

WORK PROGRAMME 2010

COOPERATION

THEME 2

FOOD, AGRICULTURE AND FISHERIES, AND BIOTECHNOLOGY

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OBJECTIVE

Building a European Knowledge-Based Bio-Economy¹ by bringing together science, industry and other stakeholders to seize new and emerging research opportunities that address social, environmental and economic challenges: the increasing demand for food production and for safer, healthier, higher-quality food, responding to the specific dietary needs of consumers and food-related disorders; sustainable use and production of renewable bio-resources and threats to the sustainability and security of agriculture, aquaculture and fisheries, taking into account animal welfare and rural and coastal contexts as along with the increasing risk of epizootic and zoonotic diseases; and enhancing the competitiveness of European biobased industries in the current economic context.

I. CONTEXT

Approach for 2010

In 2010, Theme 2 'Food, Agriculture and Fisheries, and Biotechnology' continues to address the complex policy challenges² related to the further development and consolidation of the **European Knowledge Based Bio-Economy (KBBE)**.

The Work Programme for 2010 (WP2010) focuses upon research for improving and optimising primary **agricultural** production systems in areas such as plant sciences (in particular, fruit trees, berries, biodiversity in wild crop relatives, integrated pest management and coordination in molecular plant sciences and plant health), soil and water management, animal health (helminth parasite infections; international cooperation) and welfare (indicators in new species; welfare in the enlarged European Union) and livestock production,- with the emphasis on sustainability, environmental footprint, and socio-economic issues. For **fisheries and aquaculture** production systems, special emphasis is placed on new approaches to fisheries management, animal welfare and mollusc diseases in line with the Common Fisheries Policy (CFP) reform and the Communication on 'A strategy for the sustainable development of European aquaculture'. Integration of fisheries and aquaculture research into the broader context of an EU strategy for marine and maritime research is also promoted by a **joint call "The ocean of tomorrow"**.

In the **food** area, tangible inputs from research support eco-innovation in the food industry, in particular SMEs, and help to prevent diet-related diseases and disorders. Consumer research focuses on healthy diets and food-choice determinants. Further support of research is provided in the nutrition area to understanding the regulation of hunger/satiety and on age-related disorders. Food processing focuses on areas such as packaging, personalised nutrition and foods for specific population groups, while food quality and safety research addresses the fate of contaminants during processing and help keep Europe's alert to emerging risks in the food

¹ The term 'bio-economy' includes all industries and branches of the economy that produce, manage or otherwise harness biological resources (and related services, supply or consumer industries), such as agriculture, food, fisheries and other marine resources, forestry, etc.

² These challenges are extensively described in many current high-profile and diverse Community policies and strategies, in particular, the Renewed Sustainable Development Strategy, Maritime Policy, Strategic Energy Technology Plan, Green Paper on adaptation to climate change, White Paper on 'A strategy for Europe on nutrition, overweight and obesity related health issues', Aquaculture Strategy, Organic Farming Action Plan, Forestry Action Plan, Community Animal Health Policy and Animal Welfare Plan, Water Initiative, European Consensus for Development, EU-Africa Strategic Partnership, Climate Action, ETAP, IPPC Directive, Water Framework Directive, EU Biodiversity Strategy, Lead Market in Bio-based Products, REACH legislation and the, Industrial Emissions Directive.

and feed sector. The total food chain approach is further developed in the light of global developments.

In WP2010, emphasis on **Industrial biotechnologies** in relation to 'greening' of the chemical industry by replacing conventional chemical by biotechnology-based processes and keeping European biocatalysts industry in the lead by discovering and developing new robust enzymes. In 2010, stronger support is also given to **Environmental biotechnology**, in particular development of biotechnological solutions to environmental problems (e.g. soil and water remediation) and to unravelling the potential of microbial diversity by understanding molecular mechanisms in the environment. This approach complements the previous focus on developing eco-efficient production processes. **Marine biotechnology** is a key element in WP2010 for the exploitation of the rich marine and fresh water biodiversity especially in the development of new commodity products.

Under the 2010 work programme, the structuring of ERA is enhanced by specific actions targeting the enlarged Europe and actions to follow up certain promising FP6 Networks of Excellence. Furthermore, two new ERANETs are included (Deepened and enlarged European cooperation in the area of Molecular Plant Sciences; Deepened and enlarged cooperation between phytosanitary (statutory plant health) research programmes). In addition, coordination and support action has been included in WP2010 to strengthen networking between ERA-NETs relevant to the KBBE.

- **SME-relevant research:** In 2010, the work programme continues to encourage the involvement of industrial participants, in particular SMEs. The participants include end-users of new technologies (such as breeding companies, SMEs or agricultural cooperatives involved in production, packaging or control of food or feed, etc.), technology providers (mainly engineering companies) and technology-based biotechnology companies. SMEs are expected to be involved in all relevant research into practical industrial application of new technologies or research results and in development of industrially relevant technologies.

A number of topics in WP2010 are specifically designed to encourage participation by SMEs and industry in research and innovation. To make sure that the research efforts have an impact, the active participation of industrial partners offers an added value, which will be reflected in the evaluation. The table below provides an overview of SME targeted topics.

<i>Topic number</i>	<i>Full Title</i>
KBBE.2010.1.2-01	Integrating mitigation and adaptation options for sustainable livestock production under climate change – SICA
KBBE.2010.1.3-01	Development of vaccines and improvement of detection systems to control helminth parasite infections of livestock and reservoirs – SICA
KBBE.2010.1.4-01	Sharing best practice and enhancing European collaboration on research, knowledge transfer and innovation in farm animal sciences
KBBE.2010.2.2-02	Diet and prevention of functional decline of the elderly
KBBE.2010.2.3-01	Development of biodegradable food packaging
KBBE.2010.2.3-02	Strategies for personalised nutrition
KBBE.2010.2.3-03	Health-value-added food products for population groups at risk of poverty

KBBE.2010.2.4-02	Identification of the effect of processing on food contaminants
KBBE.2010.2.5-01	Transparency of food pricing
KBBE.2010.2.5-02	Eco-challenges in the food chain of the Latin American region – SICA
KBBE.2010.3.2-01	Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products
KBBE.2010.3.2-03	Modification of marine or freshwater algae to better suit industrial applications
KBBE.2010.3.2-04	Innovative aquatic biosensors
KBBE.2010.3.3-01	Robust and novel biocatalysts for industrial applications
KBBE.2010.3.3-02	Biotechnology for 'greening' the chemical industry - Industrial bioprocesses for fine and speciality chemicals and intermediates
KBBE.2010.3.5-01	Biotechnology for the environment - Soil and water treatment and bioremediation
KBBE.2010.3.5-04	Microbial diversity and metagenomic mining for biotechnological innovation

- **International cooperation:** International cooperation with participants from third countries is supported and encouraged throughout all the areas in WP2010, and all the topics are open to cooperation with third countries.

SICAs: In addition, a series of '*Specific International Cooperation Actions*' (*SICA*) are dedicated to international cooperation with *International Cooperation Partner Countries (ICPC)* — see Annex 1 — to address jointly, on the basis of mutual benefit, issues of shared interest, problems facing third countries and challenges of a global nature, including meeting the Millennium Development Goals.

Call for Africa: Africa is targeted as a priority in 2010 with a **call for Africa** in a cross-thematic collaboration with Themes Environment (including climate change) and Health.

Global initiatives: Two topics on global challenges (animal health and plant abiotic stress tolerance) - which need to be tackled by global international efforts - are included in WP2010 involving research programme managers from various regions of the world.

Twinning of projects under Theme 2 and related programmes in third countries: With a view to promoting international cooperation with third countries that have signed bilateral S&T agreements with the European Community, initiatives for collaboration between projects under Theme 2 of FP7 and related research programmes in these third countries are encouraged on the basis of mutual benefit and reciprocity. The Commission reserves the right to ask the coordinators of FP7 projects, during the grant agreement negotiations, to include collaboration activities with projects financed by these third countries. The costs of these activities are expected to be approximately 1% of the total European Community contribution to these projects. Parallel funding is expected from the related research programmes in the third countries for counterpart projects. Twinning is currently on going with Canada on bio-products and food and with Argentina and Mercosur on plants, soil and food research. Further twinning initiatives are being discussed with Australia and New Zealand.

To help international partners identify relevant topics, Specific International Co-operation Actions (SICA) and other topics with mandatory International Cooperation Partner Countries (ICPC) covered by WP2010 are listed at the end of this introduction.

In addition to the SICA topics, several topics have been specifically highlighted as research areas particularly suited for international cooperation. For these topics, the active participation of a relevant third country partner or partners should add to the scientific and/or technological excellence of the project and/or lead to an increased impact of the research to be undertaken. These aspects are considered specifically during the evaluation of all topics concerned by international cooperation.

In the case of a participating international organisation, other than an international European interest organisation, or a legal entity established in a third country other than an international cooperation partner country such as United States, Canada, Australia, New Zealand etc, a Community financial contribution may be granted provided that it is essential for carrying out the indirect action.³

- **Cross-thematic approaches:**

Call "Ocean of tomorrow" - Joining research forces to meet challenges in ocean management: a special attention is paid to encourage pluri-disciplinarity in marine sciences and technologies which cuts across themes as mentioned in the Specific programme "Cooperation"⁴ and in the Communication⁵ on "A European strategy for Marine and Maritime Research". Such cross-thematic approach is addressed through a call on "the ocean of tomorrow: Joining research forces to meet challenges in ocean management" involving various Cooperation Themes (Theme 2 – Food, Agriculture and Fisheries, and Biotechnologies, Theme 5 - Energy, Theme 6 – Environment (including climate change), Theme 7 - Transport and Theme 8 – Socio-economic sciences and Humanities). The call is implemented through three different topics: topic 1 "Quantification of climate change impacts on economic sectors in the Arctic"; topic 2 "Vectors of changes in marine life, impact on economic sectors" and topic 3 "Sub-seabed carbon storage and the marine environment".

