generation, the basics for economic access to food, food production (fisheries, crops and livestock), food processing, transformation and preparation.

What we do

Economy is considered - together with environment, society-culture and nutrition-health - as an important dimension of sustainable food security. CIHEAM is dealing with this issue in training cooperation, research and networking activities. The aim is to ensure economic access of Mediterranean population to safe, adequate, nutritious food by increasing food availability (production increase, reduction of food losses and waste), making easier access to food by all, including disadvantage categories, and mitigating agri-food markets volatility. CIHEAM analyzed also food economic accessibility and affordability in the context of Mediterranean diets and food systems sustainability.

Many context specific challenges are associated to the access to food: water scarcity, producing enough food for a growing population, increasing competition for water between people and sectors, climate change, increasing degradation of ecosystems, the lack of fair and transparent allocation mechanisms that recognize and protect the interests and rights of all users, especially the most vulnerable and marginalized, in accessing land, water, seeds, credits and markets.

CIHEAM supports and assists Mediterranean countries and relevant stakeholders to join forces and fosters initiatives to address these challenges through both an ecosystem approach and a people-centred approach through: capacity building; institutional coaching; developing, institutionalizing and anchoring systems and mechanisms to ensure that any related policies, reforms, investments or actions by any actor take into account the Food Security and Nutrition of affected populations, with particular attention to the most vulnerable and marginalized

Our Objectives during the next 10 years

- Periodical international conference and food and nutrition security in the Mediterranean.
- Developing research on food economic access in relation to price volatility, climate change, increasing resource scarcity and trade barriers.
- Developing a Mediterranean multi-stakeholder Task Force to set up guidelines and make policy proposals to facilitate access to water, soil and services that help achieving food security.
- Promote sustainable management and conservation of ecosystems
- Foster inclusive and effective collaboration and national and local governance
- Develop and share knowledge, technologies and tools with particular attention to the most vulnerable and marginalized
- Improve the efficiency and diversity of water use and the productivity of agricultural systems for FSN
- Implement policies for equal opportunities and security in access to water, land for food producers -both women and men -and promote responsible investments.

Many Young people in the Mediterranean are struggling to find decent jobs. When opportunities are available, they are more attracted by service-related jobs in cities. Employment related to agriculture, the rural world, fishing or forest proves to be quite unattractive. Yet, given the strong trends of unemployed young people in the Mediterranean, agriculture (and associated sectors) must be considered as sectors offering employment opportunities. Agricultural practices are experiencing significant innovations that redefine the work of farmers. Agricultural entrepreneurship is likely to provide the new generations with a rewarding and remunerative employment, a more competitive food production and economic wealth while struggling against food insecurity and reducing food imports. This development is only possible with the involvement of younger generations and a deep change in the perception of these issues that are crucial for the future.

What we do?

CIHEAM develops a high number of activities aimed at equipping the Mediterranean youth with updated skills and knowledge for a good employability. These activities hold the simultaneous purpose of endowing the rural and coastal territories with motivated young professionals, who can effectively contribute to their development. For this double purpose, we provide specialized education to Mediterranean young people, through M.SC programs as the one in *Territorial Development and Projects*, bringing them to the job market as highly specialized professionals, capable to boost the sustainable development of the region.

Moreover, we engage Mediterranean professionals of all ages in lifelong learning, updating their skills and knowledge through specialized training courses. Only in 2015 we held more than 50 courses on rural development themes and numerous capacity building activities targeting staff of institutions, agro-food firms, agriculture or fisheries professional organizations. We keep updating the skills of our ex-students through the e-learning system and our Alumni Network. Also, we support young innovators in the whole Mediterranean, in initiatives like Noble-Ideas.

Finally, we facilitate political dialogue about the importance of addressing youth employment in the primary sector and our efforts led to the establishment of a broad consensus about this issue, during the Euro-Mediterranean Conference of the Agriculture Ministers held in Palermo in 2014.