Call for Africa: A call for Africa is targeted as a priority in 2010 and it is implemented through cross-thematic collaboration involving Theme 1, Theme 2 and Theme 6⁶.

The aim of this call is to address some of the Science & Technology objectives of the 'Africa - EU Strategic Partnership' putting emphasis on 'Water and Food Security' and 'Better Health for Africa'.

This call has a multi-disciplinary approach involving various scientific and technological research fields, such as food, agriculture, health, land and water resources, including their interaction with climate change, which have to be considered within an integrated scheme, and, where appropriate at river basin scale, building on existing knowledge and considering demographic changes, globalisation processes and sustainability. Due consideration should also be given to the various geographical, sectoral and cultural differences which exist within Africa. The integrated approach should also take into account broader socio-economic factors

³ For more information please see the Rules for Participation under FP7, article 29

⁴ OJ L 400/102 30.12.2006 Council Decision of 19 December 2006 concerning the Specific Programme "Cooperation" implementing the Seventh Framework Programme of the European Community for research, technological development and demonstration activities (2007 to 2013)

⁵ Com (2008) 534 final, 3.9.2008 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Marine and Maritime Research : A coherent European Research Area framework in support of a sustainable use of oceans and seas

⁶ See the call fiche on page 78.

including: migration and resettlements, urbanisation, health care systems and programme interventions, destabilisation of national food reserves, variations of food and oil prices, etc.

The call intends principally to strengthen local capacities in the relevant science and technology fields and their applications, also through appropriate training activities and exchange of staff. The final outputs should provide amongst others, innovative management and governance tools and adaptive technologies suitable for the relevant authorities and stakeholders for providing contributions to reduce poverty, increase food security, academic training and health research networks, manage water more efficiently and protect natural ecosystems in Africa.

The participation of local stakeholders, and/or regional actors, and the necessary networking, is considered of paramount importance to achieve the expected impact.

Relevant projects selected from each topic should establish synergies between them to enhance complementarities in the implementation phase. Therefore, a dedicated budget for clustering and coordination activities between the relevant selected projects should be foreseen in the overall budget planning of each proposal. The details of these topic-to-topic coordination activities will be defined during the negotiation phase with the Commission. A further coordination action promoted by the International Cooperation activities under the "Capacities" specific programme will also help establishing further synergies with other national, regional or international programmes.

This call is implemented jointly by Theme 1: 'Health', Theme 2: 'Food, Agriculture and fisheries, and Biotechnology' and Theme 6: 'Environment (including climate change)'. The various topics called are indicated in the corresponding work programmes.

The following Theme 2 topics are included in this call:

KBBE.2010.1.2-03	Sustainable water resources management (WRM) and Soil fertility conservation for food production in Africa – SICA (Africa)
KBBE.2010.2.2-03	Identifying research needs on malnutrition in Africa – Mandatory Africa
KBBE.2010.3.5-02	Coping with water scarcity in developing countries: Role of biotechnology in water treatment – Mandatory ICPC (Africa)
KBBE.2010.4-02	Networking of non-governmental organisations involved in agricultural research for development

Call for Influenza: A call for Influenza is implemented through cross-thematic collaboration involving Themes Health and Food, Agriculture and Fisheries, and Biotechnology.

The recent outbreak of a novel human-to-human transmissible A (H1N1) virus, containing human, swine and avian sequences, has raised a number of research questions. Some are directly related to this outbreak and viral strain and are currently being addressed by a number of research groups worldwide. FP7 as well as previous Framework Programmes have supported a large number of research projects on influenza and have led to important results. This coordinated call is meant to complement this portfolio and to address important research priorities that will help Europe and the world to be better prepared for future epidemics. Swine influenza is a highly contagious viral infection of swine caused by influenza A viruses. Swine influenza viruses are some of the most prevalent respiratory viruses of pigs and a cause of acute respiratory disease outbreaks. Pigs are an important host in influenza virus ecology since they are also susceptible to infection with both human and avian influenza A viruses. It is generally accepted that pigs can play a role in the transmission of avian influenza viruses to

humans. Unlike for humans and poultry, the surveillance and general knowledge of influenza viruses in swine populations are more limited. A network of laboratories working on swine influenza has been supported in FP5 and FP6 for the surveillance in pigs in Europe and research in swine influenza viruses is partially/marginally addressed within the wider context of influenza. The emergence of a new H1N1 virus on the American continent in humans, which shares common features with swine influenza viruses, calls for the mobilisation of further research efforts in the pig, complementing current on-going activities in influenza in humans and birds. In humans, vaccination is the cornerstone of prevention, but treatment with antiviral drugs remains an essential element for the treatment of infected individuals as well as for the containment or mitigation of outbreaks. Recently developed neuraminidase inhibitors represent an efficient drug for most viral strains, but the emergence of resistance to these drugs has been observed in other H1N1 strains as well as in some H5N1 strains. Therefore additional treatment strategies for influenza are urgently needed.

The following Theme 2 topics are included in this call:

KBBE.2010.1.3-05	Swine influenza surveillance network
KBBE.2010.1.3-06	Pathogenesis and transmission of influenza in pigs

An additional topic is presented in Section 2.3.3 of the Health Theme.

- **Socio-economic research:** Ethical, social, economic and wider cultural aspects are expected to be fully integrated within projects by encouraging the participation of experts in ethics, law, economics and the social sciences as well as relevant stakeholders, including civil society organisations. Further specific actions are launched, e.g on 'Sharing best practice and enhancing European collaboration on research, knowledge transfer and innovation in farm animal sciences', 'Health-value-added food products for population groups at risk of poverty'.
- **Participation by women and gender aspects in research:** Seeking scientific knowledge and using it to serve society requires talent, perspectives and insight that can only be secured by increasing diversity in science and the technological workforce. Therefore, equal representation of women and men at all levels in research projects is encouraged.

Gender aspects in research are of particular relevance to Theme 2 as risk factors, biological mechanisms, behaviour, causes, consequences, management of and communication on diet-related diseases and disorders may differ between men and women. Furthermore, roles and responsibilities, the relationship to the resource base (land management, agricultural and forest resources, etc.) and the perception of risks and benefits could have a gender dimension. Applicants should systematically address whether, and in what sense, sex and gender are relevant to the objectives and the methodology of projects.

Table below provides an overview of topics that particularly emphasise the gender dimension.

KBBE.2010.1.4-04	Knowledge systems for farming in the context of sustainable rural development
KBBE.2010.2.1-01	Determinants of food choice and eating habits
KBBE.2010.2.2-01	Neurological pathways regulating hunger/satiety and gut behaviour

KBBE.2010.2.2-02	Diet and prevention of functional decline of the elderly
KBBE.2010.2.3-02	Strategies for personalised nutrition

- **Promoting effective communication and dissemination:** In 2010, a number of topics specifically address knowledge transfer, dissemination and communication activities to engage the public in participation and dialogue, such as a topic on media training for food and nutrition scientists. The work programme encourages participation by civil society organisations in all topics. Furthermore, innovation-related aspects should be clearly addressed within each project and well-defined dissemination and implementation plans should be presented. These plans should include, whenever appropriate, communicating the research results to the authorities managing the Cohesion Policy Funds⁷, the European Fisheries Fund⁸ and the European Agricultural Fund for Rural Development⁹.
- **Use of animals in research:** Research activities should take into account the Protocol on the Protection and Welfare of Animals and reduce, with the view to ultimately replacing, use of animals in research and testing (Decision 1982/2006/EC). The 3Rs (Replacement, Reduction and Refinement) principle should be applied in all research funded by the European Commission.
- **Theme-specific information:** Activities 2.1, 2.2, 2.3 and 2.4 are open in Work Programme 2010. However, certain areas within these activities are closed and no topics are published in 2010.

All proposals will be evaluated under a single stage procedure.

ERA-NET topics¹⁰ are included in a common ERA-NET call.

It is important to note that funding limits indicated for each topic in the work programme and in the call fiche are eligibility criteria and proposals not meeting these thresholds will be considered ineligible.

Only one ranked proposal will be retained per topic, except for the following topics:

Topic number	Topic title	Maximum number of proposals
KBBE.2010.3.2-01	Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products	Up to 3 projects may be funded
KBBE.2010.3.2-04	Innovative aquatic biosensors	Up to 2 projects may be funded
KBBE.2010.3.3-01	Robust and novel biocatalysts for	Up to 3 projects may be

⁷ http://ec.europa.eu/regional_policy/atlas2007/fiche_index_en.htm

⁸ http://ec.europa.eu/fisheries/cfp/structural_measures/arrangements_2007_2013_en.htm

⁹ http://ec.europa.eu/agriculture/rurdev/index_en.htm

¹⁰ KBBE.2010.1.1-02: Deepened and enlarged European cooperation in the area of Molecular Plant Sciences - ERA-NET; KBBE.2010.1.2-06: Deepened and enlarged cooperation between phytosanitary (statutory plant health) research programmes - ERA-NET. For further information on the ERA-NET call please see Annex 4 of the Cooperation Work Programme

	industrial applications	funded
KBBE.2010.3.5-01	Biotechnology for the environment – Soil and water treatment and bioremediation	Up to 3 projects may be funded
KBBE.2010.4-01	Strengthening the implementation of durable integration in FP6 Networks of Excellence	More than one project may be funded

There may be competition between proposals submitted on different topics and proposals submitted on the same topic. This may result in some topics not being supported.

List of Specific International Cooperation Actions and other topics relevant to international cooperation

1) Specific International Co-operation Actions (SICA) and other funding schemes with **mandatory minimum** International Cooperation Partner Countries (ICPC) participation, in addition to the general eligibility criteria for the participation of Member States and Associated States set out in Annex 2:

<i>Topic number</i>	<i>Full Title</i>	<i>Funding Scheme¹¹</i>	<i>Third Countries/Region (Mandatory)</i>
KBBE.2010.1.2-01	Integrating mitigation and adaptation options for sustainable livestock production under climate change	CP-IP-SICA	At least 3 from different ICPC among which 1 from Latin America, 1 from African Mediterranean Partner Countries (Algeria, Egypt, Libya, Morocco, Tunisia) and 1 from African ACP
KBBE.2010.1.2-03 (FP7-AFRICA-2010)	Sustainable water resources management and soil fertility conservation for food production in Africa	CP-IP-SICA	At least 2 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt)
KBBE.2010.1.3-01	Development of vaccines and improvement of detection systems to control helminth parasite infections of livestock and reservoirs	CP-IP-SICA	At least 2 from different ICPC from Latin America and/or Asia and/or African Mediterranean Partner Countries (Algeria, Morocco, Tunisia, Libya, Egypt) and/or African ACP countries
KBBE.2010.1.3-02	Promoting coordination and cooperation at international level of research programmes in the area of animal health, in particular infectious diseases including zoonoses	CSA-CA	At least 2 from different ICPC from Latin America and Asia
KBBE.2010.1.4-05	EU-China Partnership initiative in plant breeding	CSA-CA	China

¹¹ CP-FP- SICA: Collaborative Project (small or medium-scale focused research project) for Specific Cooperation Actions Dedicated to International Cooperation;
 CP-IP-SICA: Collaborative Project (large scale integrating project) for Specific Cooperation Actions Dedicated to International Cooperation;
 CSA-CA: Coordination and Support action (coordinating action);
 CSA-SA: Coordination and Support action (supporting action).

KBBE.2010.1.4-06	EU-Russia Partnership initiative in Microbes – Plants Biodiversities	CSA-CA	Russia
KBBE.2010.1.4-08	Improving research in support to scientific advice to fisheries management in the Mediterranean and Black Seas	CSA-CA	At least 3 from different ICPC, among which at least 1 from the Mediterranean Partner Countries and at least 1 from any of the following Black Sea countries: Georgia, Ukraine and Russia
KBBE.2010.2.2-03 (FP7-AFRICA-2010)	Identifying research needs on malnutrition in Africa	CSA-SA	At least 3 from different ICPC from African ACP countries and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt)
KBBE.2010.2.5-02	Eco-challenges in the food chain of the Latin American region	CP-FP-SICA	At least 3 from different ICPC from Latin America
KBBE.2010.3.1-01	Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants	CSA-CA	At least 3 from different ICPC from Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries
KBBE.2010.3.5-02 (FP7-AFRICA-2010)	Coping with water scarcity in developing countries: role of biotechnology in water treatment	CSA-CA	At least 3 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Egypt, Libya, Morocco, Tunisia)
KBBE.2010.3.5-03	Approaches towards bioremediation of the Mediterranean Sea by exploring its microbial diversity	CP-FP-SICA	At least 3 from different ICPC from the Mediterranean Partner Countries
KBBE.2010.4-02 (FP7-AFRICA-2010)	Networking of non-governmental organisations involved in agricultural research for development	CSA-CA	At least 3 from different ICPC from African ACP countries and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt)
KBBE.2010.4-03	Towards a Latin America and Caribbean Knowledge Based Bio-Economy in partnership with Europe	CSA-SA	At least 4 from different ICPC from Latin America and Caribbean ACPs

KBBE.2010.4-04	Network of Third Countries Bio-NCPs	CSA-CA	1 from each of the different ICPC having signed bilateral S&T cooperation agreements with the EU (Argentina, Brazil, Chile, China, Egypt, India, Mexico, Morocco, Russia, Ukraine, Tunisia, South Africa)
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2) Other topics particularly well suited for international cooperation:

<i>Topic number</i>	<i>Full Title</i>	<i>Funding Scheme</i> ¹²	<i>Third Countries</i>
KBBE.2010.1.4-09	Analysis of the potential of the pine wood nematode (<i>Bursaphelenchus xylophilus</i>) to spread, survive and cause pine wilt in European coniferous forests in support of EU plant health policy	CP-FP	North-America and Asia
KBBE.2010.2.3-02	Strategies for personalised nutrition	CP-IP	Australia, Canada, New Zealand, United States
KBBE.2010.3.2-01	Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products	CP-FP	ICPC
KBBE.2010.3.5-04	Microbial diversity and metagenomic mining for biotechnological innovation	CP-IP	United States
OCEAN.2010-3 (FP7-OCEAN-2010)	Sub-seabed carbon storage and the marine environment	CP-IP	Australia, Japan, United States
KBBE.2010.4-04	Network of Third Countries bio NCPs	CSA-CA	Australia, Canada, New Zealand, United States, Korea

¹² CP-FP: Collaborative Project (small or medium-scale focused research project);
 CP-IP: Collaborative Project (large scale integrating project);
 CSA-CA: Coordination and Support action (coordinating action);
 CSA-SA: Coordination and Support action (supporting action).

II. CONTENT OF CALLS

Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environment

Area 2.1.1 Enabling research

Enabling research on the key long term drivers of sustainable production and management of biological resources (micro-organisms, plants and animals) including the exploitation of biodiversity and of novel bioactive molecules within these biological systems. Research will include 'omics' technologies, such as genomics, proteomics, metabolomics, and converging technologies, and their integration within systems biology approaches, as well as the development of basic tools and technologies, including bioinformatics and relevant databases, and methodologies for identifying varieties within species groups.

KBBE.2010.1.1-01: Genetic and genomic tools to increase the breeding efficiency in fruit trees

Call: FP7-KBBE-2010-4

Most of the fruit crops grown commercially and in home gardens in Europe (across different climatic conditions, i.e. temperate – Mediterranean type) belong to the Rosaceae family. They contribute to the development of a key economic sector as fresh and processed fruit, to rural landscapes and to a balanced diet.

Continuous breeding efforts are required to support the fruit tree sector in producing healthy products that meet consumer demands, require less agricultural inputs (such as fertilisers and pesticides) and allow to cope with increasingly unpredictable climatic conditions and their effects (biotic, abiotic stress).

Conventional breeding is characterised by a significant generation time for new varieties due to biological characteristics of fruit trees such as a long juvenile period, tree size and significant genotype x environment interactions. Also, despite the fact that Rosaceae have their primary or secondary centre of origin in Europe, breeding programmes have not sufficiently made use of the diversity of genetic resources. This has led to a narrow genetic basis of most cultivated fruit tree crops.

The project aims at increasing the efficiency of current breeding programmes for a selected number of European fruit tree crops of the Rosaceae family by a) improving the level of characterisation and use of European genetic resources, b) generating genomic resources and validated breeding methods (including Marker Assisted Breeding) as well as c) releasing new pre-breeding material.

Consortia shall demonstrate their capacity to establish continuous and effective collaborations with the breeding sector and with European genetic resources collections, clearly showing a route towards application of results.

Funding Scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 6 000 000.

Expected Impact: The project is expected to improve our understanding of the genetic basis of important traits and to provide the fruit tree breeding sector with improved access to genetic resources and directly applicable breeding tools. By doing so the project will allow breeders to adopt more targeted selection strategies, to accelerate the creation of new varieties with improved characteristics (e.g. durable disease and pest resistances, higher fruit quality and nutrient values, adjusted phenology) and to enlarge the genetic basis of the cultivated fruit tree crops. Overall, the project will contribute to the development and dissemination of innovative breeding methods and resources in the fruit tree sector, offer training possibilities for a new generation of fruit tree breeders and finally to the creation of fruit cultivars that are locally adapted and better suited to meet new challenges.

KBBE.2010.1.1-02: Deepened and enlarged European cooperation in the area of Molecular Plant Sciences - ERA-NET¹³

Call: FP7-ERANET-2010-RTD

Cooperation between European research funding bodies in the area of plant genomics started in FP6 under the ERA-NET umbrella (ERA-NET Plant Genomics) and provided a successful forum for exchange of information between Member States and most importantly for setting-up joint, transnational calls.

The proposed network of National Funding Bodies in the area of Molecular Plant Sciences will build upon the previous ERA-NET Plant Genomics and capitalise on its achievements such as the establishment of principles and mechanisms for the evaluation of joint calls and for the management of transnational projects.

The overall aim of the network is to further increase the level of coordination between European research funding bodies in the area of plant genomics and related molecular plant sciences, seeking complementarities between national activities and pooling resources to undertake joint funding of transnational projects. Research collaborations shall serve to tackle scientific questions, to better integrate and rationalise genetic, genomic and bioinformatic resources as well as to improve the use of existing infrastructures in Europe. The network shall seek to expand the previous ERA-NET Plant Genomics membership to include funding bodies from New Member States, thus increasing participation of research institutions from New Member States in transnational activities. Depending on the financial and administrative arrangements between the network members, cooperation with research teams outside Europe shall be encouraged where deemed relevant for the tasks.

In setting priorities for the network's activities it is important that complementarity with other FP7 initiatives is sought and that interactions are established with related ERA-NETs and ETPs.