Our 5 Objectives during the next 10 years

- Improving the employability of CIHEAM's training activities and students
- Enhancing the relationships between CIHEAM and private sector and the different actors of the job market.
- Establishing a Mediterranean Network of Young Farmers and Fishermen after the organization of a Regional Conference dealing with the issue.
- Developing activities in the field of rural innovation and digital economy in the CIHEAM's sectors.
- Contributing to the training of the trainers in the region involved in agriculture, rural and fishery sector
- Offering internship opportunities to enhance skills and employment opportunities in positions related with farming, laboratory analysis, conduct of research and use of statistical applications.
- Promoting Job diversification in rural areas

The development of rural and coastal areas should aim to enhance specific resources of those often fragile territories and to improve the living conditions of their inhabitants. They represent issues that are economical (provision of basic infrastructure, agriculture products, fishery, tourist activities and services, sources of employment, economic resources), social (poverty, role of women, access to land, exploitation of sea) and environmental (protection and sustainable use of ecosystems and natural resources). The integrated development of coastal areas whereas agriculture, rural activities and fishery are strictly connected, would enable to adapt to new challenges related to these areas and to benefit from the complementarities and potential multi functionality that may raise from both fishermen and farmers. In addition, there are strategic considerations like the necessary inclusion of rural and coastal populations (farmers and fishermen) in order to avoid inequalities and frustrations of marginal regions whose stability is valuable to the socio-political and territorial balance.

What we do

Our institutes carry out a large number of educational activities aimed at training young professional for the promotion of rural and costal development, in particular the 3 Ms. Sc. in *Territorial Development and Projects, Agricultural management and territories* and *Sustainable fisheries management*.

Being focused on the Mediterranean, we pay a special attention to coastal development, whereas land and sea are not anymore divided, but approached as a whole. With this focus, we establish institutional, scientific and knowledge networks and we carry out activities of capacity building for institutional dialogue, aimed at proper exploitation of both sea and land resources in the same coastal areas, also through specific programs. Moreover, we work for the participatory development and the establishment of sustainable and pro-poor fishing practices, for identifying alternative income generating activities, through enhancement of multi functionality (Tourism, Handcraft, Cultural heritage, Services) which leads also to social integration and stabilization.

At the same time, we develop many activities aimed at developing rural and marginalized inland territories by: analyzing the multipliers dynamics and factors for their development, promoting innovation for upgrading traditional food products and improving value chains organization and collective action for a better livelihood of small holders.

Finally, CIHEAM is supporting the implementation of ENPARD, EU Initiative launched in spring 2011 in recognition of the socio-economic importance of the agricultural sector and rural areas for an inclusive and sustainable development and as a concrete response to new developments in the Southern Mediterranean countries. ENPARD aimed at providing ad hoc assistance to Mediterranean countries wishing to modernize their agricultural sector and at exchanging practices about rural development, built on three operational principles: stakeholder participation, inclusive approach to development and responding to local specificities.

Our Objectives during the next 10 years

- Design, establish and facilitate a *Mediterranean Multi stakeholders Platform*, for sharing and exchanging best practices about coastal integrated development and for creating a network of Mediterranean eco-museums within a common "rural heritage" bridging the seashore and the country side.
- Development of actions in support of the "Blue Growth" of Mediterranean Communities, consisting in the upgrading of fishing and sea food commercialization practices and in promotion of the specific cultural coastal identities, in order to achieve synergies and joint ownership needed to improve the area's economic competitiveness within an overall rural development scenario.
- Extend and reinforce the scale of action of ENPARD, through a higher ownership of each participating country and through a diversification of activities.
- Edit a Regional Report on Inclusive Development in the Mediterranean countries.
- Establish a platform of continuous cooperation among tourism and agriculture working towards the improvement of the sectors
- Enhance multi functionality as tool to ensure proper socio-economic and environmental development of coastal areas enhancing rural heritage and products/services

The notion of vulnerable groups refers to categories of populations, individuals or organizations having some specific characteristics (age, sex, religion, social, economic, ethnical, physical etc.) that make them at higher risk falling into precarious situations. Vulnerable groups are less able to anticipate, resist and recover from shocks and disasters. They are not only more likely to suffer from food insecurity and poverty but also to be marginalized in development projects and growth processes. Inclusive development must ensure that all the populations marginalised for geographical or social reasons are included in the development process. It is both a process and a goal with a two-fold approach: erase the barriers excluding vulnerable groups and increase their capacity and influence. When women and men do not enjoy the same opportunities in the sectors of society, including economic participation and decision making, and when the different aspirations and needs of women and men are not equally valued and favoured, gender equality become a central issue in the perspective of vulnerable groups' inclusion.