Funding scheme: Coordination and Support Action (supporting action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: ERA-NET

Expected impact: It is expected that further coordination efforts in the area of molecular plant sciences will consolidate the initiated process of identifying major research needs, extending the partnership, pooling resources for funding and implementing research activities

¹³ This topic is subject to a coordinated call for ERA-NETs across the Themes. Complete and detailed information on funding scheme, special eligibility criteria and expected impact of ERA-NETS can be found in Annex 4 of Cooperation Programme.

in a synergistic manner. Ultimately, the cooperation shall lead to a self-sustainable and long-lasting network of funders in the area of plant molecular sciences, enabling the translation of information gained from innovative fundamental research into social and economic benefits. The European added value lies in supporting and enhancing the ERA on molecular plant sciences.

KBBE.2010.1.1-03: Characterisation of biodiversity resources for wild crop relatives to improve crops by breeding

Call: FP7-KBBE-2010-4

The elite crops used in modern agriculture contain germplasm developed over hundreds, sometimes thousands of years by farmers and plant breeders. In many cases, genes for characteristics such as yield, nutritional quality and disease resistance have been introgressed into crop varieties from sexually-compatible wild species or local varieties through careful selection. Crop wild relatives and local varieties are the elements of agricultural biodiversity most likely to contain the necessary novel, unique and high levels of genetic diversity needed to sustain innovations in breeding programmes. These genetic repertoires represent a largely untapped resource that can now be harnessed more rapidly using modern molecular breeding methodologies.

Starting with the inventory of crop wild relative and local variety genetic resources in Europe, the proposed project will further develop tools, methods and procedures to expand the characterisation of crop wild relatives and local varieties. The phenotypic and genotypic information generated by the project shall be of use in breeding programmes for relevant crops in Europe such as cereals, grain legumes, forage and vegetables. In addition, the project will identify relevant management interventions to secure and improve the in-situ and ex-situ conservation of crop wild relatives and local varieties. This is particularly important in view of the expected impact of climate change on genetic resources.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Expected Impact: The project will significantly increase information on important traits in crop wild relatives and local varieties and will improve the access and wider use of biodiversity resources in breeding programmes, supporting advances in crop development. Direct involvement of plant breeders in the project shall ensure an effective take-up of research results. In addition to pursuing broader objectives as regards consumer demands and food security the project will also contribute to the goals of the EC Biodiversity Action Plan for Agriculture. The phenotypic and genotypic characterisation of crop wild relatives and local varieties will aid the refinement of strategies for sustainable conservation and the more effective use of plant genetic resources in European farming.

Area 2.1.2 Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection

Increased sustainability and competitiveness, while safeguarding consumer health, decreasing environmental impacts and taking account of climate change, in agriculture, horticulture, forestry, fisheries and aquaculture through the development of new technologies, equipment, monitoring systems, novel plants and production systems, crop management through selected plant breeding, plant health and optimised production systems, the improvement of the scientific and technical basis of fisheries management, and a better

understanding of the interaction between different systems (agriculture and forestry; fisheries and aquaculture) across a whole ecosystem approach. Research into maintenance of autochthonous ecosystems, development of biocontrol agents, and microbiological dimension of biodiversity and metagenomics will be undertaken.

For land based biological resources, special emphasis will be placed on low input (e.g. pesticides and fertilisers), and organic production systems, improved management of resources and novel food and feeds, and novel plants (crops and trees) with respect to their composition, resistance to stress, ecological effect, nutrient and water use efficiency, and architecture. This will be supported through research into biosafety, co-existence and traceability of novel plants systems and products, and monitoring and assessment of impact of genetically modified crops on the environment and human health as well as the possibility of their broader benefit for society. Plant health and crop protection will be improved through better understanding of ecology, biology of pests, diseases, weeds and other threats of phytosanitary relevance and support to controlling disease outbreaks and enhancing sustainable pest and weed management tools and techniques. Improved methods will be developed for monitoring, preservation and enhancement of soil fertility.

For biological resources from aquatic environments, emphasis will be placed on essential biological functions, safe and environmentally friendly production systems and feeds of cultured species and on fisheries biology, dynamics of mixed fisheries, interactions between fisheries activities and the marine ecosystem and on fleet-based, regional and multi-annual management systems.

KBBE.2010.1.2-01: Integrating mitigation and adaptation options for sustainable livestock production under climate change – SICA (Latin America, African Mediterranean Partner Countries, African ACP)

Call: FP7-KBBE-2010-4

According to lifecycle analyses, the global livestock sector generates directly or indirectly 18 % of global greenhouse gas emissions as measured in CO₂ equivalents (Livestock's Long Shadow, LEAD, FAO, 2006). A variety of options have been identified for mitigation of greenhouse gas emissions from livestock production systems. In addition, the likelihood of further climate change occurring, and the increasing scale of potential climate impacts require addressing agricultural adaptation of the livestock sector more coherently. Integrating both mitigation and adaptation strategies to climate change is needed in the livestock sector and it remains a significant challenge for the scientific community.

The objective of the selected project will be to build a consistent framework that can be used to predict climate change vulnerability and to inform public policy development in Europe, as well as cooperation actions concerning smallholder livestock farming in developing countries. Potential synergies between climate change policies, sustainable development and improvement of environmental quality will be explored to develop the mitigation potential in the livestock sector. The mutual benefits of adaptation and mitigation scenarios will be analysed for a wide range of livestock production systems, ranging from extensive systems in mountain and dry areas to intensive dairy, pig and poultry production systems in lowland areas. Climate change scenarios will be combined with process-based models calibrated at a range of experimental benchmark sites at scales ranging from the animal and the pasture, to the farm and to the region. Adaptation and mitigation options will be studied jointly and residual vulnerability will be assessed. Projections of future emissions and impacts will be modelled taking into account socio-economic dimensions.

For the livestock sector, the problem solving approach of the project should aim to:

- (i) revise estimates of the greenhouse gas balance by integrating soil carbon sequestration;
- (ii) assess the potential of direct and indirect greenhouse gas mitigation options;
- (iii) integrate climate variability and extremes into climate change assessment;
- (iv) test potential feedbacks of adaptation options on greenhouse gas mitigation;
- (v) test potential feedbacks of mitigation options for climate change adaptation;
- (vi) assess vulnerability in terms of productivity losses and of greenhouse gas emission.

The project should include a training component with the aim to increase the research capacities in the participating developing countries. This could include, for example, participation to training programmes, short exchanges of staff, training workshops.

Funding Scheme: Collaborative Project (large-scale integrating project) for Specific Cooperation Actions Dedicated to International Cooperation. The requested European Community contribution shall not exceed EUR 9 000 000.

Additional eligibility criteria: SICA - minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC among which 1 from Latin America, 1 from African Mediterranean Partner Countries (Algeria, Egypt, Libya, Morocco, Tunisia) and 1 from African ACP.

Additional information: The active participation of relevant partners from animal production industry including SMEs should add to the scientific and/or technological excellence of the project and/or lead to an increased impact of the action to be undertaken. This will be considered in the evaluation.

Expected impact:

Contribution to EU policy objectives and EU added value

1) Provide guidance concerning the Common Agricultural Policy objectives targeting a sustainable development of agriculture and territories. 2) Provide support to international policies such as the United Nations Framework Convention on Climate Change and the Commission's new energy and climate strategy 3) Provide support to the European Climate Change Program and to its policy on adaptation to climate change in Europe 4) Provide guidance to development cooperation concerning developing countries that are most affected and that have the least capacity to deal with climate change.

Research potential

Improve collaboration between the researchers working at recognized centres of excellence and at various levels in the areas of animal agriculture and of environmental impacts. Collaboration with Mediterranean and South-Eastern European countries will be particularly important as these regions are likely to suffer from a reduced suitability of current livestock production systems.

Agriculture sustainability and competitiveness

1) Secure the future resilience of European livestock production systems to climate change, 2) Mitigate net emissions from European livestock systems, 3) Reinforce economic and environmental competitiveness of animal production systems under climate change, 4) Provide knowledge, models and tools for promoting sustainable livestock production systems.

KBBE.2010.1.2-02: Sustainable organic and low-input dairy production

Call: FP7-KBBE-2010-4

Dairy production is one of the leading animal production sectors in organic and low-input systems. However, usual dairy management practices are not fully adapted to the organic and low-input production. The sustainability of these systems is currently very much depending on the use of conventional high productivity breeds and "intensive" management approaches.

The project will facilitate the development of novel strategies for organic and low-input dairy farming in order to optimise competitiveness for a sustainable/profitable dairy production, with better management practices and techniques, and adapted breeds with robustness and product quality traits. The multifunctional potential of these systems should be taken into account.

The project will achieve its objectives by considering the various aspects of the production system: roughage-based feeding, animal health issues (in particular fertility, parturition, udder health and claw disorders), and life cycle assessment in order to reduce the environmental impact. Socio-economic aspects should be carefully analysed in terms of competitiveness of the dairy sector including adaptation of the production systems to geographical diversity. Participatory approach and specific extension and dissemination activities are essential for the project success.

Funding Scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 6 000 000.

Expected impact: Increasing competitiveness of the European organic and low-input dairy industry. Promoting sustainable management in dairy production for better milk quality.