What we do?

Gender equality is mainstreamed all through the activities of CIHEAM. Women are strong scholarship receivers and attendants to our master and specialized courses as well as beneficiaries of our development programs.

Recognizing the importance of their active role in community development, we are boosting women's participation in management of natural resources and execution of development programs through activation of research networks and capacity building activities, like GEMAISA and thanks to the network entitled "GEMNET".

Furthermore, through programs like WEE- Developing the Hand/crafts skills and enhancing the economic status of women in Upper Egypt- we are working at the improvement of social and economic status of rural women, through vocational training and improvement of their employability.

At the same time, all our programs consider a priority to target marginalized groups. In projects like SIMRA- Social Innovation in Marginalized Rural Areas- or Biodiv-Balkans, we are building capacity and developing tools for the inclusion of marginalized groups in governance of food and agricultural policies.

Then, in knowledge networks like TERRAMED, or Mil'ouv, we work for establishing knowledge networks of Mediterranean populations practicing agro-sylvo pastoralism, who are often excluded from mainstreaming research and training activities.

Our Objectives during the next 10 years

- Initiate a Gender Mainstreaming Strategy, integrating gender analysis and actions into the work of CIHEAM, in partnership with specialised organizations (UN-Women, UNIFEM, foundations...)
- Implementing projects on gender empowerment and vulnerable groups inclusion in rural areas
- Integration of criteria and indicators in the design of our interventions to ensure the inclusion of vulnerable groups and to limit the risk of being marginalized
- Supporting research and studies related to vulnerable groups participation and gender equality issues
- Strengthening CIHEAM networks related to the participation of vulnerable groups and gender equality that allow the dissemination of best practices

Faced to changes and challenges, rural areas have shown their ability to be resilient and to provide solutions. There are many "smart rural areas" across the Mediterranean and they tend to spread. In these areas, good governance, public policy support to local initiatives, societal responsibility, multi-stakeholder dialogue in decision-making and implementation efforts, inclusive investments and synergies between research, development needs and value creators are combines. An agricultural revolution is needed in production methods and practices implemented to provide consumers with products of sufficient quantity and good quality but also to provide more sustainable options in view of increasing environmental constraints and social challenges.

What we do?

We promote the vitality and modernization of the primary sector, first of all through our M.sc. in Business economics and management and in Agro food marketing. Then, we work on strengthening the synergies between research and enterprises, for fostering innovation. For e.g., through the program APP4INNO we establish and promote new approaches and tools for boosting competitiveness of agricultural SMEs, focusing on innovation, R&D and internationalization services. Furthermore, in programs like INTRA, (Bari) we work for strengthening services for the transfer of technical-scientific innovations, in order to foster the development of traditional agro-food products. At the same time, we operate on the policy side, by developing tools of policy and business advice for professionals and organizations of the agricultural sector, based on food value chain analysis (in programs like FLONUDEP).

Agriculturally speaking, it is impossible not to observe the variety of Mediterranean farming methods and products, their nutritional qualities and their attractiveness. At the same time, Mediterranean agriculture has great difficulty in valorising economically its potential and its advantages (lack of competitiveness, insufficient adaptation to new economic demands, lack of resource management, insufficient recognition of Mediterranean products, loss of jobs in the sector, etc.). Moreover, it is becoming more and more obvious that the Mediterranean Regions must play a central role in defining and implementing support policies for this sector. Based on the identity of Mediterranean agriculture, these policies must contribute to the creation of jobs and revenue within the sector while at the same time ensuring sustainability and integration in other territorial dynamics. For instance, in NOVAGRIMED project, we supported different Mediterranean Regions to define and implement innovative, coordinated and collective support policies ensuring that the Mediterranean agricultural sector adheres to the goal of sustainable development. It calls on the different actors in the agricultural sector and combines the development of innovative physical actions with more strategic considerations which could contribute to the thought-process undertaken in the context of the CAP reform.