KBBE.2010.1.2-03: Sustainable water resources management and Soil fertility conservation for food production in Africa - SICA (Africa)

Call: FP7-AFRICA-2010

Inappropriate management of irrigation water contributes to erosion of top soil, loss of organic matter, salinisation, decrease of soil fertility and pollution of ground and surface fresh waters. Research efforts are necessary to allow a more sustainable exploitation of water and soils by African farmers, and support the increasing demand for locally produced food. More sustainable food production strategies and techniques for irrigated farms need to be studied, developed and implemented, which can revitalise the natural regenerative capacities of agricultural soils, reduce fresh water pollution and ensure healthy and resilient environments. Methodologies, devices and indicators, adapted to specific African situations, will be developed for monitoring and assess risk factors for soil health and fertility, as well as for safe fresh water resources, in irrigated areas. Adapted innovative techniques to improve WRM and keep soil fertility at farm level need to be investigated and field-tested. The prevailing technical/scientific part of the project should be complemented by a true participatory approach by involving local stakeholders at different levels, such as farmers, local NGOs, relevant governmental organisations, as to make better and suitable use of existing potentialities and local knowledge, as well as to facilitate an easier implementation/adoption of the project's selected strategies. Studies on social processes and farmers' rationales for implementing, adapting, innovating or rejecting the proposed strategies, should also be part of

the project activities, as to ensure their acceptability by the end users (farmers and policy-makers) and thus producing the expected impact.

With the aim of increasing research capacities in the participating African countries, the project should include tailored training activities, such as the organisation of training programmes in loco and exchanges of researchers.

Funding Scheme: Collaborative Project (large-scale integrating project) for Specific Cooperation Actions Dedicated to International Cooperation. The requested European Community contribution shall not exceed EUR 4 000 000.

Additional eligibility criteria: SICA - minimum number of participants: 2 from different Member States or Associated countries and 2 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt).

Additional information: This topic is part of the call for Africa published in coordination with Environment (including climate change) and Health Themes (see introduction to call for Africa on page 6 and call fiche on page 78).

A well balanced participation of African and non-African partners is recommended to address the issues properly and produce the expected impact. This will be considered in the evaluation.

Expected impact: Effective soil and water management strategies will allow African farmers to produce sufficient food crops and achieve sustainable use of irrigation water, conservation of soil fertility and reduction of fresh water reserves pollution. Wise use of water resources at farm level, coupled with adequate soil management practices, will help slowing down, and eventually stop, loss of soil fertility and counteract decline and pollution of natural resources.

KBBE.2010.1.2-04: Improving European berries production, quality, nutraceutical and nutritional value (Strawberries, Currents, Blackberries, Blueberries and Raspberries)

Call: FP7-KBBE-2010-4

The overall objective of the project will be the improvement of berry fruits quality and the reduction of production costs. These should be achieved by enhancing varieties performances in terms of quantity and quality production through breeding; exploiting genetic resources and genes of interest for improving fruits taste, nutraceutical and nutritional quality. The project should also improve cultivation techniques (open field and/or protected) and develop adaptation strategies to changing climatic conditions, as well as minimising negative impacts on the environment. A particular attention should be given to research for improving shelf life of fresh berries and increase their availability to consumers. The project should also propose suitable plans for promoting and disseminating results, and should develop and implement effective marketing strategies to promote health benefits of berries and increase their consumption.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Expected impact: To improve competitiveness of European berry production systems and consumers accessibility to high quality and healthier berry fruits. Enhanced trust of consumers in berry consumption, and increasing market demand for berries. The outcome of the projects shall make berries production more economically viable and attractive to farmers, thus contributing to diversification of European agriculture.

KBBE.2010.1.2-05: Integrated pest management in farming systems of major importance for Europe

Call: FP7-KBBE-2010-4

In the context of this topic Integrated Pest Management (IPM) should be understood in a broad sense as a better targeted use of all available pest and disease control measures, including preventive measures, observation and pest monitoring, plant protection products and biocontrol agents, contributing to a further reduction of the risks to human health and the environment and a reduced dependence on pesticides. For the purpose of this topic, pests are pathogenic agents, micro-organisms, invertebrates and weeds injurious to cultivated plants or their products.

Breakthroughs in IPM expected from this project will be made possible by unique and strong integration of biological, agronomical, technical, genomic, biochemical, socio-economic and ecological disciplines and will require appropriate scales for studies, with the farming system and the rotation cycle as key references.

The project will combine modelling and experimentation, including physiological and molecular understanding of plant-pest interactions and development of symptoms, and will target farming systems, including permanent crops, horticulture, greenhouses and crops grown under cover, in which reduction of pesticide use and better control of pests and pathogens is expected to have major effects at the European scale due to e.g. large acreages. Models developed will have the potential to take account of all relevant parameters, including population dynamics and selective pressures due to management practices or climate changes. The study will also compare the risks and will assess the balance between costs and benefits of the different IPM methods proposed.

The project will engage in a permanent and dynamic dialogue with all relevant stakeholders such as farmers and extension services, regulatory and policy authorities, consumers and other economic actors. The participation of relevant partners from innovative industries, including SMEs, active in the field of IPM, should lead to an increased impact of the expected tools, techniques, and technologies to be delivered.

Funding scheme: Collaborative Project (large scale integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Expected impact: This project will provide the broader scientific community, extension services, farmers and other stakeholders with new and solid scientific knowledge and practical tools enabling novel approaches, strategies, techniques and technologies for integrated pest management in the challenging context of globalization, climate changes, reinforced plant protection policies (the so-called "pesticides package"), and consumer demand for safer food with low environmental impact while ensuring sustainable and competitive European agriculture. The project will contribute to deepen changes in farm management strategies, favouring time- and site-specific approaches and so contributing to reduced dependence on pesticides.

KBBE.2010.1.2-06: Deepened and enlarged cooperation between phytosanitary (statutory plant health) research programmes - ERA-NET¹⁴

¹⁴ This topic is subject to a coordinated call for ERA-NETs across the Themes. Complete and detailed information on funding scheme, special eligibility criteria and expected impact of ERA-NETS can be found in Annex 4 of Cooperation Programme.

Call: FP7-ERANET-2010-RTD

The aim of the Community plant health regime is to prevent the introduction into the community of organisms harmful to plants or plant products or their spread within the Community. These pests and pathogens are not necessarily dangerous to the consumer but can cause substantial environmental disturbance and economic losses in crops, forests and other sectors. Due to climate changes and globalization, new threats are continuously emerging and the number and complexity of plant health problems increases every year, requiring enhanced research efforts.

While most aspects of the European plant health regime are set at Community level, research in the field of statutory and emerging plant pests, diseases and invasive species is primarily done at the national level and would gain from enhanced coordination and integration. This is why an FP6 ERA-NET was developed in that field. Building on significant achievements made by this ERA-NET to date, a deepened and enlarged cooperation between phytosanitary research programmes will be ensured via different actions and activities, e.g.: permanent dialogue between partners and a large base of other interested parties and stakeholders, including commercial partner countries outside the EU, the industry, consumers, regulators and policy-makers; coordinated priority setting and development of a common research agenda having a genuine impact on national research activities; joint calls and research projects with sufficient financial and logistical means, alongside other coordination mechanisms, enabling efficient and coordinated response to critical problems of European dimension; establishment of a strong, self-sustainable and long-lasting network of funders.

The network will be designed in such a way that it enables rapid and customized answers to challenges caused by specific harmful organisms of plant health concern.

Funding scheme: Coordination and Support Action (supporting action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: ERA-NET

Expected impact: The European added value of this project lies in supporting and enhancing the ERA on Community plant health regime. Both scientific knowledge and coordination between national or sub-national programmes in this area are expected to grow for the sake of a stronger and more coherent plant health regime at Community level in the challenging context of globalization and climate change, while ensuring sustainable and competitive European plant-based industry.

KBBE.2010.1.2-07: Understanding of the basic mechanisms involved in coping strategies of fish towards improvement of welfare

Call: FP7-KBBE-2010-4

Sound animal welfare is the basis for a thriving aquaculture industry. Although recent research efforts in this field have focused on the development of indicators, technologies and practices in the operational aspects of aquaculture, the insufficient understanding of the underpinning mechanisms and the lack of basic knowledge about the physiology, biology, and behaviour of fishes have not allowed the development and effective application of stress and welfare indicators in different culture conditions.

The project will propose and implement an innovative hypothesis-driven multidisciplinary approach aiming at exploring the links between brain function, behaviour and adaptive physiology and at understanding how these features change as the animal develops from egg

to adult, since fish husbandry ideally controls all stages of the biological cycle. The project will study the ontogeny of neuronal function and neuroendocrine stress responses in fish and will provide new insights on the interrelations between different relevant husbandry practices, plasticity of brain function and stress response during early ontogeny. It will also explore potential consequences of early life stress experiences on the welfare and quality of juvenile fish. The project will focus on the understanding of how animals experience their world and not simply on the description of animal behaviour or stress responses. Subsequently, it will attempt to discriminate between normal adaptive stress responses and situations of potential consequence to animal welfare, in relation to different relevant husbandry practises and rearing methods.

Considering diversity and plasticity of fish species the project will focus, in a balanced way, on Atlantic salmon (*Salmo salar*), European sea bass (*Dicentrarchus labrax*) and sea bream (*Sparus aurata*), which are commercially important species displaying different behavioural and physiological patterns in comparable cultured conditions.

Funding scheme: Collaborative Project (large scale integrating project). The requested European Community contribution shall not exceed EUR 4 500 000.

Expected impact: The expected impact of such project will be to deepen our knowledge on the development of the brain function, behaviour and stress response in relation to the different husbandry practises and rearing methods. It will also serve to define how short or long episodes of stress during the early life affect the welfare and quality of juveniles and adult fish. It will significantly contribute in providing and extending the knowledge basis for the development of tools such as new individual-based indicators for a better assessment of fish welfare.

KBBE.2010.1.2-08: Improving European mollusc aquaculture: disease detection and management

Call: FP7-KBBE-2010-4

Shellfish production is an important component of the European aquaculture, from both social and economic point of view. As for other cultured species, the eradication of pathogens and prevention disease outbreaks is critical for the sustainable development of this sector. However, due to the specificities of these animals which do not have adaptive immune system, eradication programmes are almost impossible to implement in shellfish stocks. Therefore disease prevention strategies and epizootiological studies are essential. However, the fact that the current practices involve important movements of live bivalves hampers the implementation of efficient disease management strategies.

The project will develop (or update) and validate efficient methods for identification and detection of relevant pathogens that affect economically important cultured European mollusc species, based on new techniques and recent technological breakthroughs. The project will consider the most relevant stages of the life cycle of the pathogens and molluscs concerned and will explore the mechanisms that allow pathogens to resist outside the host. Moreover, it will provide insights on the pathogenicity of pathogens of interest, including effects on host defence mechanisms and identification of intrinsic virulence factors. It will also study the relationship between presence of a given pathogen and its actual implication in observed mortalities. The project will also develop efficient methods and techniques aiming at eradicating pathogens in controlled culture conditions. The overall approach should allow linking mortality, pathogenicity and means of managing disease dynamics.

Considering the wide variety of mollusc species, culture practices and potential pathogenic agents and in order to avoid dilution of the overall effort, the project will focus on three of the most important mollusc species in terms of production in Europe, namely in cupped oyster *Crassostrea gigas* and in mussels *Mytilus edulis* and *M. galloprovincialis*, which interestingly also display different levels of sensitivity to diseases. The project will allocate a balanced effort between oysters and mussels.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Expected impact: The European added value lies in the project's contribution to improving competitiveness and sustainability of the mollusc industry. It will help managing the disease in the different culture situations throughout Europe. It will also contribute to a more efficient control of mortality levels and health status of cultured molluscs, taking into consideration the specificities and culture methods of each species concerned. Last but not least, it will provide solution for improved biosecurity of mollusc hatcheries.

Area 2.1.3 Optimised animal health, production and welfare across agriculture, fisheries and aquaculture

Optimised animal health, production and welfare, across agriculture, fisheries and aquaculture, inter alia through the exploitation of genetic knowledge, new breeding methods, improved understanding of animal physiology and behaviour and the better understanding and control of pests, parasites and infectious animal diseases and other threats to the sustainability and security of food production, including zoonoses. The latter will also be addressed by developing tools for monitoring, prevention and control, by underpinning and applied research on vaccines and diagnostics, studying the ecology of known or emerging infectious agents and other threats, including malicious acts, and impacts of different farming systems and climate. New knowledge for the safe disposal of animal waste and improved management of by-products will also be developed.

KBBE.2010.1.3-01: Development of vaccines and improvement of detection systems to control helminth parasite infections of livestock and reservoirs – SICA (Latin America and/or Asia and/or African Mediterranean Partner Countries and/or African ACP)

Call: FP7-KBBE-2010-4

The project should focus on the characterisation of protective immune responses to helminth parasites in livestock of major economic and/or public health importance including gastrointestinal nematodes, lungworms, liver fluke, and the cestodes causing cysticercosis and hydatidosis. In the case of hydatidosis, caused by *Echinococcus granulosus*, dogs should also be targeted. The project should improve our scientific understanding of the protective immune mechanisms that will aid the development and delivery of vaccines that can be adapted to the geographical and socio economic conditions prevailing in different settings within and outside the EU and improve detection systems.

The project should include a training component with the aim to increase the research capacities in the participating developing countries. This could include, for example, participation to training programmes, short exchanges of staff, training workshops.

Involvement of stakeholder groups such as farmer organisations in the dissemination activities is encouraged.

Funding Scheme: Collaborative Project (large-scale integrating project) for Specific Cooperation Actions Dedicated to International Cooperation. The requested European Community contribution shall not exceed EUR 9 000 000.

Additional eligibility criteria: SICA - minimum number of participants: 2 from different Member States or Associated countries and 2 from different ICPC from Latin America and/or Asia and/or African Mediterranean Partner Countries (Algeria, Morocco, Tunisia, Libya, Egypt) and/or African ACP countries.

Additional information: It is viewed that the active participation of animal health industry, including SMEs and relevant partners from industrialised countries should add to the scientific and/or technological excellence of the project and/or lead to an increased impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: towards the development of safer, more efficient and efficacious vaccines as an alternative or complementary tool in the control, reduction and management of the most important parasite infections of livestock. It will include also the development of vaccines to be used in host species involved in the parasite cycle. Improve production, competitiveness and livelihood of livestock producers, reduce environmental contamination, reduce development of antihelmintic resistance. Dual benefit in the case of zoonotic parasites due to reduction of transmission to humans.

KBBE.2010.1.3-02: Promoting coordination and cooperation at international level of research programmes in the area of animal health, in particular infectious diseases including zoonoses - Mandatory ICPC (Latin America and Asia)

Call: FP7-KBBE-2010-4

This global initiative will address the coordination of research programmes at international level in the area of animal health and in particular infectious animal diseases including zoonoses. It will build on the existing relevant ERA-NET and INCO-NETs through the creation of a global network of research funding organisations. It should cover the three major groups of diseases: those subject to detailed international standards related to trade; those regulated at national level; and the non-regulated diseases controlled at farm level and emerging and re-emerging diseases. These groups include viral, bacterial, parasitic and fungal conditions. It will also cover antimicrobial and antihelmintic resistance. This co-ordination action will consist of the establishment of an international forum of programme owners/managers, representing R&D programmes operating in the field of animal health, from: i) the EU – both FP7 and MS/AC national programmes, with the involvement of ERA-NETs - , ii) third countries and iii) international organisations. The activities of such forum would include: a) exchange information, share objectives and create links between the respective programmes (mapping and comparisons of on-going activities...); b) organise multilateral networking and partnership initiatives among on-going projects from each programme (including project-twinning activities, valorisation of research results and transfer of results to end users, etc.) and c) discuss and formulate co-ordinated research agendas, jointly plan and possibly implement future initiatives in a concerted manner, in order to tackle these global issues via world-wide co-ordinated efforts. Overall, this global initiative should thus improve the co-ordination and efficiency of programmes operating in animal health world-wide, both by pooling efforts and resources and thus increasing synergies on current activities and by facilitating a concerted and co-ordinated planning of future activities.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 2 from different Member States or Associated countries and 2 from different ICPC from Latin America and Asia.

Additional information: It is viewed that the participation of relevant research funding institutions from industrialised countries would lead to an increased impact of the global approach to be undertaken. The participation of countries with S&T bilateral agreements with the EC (Argentina, Australia, Brazil, Canada, Chile, China, Egypt, India, Korea, Mexico, Morocco, New Zealand, Russia, Ukraine, Tunisia, South Africa, United States) is particularly encouraged. Participation of these countries as well as of international organisations active in this field should add to the scientific and/or technological excellence of the project. This will be considered in the evaluation.

Expected impact: Accelerate research efforts and knowledge transfer, seeking synergies and complementarities, avoiding duplication and fragmentation, and maximising the possibilities offered by combination of different disciplines and new technologies.

This coordination should allow reinforcing and focusing efforts to develop disease prevention and control tools in the light of the changes which are rapidly occurring at global level. Creation of channels of communication between research funders to allow strategic research programming.

KBBE.2010.1.3-03: Development and integration of animal based welfare indicators in livestock species

Call: FP7-KBBE-2010-4

The Commission intends to adopt in the future a more outcome based approach to animal welfare legislation in the EU. Animal-based welfare indicators are today the most suitable tools to achieve this objective. In previous EU-funded projects sound progress has been made towards a flexible welfare assessment and monitoring system applicable at farm level for cattle, pigs and chickens. This system should be further developed and refined and other important farmed species should be brought into the model.

The project will aim at further developing, and refining existing results and assessment models and optimise ways to integrate them in the production chain. Moreover, the project will aim at extending and adapting the indicators and the strategies developed to other commercially interesting species, at least in small ruminants (sheep and goats), in poultry species not covered yet (turkeys, ducks and geese) and in horses. Other terrestrial species like rabbits may be considered. The project will ensure integration by linking together a wide range of stakeholders and stimulate science-society dialogue on welfare issues in farming through educational initiatives. Collaboration with the stakeholders' animal welfare platform being currently developed is encouraged.

Funding scheme: Collaborative Project (large scale integrating project). The requested European Community contribution shall not exceed EUR 4 500 000.

Expected impact: Development of instruments supporting science-based legislation on animal welfare for different commercially interesting species.

KBBE.2010.1.3-04: Improving integration in farm animal welfare research in an enlarged Europe

Call: FP7-KBBE-2010-4

Differences between countries of the European Union, in production systems, purchasing power and other factors are reflected by the differences in the general perception of welfare and protection of farm animals, in the tradition, quality and quantity of welfare oriented research as well as in the attitudes of consumers toward the welfare of farm animals. In addition, transitional gaps have occurred in the enlarged EU in the field of animal welfare. The purpose of the project is to strengthen partnership between actors/institutions in the enlarged EU and Candidate countries. An improved integration is characterised by an increased level of collaboration and by a stronger European dimension in the proposed research. In particular the project will raise awareness of animal scientists, veterinarians, producers, and consumers about farm animal welfare and will identify the institutions dealing with welfare related problems, in order to include them in the "European Network of Reference Centres for the protection and welfare of animals", which could be possibly established in the future. The project will facilitate farm animal welfare research in an enlarged EU and Candidate countries, by establishing working contacts between animal welfare researchers including medium-term researcher exchanges, by supporting the exchange of information and by facilitating the involvement of scientists from the enlarged EU and Candidate countries in Community funded research on animal welfare. The project will identify critical gaps in implementation of the legislation and incorporation of animal welfare in educational programmes.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: Creation of new links and synergies is essential to achieve the targeted integration, thereby filling transition gaps in the field of animal welfare in the enlarged EU and Candidate countries. How this is structured and proposed will be considered in the evaluation. Collaboration with the stakeholders' animal welfare platform being currently developed is encouraged.