Finally, we focus on some specific value chains, like the dairy one. Through the program LACTIMED we work for fostering the production and distribution of typical and innovative dairy products in the Mediterranean by organizing local value chains, supporting producers and creating new markets.

Our Objectives during the next 10 years

- Developing CIHEAM Activities (training, research, projects) related to rural innovation and to the digital revolution/economy in Mediterranean agriculture
- Reinforcing agricultural start-ups having a positive social impact and supporting entrepreneurs to improve farm productivity, increase agricultural sustainability and modernize agri-business supply chains
- Initiate a corporate sustainability initiative around the CIHEAM Agenda 2025. Private Foundations and Companies will be encouraged to integrate socially responsible and environmental strategies and operations within the Mediterranean countries/farmers/fishermen.
- Supporting innovation and entrepreneurship in the agro-food sector by fostering networking among research/academic institutes and businesses; facilitating processes of knowledge transfer and adaptation of innovation

- Generating smart and sustainable partnerships; strengthening dialogue and cooperation among different actors
- Establishing a strategic management platform for training; consulting in innovation and business development in agriculture.
- Reinforcing agricultural startups and supporting entrepreneurs to improve farm productivity, increase agricultural sustainability and modernize agri-business supply chains.

Historically, the Mediterranean region is a place of strong mobility of peoples. This melting pot is also one of the strengths of this deeply mixed area. Migration can be internal with a rural exodus that continues to dominate while socio-economic perspectives in cities seem to be less favourable than before. Migration can also be international where people move to seek better living conditions abroad. There are also displaced people that are forced to migrate particularly due to security problems. The recent amplification of distress mobility in the Mediterranean region leads to many humanitarian and political issues, positioning debates on the management of emergency and short-term management of these complex dynamics. In parallel, the root causes of migration should be addressed in order to highlight possible solutions from the perspective of agricultural and rural development and food security in the Mediterranean.

What we do

One of our core values lays in the promotion of mobility in the Mediterranean region. The latter has been for centuries the hub of intense culture, knowledge and commercial exchanges which were fundamental in the socio-economic development of each single country. We believe that the positive potential of knowledge and people mobility is still present today and that, if well managed, mobility can bring benefits to all Mediterranean Countries. To promote this value, CIHEAM spends 60% of its regular budget on students' mobility scholarships, aimed at boosting scientific diplomacy, and sharing knowledge. Furthermore, CIHEAM promotes mobility of young Mediterranean researchers, through the facilitation of an international doctoral platform. Then, we promote mobility of workers among Mediterranean countries, in the field of agricultural production. Through the project AFORIL (pre departure training for immigrants in agriculture), for example, we train future migrants with agricultural skills which they will find useful once arrived in European countries.

Finally, we intervene in the Mediterranean refugee crisis by supporting the rural communities in Syria and Iraq. Through technical cooperation programs, we work at the improvement of the production techniques and the livelihoods of local farmers in these conflict affected countries, promoting a sense of continuity through war and chaos. Through the years we have also carried out post conflict reconstruction activities, supporting the Ministries of Agriculture of Lebanon and of the Ex-Yugoslavian Countries in returning to everyday life after the end of the hostilities.

Considering the strategic centrality of the issue in the current Euro-Mediterranean context, it is also important to mention that the 11th CIHEAM Ministerial meeting in Tirana will be focused on the roots of migrations and the food dimension of population mobility.

Our Objectives during the next 10 years

- Pursuing the CIHEAM core mission of educational provider in the region, stressing more on the fact that the activities contribute to the intercultural dialogue between people and youth and by developing in parallel Virtual Learning Environment (distant courses, educational e-tools, knowledge platforms, etc.).
- Preparing a Regional Report dealing with the roots of migrations and the food dimension of population mobility in order to improve information and knowledge on these aspects of the issue.
- Contributing to the initiatives and programs established for the migrants and that have an agricultural/rural/food dimension (aids, networks, logistics, etc.)
- Developing training activities for young people in refugee camps in order to maintain education and lifelong learning in a very sensitive context.
- Building and promoting projects for the support of rural communities in conflict affected areas and extend this support in post-conflict and reconstruction phases.

The struggle against climate change cannot be done without taking consideration of the agricultural component and without ensuring food security. Often accused of being an important emitter of greenhouse gases, the agricultural and forestry sectors offer many solutions for the adaptation and mitigation of climate change. The ability to sequester greenhouse gas soil and biomass can help reduce global warming and the adoption of sustainable irrigation systems can sustainably refresh the region and fight against desertification. The development of agroforestry is also an opportunity to reduce emissions from deforestation and combine different crops.

What we do?

CIHEAM fully participates to the challenge of mitigating and adapting to climate change, focusing in particular on: adaptation of cropping systems to a changing climate, use of non-conventional water resources, and carbon sequestration in Mediterranean soils, as defined in the Ministerial Conference in Istanbul in March 2010.

On the field, we develop studies and analysis aimed at modeling the impact of climate change on crop productivity, crop water needs and hydrological cycle. Also, we assess the impacts on biodiversity and soils (SEMCLIMED) and on possible wild fire phenomena in the forests (MedWildFireLab). Then, we train and advice local communities for a more sustainable and participatory management of natural resources- e.g. water, in programs such as ACLIMAS (Adaptation to Climate Change of the Mediterranean Agricultural Systems) - and for the adoption of new species and cropping methods. We also develop agriculture and food systems models based on the "bio-economical" modeling approach.

Finally, we intervene on a broader political dimension. First of all, we carry out political dialogue, institutional exchange and capacity building activities, for the elaboration of positive policies and practices of climate change adaptation and mitigation, in initiatives like ClimaSouth. Secondly, we actively participate in international for a, as the COP21, where we supported and promoted 4/1000 Initiative, aimed at boosting agriculture sector's engagement in soil preservation.

Our Objectives during the next 10 years

- Organizing every two years (from 2016) the CIHEAM Mediterranean Forum of Young Researchers and PhD students in which climate change issues and solutions will be regularly discussed
- Develop updated climatic maps and trends for the Mediterranean region.
- Enable local actors to use remote sensing technology and satellite imagery for estimating land cover and crop water requirements and to use new technologies in assessing crop water stress.
- Promote the use of earth observation technologies for monitoring the effects of climate change on the rural and natural environment.
- Carry out a set of studies aimed at assessing soil carbon stocks in the Mediterranean and the potential of Mediterranean soils in mitigating climate change effects, as a contribution to the Initiative 4/1000 launched during COP21 in Paris.
- Engage stakeholders in developing and proposing agronomic and engineering solutions to increase farmers' resilience to climate change impacts – e.g. agro-forestry practices or drought management.
- Improving knowledge and research on the links between climate change, environmental risks and migrations.

Harmful organisms in animals and plants may seriously compromise food security and safety with severe economic and environmental consequences for specific species crops and territories, thus inducing a social destabilization. Globalization (trade intensification associated with the movement of travellers) increases the risk of introducing harmful organisms in new areas; moreover, these organisms may become invasive also due to climate change effects, thus inducing serious health crisis. Moreover, organisms which are already present in the area may become harmful due to climate change. This health crisis may be also risen by conflicts, poor storage and transport infrastructures, weak quarantine measures or lack of veterinary care; moreover, a critical role is played by a poor communication to stakeholders and civil society. High Technology is now available and handled by most of stakeholders (young generation as first) and may greatly support actions in the control of pests and diseases. The strengthening of quarantine measures, the adoption of advanced tools in the whole production chain for plants (i.e. IPM) and animals, the increase and sharing of knowledge and the networking can greatly contribute in limiting the occurrence of health crises.

What we do

CIHEAM equips Mediterranean young professionals to face plants and animal health crises, through the MSc programs in *Sustainable Integrated Pest Management Technologies for Mediterranean fruit and vegetable crops (IPM)* and in *Animal Nutrition*. The IPM requires holistic approach to optimize the management of multiple pests in pre and postharvest by the most cost-effective and eco-friendly means, thus reducing the risks to human health and the environment. Particular emphasis is given to the adoption of preventive control measures and to the High-Tech support for early pest surveillance, detection and management. An example of a CIHEAM prompt intervention in health crisis, through its consistent bulk of knowledge and expertise, is the case of the epidemics of the bacterium *Xylella fastidiosa* in Southern Italy, which is severely affecting olive trees. An innovative model for pathogen surveillance and detection on large scale is already applied under the Italian Ministry of Agriculture mandate, using several methods as remote sensing, information technologies, GIS and biotechnology (innovative molecular diagnostic tools). Moreover, CIHEAM is an accredited laboratory for plant pest analyses and provides technical support and training to the Plant Protection Service for monitoring several quarantine pests affecting main crops (Sharka of stone fruits, Citrus tristeza etc.). A precise approach is applied for forecasting disease development in commercial fields in order to localize and reduce treatments and costs, increase effectiveness of interventions and food healthiness. To this aim, several research products are developed (software, diagnostics, technical protocols, etc.).