Expected impact: The European added value lies in reinforcing collaboration and better exploiting research synergies across the enlarged EU and Candidate countries. By strengthening partnership and widening the participation through joint research in the area of animal welfare, full profit from the complementary expertises will be achieved. This will strengthen the ERA and provide opportunities for capacity building and knowledge transfer between European research actors and increase transnational collaboration, while supporting EU and national policies.

KBBE.2010.1.3-05: Swine influenza surveillance network

Call: FP7-INFLUENZA-2010

The objective is to maintain and expand the surveillance network built by previous supported initiatives under FP5 and FP6. It will focus in particular on the detection, typing and genetic characterization of swine influenza viruses in pig herds in different European countries with emphasis on sequencing of all 8 gene segments, the standardisation of laboratory techniques, the serological surveillance for various influenza A virus subtypes addressing in particular the serological cross-reaction and cross-protection between swine influenza viruses circulating on different continents, the maintenance and expansion of the virus bank and the electronic data

base. It will foresee regular exchange of information between Europe, America and Asia and liaise with networks working in avian, equine and human influenza. It is viewed that participation of third countries will facilitate greater global interaction and worldwide understanding of the epidemiology of swine influenza viruses.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: This topic is part of the call for Influenza published in coordination with Health Theme (see introduction to call for Influenza on page 7 and call fiche on page 84).

Expected impact: Better understanding of the epidemiology and evolution of swine influenza in European countries through an organised surveillance programme together with the antigenic/genetic characterisation using standardised methodology. Improvement of swine influenza diagnosis with updating of reagents used in classical techniques and of rapid molecular tests for the detection of swine influenza viruses. Expansion of existing virus bank and electronic database developed in previous EU supported initiatives (i.e. ESNIP and ESNIP2). Knowledge of occurrence of avian influenza viruses in pig populations. Contribute to better define the public health risks of swine influenza.

KBBE.2010.1.3-06: Pathogenesis and transmission of influenza in pigs

Call: FP7-INFLUENZA-2010

The objective is to study the susceptibility of pigs to H1, H2, H3 and H9 influenza viruses of different genotypes and the risk of the pig as an intermediate host. The project will address in particular a) replication efficiency of different viruses in pigs *in vivo*, as well as in reliable *in vitro* models; b) the transmissibility of different viruses between pigs; c) the transmissibility of different viruses from pigs to other relevant animal species and d) heterovariant and heterosubtypic protection between influenza viruses in pigs. The studies under a, b and c should be combined with molecular approaches to gain insights into the viral determinants of replication and transmission. The mechanisms mediating cross-protection between influenza viruses should be also examined. It is viewed that participation of third countries will facilitate greater global interaction in order to seek complementarities at international level and avoid duplications. The project will comprise an international multidisciplinary external advisory board.

Funding scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 5 000 000.

Additional information: This topic is part of the call for Influenza published in coordination with Health Theme (see introduction to call for Influenza on page 7 and call fiche on page 84).

Expected impact: Contribute to fill knowledge gaps in pathogenesis and transmissibility of influenza viruses in pigs, cross-protection between influenza viruses in pigs and role of pigs in the overall influenza ecology. Contribute to strengthen international cooperation in influenza research. Generate knowledge to improve pig husbandry.

Area 2.1.4 Socio-economic research and support to policies

Providing the tools needed by policy makers and other actors to support the implementation of relevant strategies, policies and legislation and in particular to support the building of the European Knowledge Based Bio-Economy (KBBE) and the needs of rural and coastal development. The Common Fisheries Policy will be supported through the development of adaptive approaches supportive to a whole ecosystem approach for the harvesting of marine resources. Research for all policies, including the Common Agricultural Policy, will include socio-economic studies and cost-benefit analysis, comparative investigations of different farming systems including multifunctional ones, cost-effective fisheries management systems, the rearing of non-food animals, interactions with forestry and studies to improve rural and coastal livelihoods.

KBBE.2010.1.4-01: Sharing best practice and enhancing European collaboration on research, knowledge transfer and innovation in farm animal sciences

Call: FP7-KBBE-2010-4

Basic research in the animal sciences is delivering a considerable flow of new knowledge with application in livestock farming, but there are significant challenges in the translational research and knowledge transfer needed to see these developments converted into tools and technologies for use by industry. New approaches to collaborative research and improved knowledge transfer and innovation are being developed in Member States. There are considerable opportunities for enhanced effectiveness of these national mechanisms and the development of improved innovation capacity in animal sciences at the European Research Area level. The project will build on the activities of relevant European Technology Platforms and existing national and transnational networks to define current best practice for: i) collaborative industrial research; ii) knowledge transfer and; iii) innovation, in animal sciences applicable to livestock farming in the EU. The project may include relevant aspects of best practice on lifelong training for skills relevant to innovation in industry. The project is, at least, expected to deliver: a) best practice guidance and recommendations; b) resources to assist businesses improve their innovation capacity, c) a lifelong learning post qualification system and; c) a collaborative platform of partners capable of providing a long-lasting transnational network of industry and the research base in animal sciences.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: The active participation of relevant partners from animal production industry including SMEs should add to the scientific and/or technological excellence of the project and/or lead to an increased impact of the action to be undertaken. This will be considered in the evaluation.

Expected impact: The project will improve the innovation and knowledge transfer practices in national and transnational networks involving industry and the research base to deliver an acceleration of the rate at which European animal science is converted into improved products, processes and services to enhance the competitiveness of the European Knowledge Based Bio-Economy.

KBBE.2010.1.4-02: Development of modelling tools based on Farm Accountancy Data Network data adapted to assess the dynamic impacts of the Common Agricultural Policy

Call: FP7-KBBE-2010-4

EU farmers are facing a period of volatility in relation to market prices, climate change effects and macroeconomic uncertainty. Throughout this period, the evolution of farmer income will be a central issue and one strongly linked to the policy debate about the future of the CAP which will take place in the lead up to the new financial perspectives 2014-2020.

In the light of increasing demand for analysis for impact assessment, new and improved operational economic modelling tools are required. This project aims to pool EU expertise for the definition and development of an economic model for estimating the impact of the change of agricultural policy and market developments on land use, production and agricultural income. Additional points of interest are the impact of policies on structural change and factor markets. As the database to be used contains data of single farms, the principal level of the analysis should be the single farm or small groups of farms. However, depending on the kind of models used, it must be possible to derive conclusions for the impact on the entire agricultural sector or to aggregate model results at EU-27 level using the weighting of sample farms.

The data base for the model is the Farm Accountancy Data Network (FADN). As a first step, a brief but extensive review of new, state-of-the-art and potentially applicable concepts for such modelling should be made. Those methodologies most appropriate for application to the project aim should be quickly identified and prototypes of the final model made available at a very early stage. The chosen models must be complementary both with respect to the modelling approach chosen and the type of results they can provide. For example, it could be meaningful to include both a model based on mathematical programming as well as econometric models. Where a need to develop new methodologies is recognised, they should be addressed in a separate, specific work package or packages and the findings used to refine the already functioning prototype.

The project has to be complementary with other ongoing related EU projects. The final model should be user friendly, easy-to-maintain and well adapted to the FADN informatics environment. It should be possible for several operators, situated in different locations, to maintain, update and apply the models. Finally, the mechanisms to maintain, update and apply the models should be thoroughly described.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 2 500 000.

Expected impact: The research results will be important in further improve the targeting and efficiency of the CAP single farm payment. The model will be used for evaluating the impact of the various agricultural measures on land use, production and agricultural income using FADN data.

KBBE.2010.1.4-03: Assessment of transition pathways to sustainable agriculture and social and technological innovation needs

Call: FP7-KBBE-2010-4

European agriculture is facing new challenges in terms of social, environmental and economic sustainability. There is a need to sustain competitiveness in increasingly globalised and concentrated food supply chains, while simultaneously meeting societal and policy demands for providing public goods and new services, and guaranteeing higher standards of food safety, quality and transparency. The need for agriculture to provide multiple functions beyond the production of food, fibres and biomass implies that EU farming increasingly has

to be attuned to diverse social, cultural and ecological contexts. In addition, agriculture needs to be increasingly (re-) embedded in society at large, implying a growing role for producer-consumer co-operation, changing rural-urban relations and public-private partnership. **Ageing of farming is a problem in some European regions.** Against this background the project will explore different future transition pathways for EU agriculture (e.g. organic farming, integrated farming, etc.) and possibilities for farm households in different regional contexts across Europe to adequately respond to changing market, policy and societal environments. **Mechanisms to provide viable models for young farmers are of specific importance.**

The project will build up on the promising and well-documented range of initiatives at farm and regional level (organics, social functions of farming, quality food systems, landscape management, "green" public procurement etc.) existing across Europe. It will clarify what are the social, institutional and technological innovation needs involved in a further scaling up and dissemination of such promising farm development models. The project will also assess how possible institutional arrangements, support measures and required socio-technical networks amongst actors within the farming community, policy, technology and wider society allow the transition of European farming to meeting a broad range of sustainability aims and it will provide evidence-based policy recommendations at different levels (EU, national, regional, farming systems).

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 1 500 000.