Moreover, a great contribution is provided by CIHEAM in the assessment of the sanitary status of fruit tree crops in most Mediterranean countries, identification, characterization and epidemiology of numerous harmful organisms, development of diagnostic tools, production of healthy propagating material of Mediterranean genotypes (clonal and sanitary selection, certification) for preventing native germplasm erosion.

The multidisciplinary and technological approach of CIHEAM is in accordance with IPM guidelines jointly developed with other EU networks and institutions. The CIHEAM and FAO-IPPC are carrying out several joint initiatives (diplomating courses on ISPMs, workshops and projects) for developing awareness, capacity and communication on plant quarantine pests.

Finally, we participate to a joint FAO-CIHEAM initiative called "Sheep and Goats", aimed at the exchange of Mediterranean experiences about breeding techniques and animal health.

Our Objectives during the next 10 years

- To continue to support the training of MSc students in "cutting edge" technologies for early and reliable identification of emerging pathogens.
- To conduct fundamental scientific research towards the generation of suitable tools and methodologies for the production of sustainable plant resistance.

- To organize and participate in European/Mediterranean Animal & Plant Health initiatives in order to promote optimal adaptation of best practices.
- To participate in National surveys for the identification of new pathogens and promotional actions to raise farmer awareness.
- To act as an intermediate actor facilitating networking and collaboration between competent stakeholders in plant/animal health sector.
- Strengthening the precise approach in IPM by deepening research in biotechnology (Deep sequencing, somatic embryogenesis, bioinformatics etc.), geomatic (remote sensing, GIS etc.), information technology (Softwares, Apps, etc.), modelling (Algorithms) and forecasting.
- Design and development of a Mediterranean pest surveillance system based on the CIHEAM model for the safeguard of main crops
- Implementation of diploming courses with FAO-IPPC for developing phytosanitary capacity
- Design and development of a dedicated training programme for developing multidisciplinary professionals in precise crop protection
- Establishment of a Mediterranean IPM network for sharing knowledge, harmonize technical and legislative measures and transfer of innovations in the Mediterranean region
- Strengthening quarantine systems and innovative technologies and guidelines in IPM through cooperation initiatives.

The majority of Mediterranean countries depend on international markets to meet a significant part of their food needs. This trade is key to their food security but also to their own economic dynamics since the export of agricultural products still represents a significant part of the goods that these Mediterranean countries place in foreign markets. The increased unpredictability of budgetary dimensions of this agricultural trade echoes the growing trade partners with globalised and multi-stream fluxes. Price volatility is increasing and weighs on producers or consumers, especially the most vulnerable ones, not to mention the state of public finances. The resilience of countries, societies and farmers / fishermen proves to be essential in such an uncertain environment.

What we do

Young professionals of the Mediterranean Countries are trained to analyze agricultural markets and anticipate possible crisis through our Msc in *Economics of agricultural development, of environment and of food* and through our specialized courses. The Msc *Food value chains and agri-logistics* is also linked to the agricultural markets challenges.

At the same time, we are developing confidence among the Mediterranean Countries and we are enhancing mutual understanding, through the organization of training activities, meetings and seminars, experience and best-practices sharing sessions, as well as through research studies and publications. We conduct prospective analysis of the Mediterranean region in order to highlight possible scenarios for agricultural trade and geostrategic situation.

We carry out data gathering and monitoring in order to better understand specific markets and trade policies for Mediterranean agriculture, for e.g. cereals, fruits & vegetables and olive oil. We are improving information on production, utilization, stocks, prices, trade within the region but also in terms of Mediterranean position in the frame of the globalization, and vis a vis international norms and standards.

Finally, we join international efforts in controlling and minimizing shocks in food prices and food markets, through the establishment of the Mediterranean Agricultural Markets Information Network (MED-Amin) established in 2014 and devoted to grain markets for the moment.

Our Objectives during the next 10 years

- Supporting the development of capacity building for countries to produce and collect better quality data through the organization of training sessions, expert's interventions, methodology sharing, common projects. The establishment of a short-course devoted to the agricultural markets and risks will be considered.
- Laying the foundation for a stronger monitoring of food security in the Mediterranean region, possibly via the establishment of a database, an early warning system, as well as stronger cooperation between countries.
- Enhancing the MED-Amin activities on cereals markets.
- Establishing an innovative network dealing with the F&V markets for the Mediterranean countries.
- Editing a regional Report *Mediterra* focused on the olive oil sector (multidimensional approach) in the Mediterranean countries and in the globalization.
- Supporting all stakeholders (farmers, farmers' organisations, agro-food businesses regional authorities, etc.) in certifying/standardizing (e.g. marketing standards, geographical indications, labelling) agricultural products.



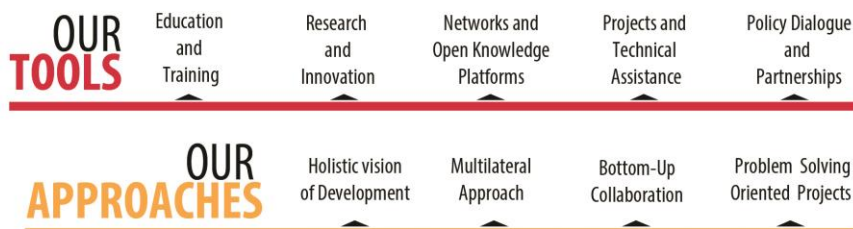
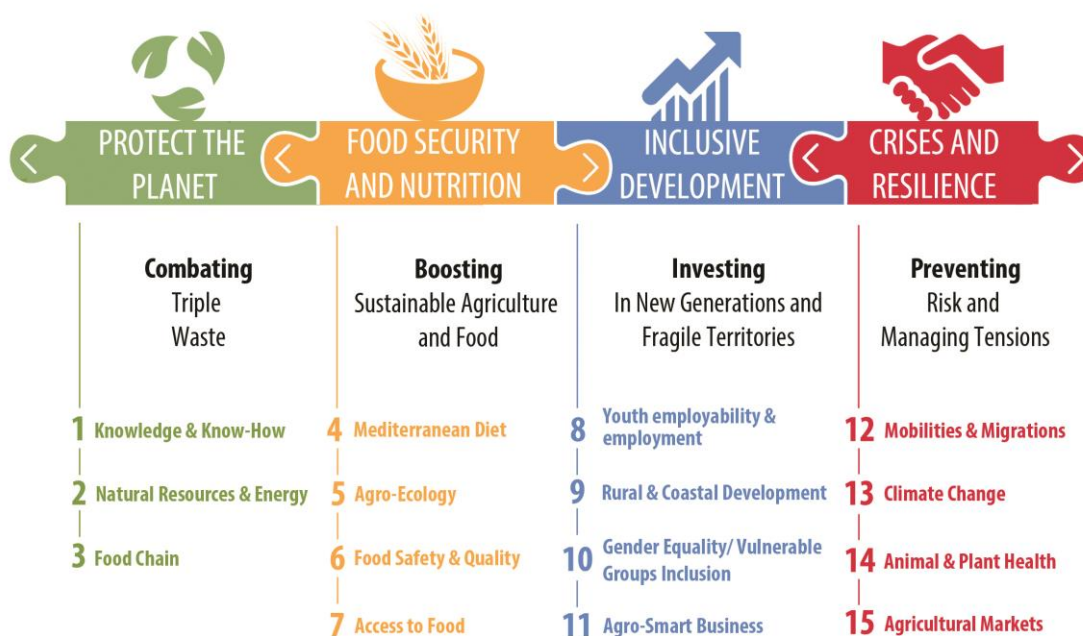
CIHEAM

Sharing Knowledge, Feeding Future



CIHEAM STRATEGIC AGENDA 2025

OUR MISSIONS



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