Expected impact: As a result adequate policy measures could be defined which allow European agricultural systems to respond better to specific societal demands. Transition pathways will be identified and the right institutional and policy framing to access them. It will help to meet the demands of different actors along the production chain from citizens to farmers and foster the science-society dialogue. Participation of SMEs would be beneficial, in addition the participation of relevant societal actors is critical for the success of the project.

KBBE.2010.1.4-04: Knowledge systems for farming in the context of sustainable rural development

Call: FP7-KBBE-2010-4

In the past all three actors in the innovation system (research – education – advice) were publicly funded with mainly linear relationships. The mission was clear, production oriented and addressing family farms. Today the situation is network like, with many more opportunities of communication (internet) and many opportunities to access innovation relevant knowledge. In this new context, there is often a need for actors to re-define their role. The diversity of the farming community increased: small/large, conventional/organic, old/young, full-time/part-time, businesses with gender preferences, run by women or by men and so on. New opportunities lead to the combination of farming with other activities like tourism, on-farm processing of food, direct marketing, non-food and energy farming. New structures beyond farms may open new opportunities for lively rural areas. The problems to solve are diverse. New tasks need a wide repertory of tools and a professional approach based on specialised training of advisers. The concept of "Good Agricultural Practice" requires acting in line with the European environmental, food safety and animal welfare legislation. Scientific advice and knowledge to pursue these public goals is coming from different science areas and sources, normally not linked to agricultural knowledge chains and often under unsustainable financial arrangements. Innovation could be generated through interaction of research and grassroots innovation. This may produce the necessary diversity to make the system more resilient and provide alternatives in case of crisis. Gender perspectives should be

taken into account. Agricultural innovation at the farm level traditionally has been non-proprietary and has been publicly shared within the farming community which is a good basis for an innovation culture. Research is needed to analyse the effectiveness and cost efficiency of different instruments to increase the efficiency of agricultural knowledge systems along questions like: How to delineate the needs for public support vs. pure private entrepreneurship initiatives? How to accommodate the agricultural knowledge systems perspective at the interface between different policies (agricultural/rural/social/energy/regional for example)? How to assure the quality of professional advisers in Europe?

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 2 500 000.

Expected impact: To develop better a coordinated approach between policies of research, agriculture and rural development leading to a new approach of agricultural knowledge based professional advisory systems in Europe.

KBBE.2010.1.4-05: EU-China Partnership initiative in plant breeding – Mandatory China

Call: FP7-KBBE-2010-4

The scope of this co-ordination action is to match and link the agricultural research activities carried out on one side by the EU research programmes - both EC Framework Programmes and EU member States and/FP7 Associated countries programmes, also via ERA-NETs - and on the other side by various related China national research programmes (e.g.: national programmes 863, 973 and other programmes by the CAAS, CAS, NSF, etc.). The specific research area targeted is plant breeding (including fruit trees), focussing on adaptation to the effects of climate change, e.g. abiotic stresses. This co-ordination action should ensure a wide-range networking of the relevant scientific communities and stakeholders from both sides and the systematic establishment of linkages between large sets of EU and China research projects active in these areas. Co-ordination activities should include i) a general networking (via meetings, workshops, short term visits, etc.) of the scientific communities operating in these fields respectively under the EU and China programmes and ii) exchanges - of information, data, resources, materials, methods and tools. Overall this co-ordination action will lead to optimising the efficacy of research in this area, by pooling efforts and resources, increasing synergies and fostering further collaborative efforts. It could also lead to a concerted planning of future research initiatives in these areas.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 500 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and one from China.

Additional information: The China Academy of Agricultural Sciences (CAAS) intends to support or/and carry out mirroring and complementary actions. The cooperation with these complementary actions should be reflected in the proposal. This will be considered in the evaluation of the proposal.

Expected impact: Both EU and China are dedicating major R&D efforts in agricultural research and they both face common challenges, such as crop adaptation under climate change conditions. A wide co-ordination of research activities in this area from the EU and China, which are both major players in these fields, would not only scale up the EU-China

collaboration, according to the EU-China S&T co-operation agreement, but also contribute to broader international efforts to address such global challenges.

KBBE.2010.1.4-06: EU-Russia Partnership initiative in Microbes - Plants Biodiversities – Mandatory Russia

Call: FP7-KBBE-2010-4

The scope of this co-ordination action is to match and link the current research activities carried out on one side by the EU programmes - FP7 and MS/AC programmes, including ERA NETs - and on the other side by various Russia national programmes, in the fields of microbial and plant sciences. Specific areas of interest include plants- and microbes-biodiversity, genomics and metagenomics; plant-microbes-soil interactions such as cell-cell signalling or antagonism between community organisms, both for i) the development of beneficial plant-microbes-soils systems and ii) for the understanding of pathogenic interactions and the tackling of plant diseases; the influence of climate change on plants - microbes biodiversities and interactions. This co-ordination action should ensure the systematic establishment of links and synergies between main EU and Russia research consortia and projects operating in these areas. Co-ordination activities should include networking of the respective scientific communities (via meetings, workshops, short term visits, etc.), leading to exchanges and possibly sharing of information, data, materials, tools and methods. Overall this co-ordination action will lead to optimising the efficacy of research in this area, by pooling efforts and resources, increasing synergies and fostering further collaborative efforts. It could also lead to a concerted planning of future research initiatives in these areas.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 500 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and one from Russia.

Expected impact: Both EU and Russia are major players in research areas such as microbial and plants sciences and biotechnologies, and are facing common challenges in sectors such as agriculture, forestry and environment, under climate change conditions. A wide co-ordination of research activities in the areas of microbial and plant sciences and technologies from the EU and Russia would not only scale up the EU-Russia collaboration, according to the EU-Russia S&T co-operation agreement, but would also contribute to broader international efforts to address global challenges.

KBBE.2010.1.4-07: Using results-based management to achieve CFP objectives

Call: FP7-KBBE-2010-4

The Common Fisheries Policy (CFP) must increasingly integrate environmental concerns and seek to apply an ecosystem approach. These issues are presently addressed by regulation of the technologies that can be used to fish, by closed areas and by limits on landings. This approach has led to increasingly detailed micromanagement of the fishing technologies with some negative results including high levels of discarding in some fisheries. The aim will be to identify and evaluate mechanisms and institutions for implementing results-based management in fisheries as in other sectors, i.e. defining a maximum acceptable negative impact and then leaving it to those concerned to identify the means to meet such requirements

and to document the effectiveness of these means. The elimination of discards is used as a first example of the application of this approach in European fisheries. The project should involve approaches that would promote and encourage fishers to focus effort in ways that minimize ecological impact under a precautionary framework while maintaining economic and social viability. Creative ways to link scientists and stakeholders that could advance further cooperation in the work to identify solutions must also be considered alongside institutional aspects relating to decision making, implementation, monitoring, audit and control.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Expected impact: The project will contribute to a fundamentally new approach to fisheries management in Europe. The results from this project will find immediate use in the development of the new discards policy in accordance with the Common Fisheries Policy and in the implementation of the reform of the CFP.

KBBE.2010.1.4-08: Improving research in support to scientific advice to fisheries management in the Mediterranean and Black Seas – Mandatory ICPC (Mediterranean Partner Countries and Black Sea countries)

Call: FP7-KBBE-2010-4

The project will support the development of a network of research bodies and teams including third countries in the two regions, with the aim to further improve coordination of research programmes on fisheries management promoted by different actors (European Commission, EU-Member States, Associated countries, third countries and international organisations such as FAO). The project will facilitate better coordination on mining data available and harmonisation of methodologies applied to collection, analysis, dissemination and management procedures, in support to Ecosystem approach to fisheries management and scientific advice to fisheries management. Integration of environmental requirements and of socio-economic implications will be given a high priority. The project will contribute to identify needs for further research in order to maintain the basis for a sustainable use of the marine resources and facilitate the programming of national, Community and international funding organisations. It should also include a training component with the aim to increase the research capacities in the participating third countries. This could include, for example, participation to training programmes, short exchanges of staff, training workshops.

Funding Scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC, among which at least 1 from the Mediterranean Partner Countries and at least 1 from any of the following Black Sea countries: Georgia, Ukraine and Russia.

Expected impact: The network will increase knowledge on Ecosystem approach to fisheries management and on the support to the formulation of scientific and technical advice in third countries. It will also contribute to the dissemination of the CFP principles and challenges through the improvement of dialogue with research communities, policy-makers and stakeholders in the concerned geographic areas in order to better take into account their needs. Through a better coordination of European research with ICPC countries outside EU waters, the project is expected to reinforce coordination and therefore avoid duplication and

fragmentation of the research effort. The project should set the basis also for an evolving system for permanent and easier exchange of best practices and search of relevant scientific information in support to scientific advice to fisheries management.

KBBE.2010.1.4-09: Analysis of the potential of the pine wood nematode (*Bursaphelenchus xylophilus*) to spread, survive and cause pine wilt in European coniferous forests in support of EU plant health policy

Call: FP7-KBBE-2010-4

Pine wood nematode (PWN) is a major threat to European forests today with an estimated mortality risk of >50% in southern Europe. PWN was first detected in Europe close to Lisbon in 1999. A major outbreak outside the original containment area occurred in 2008, resulting in the demarcation of entire continental Portugal as PWN-infested. An isolated outbreak occurred in Spain at the end of 2008, for which strict eradication measures are in place. The project will clarify the biological potential of the PWN to spread, survive and cause pine wilt in European coniferous forests in support of developing effective and proportionate Community legislation for the eradication and containment of this important quarantine pest. The project will provide critical information for preventing entry, survival and spread of PWN and its vectors (various *Monochamus* beetles) in parts of the EU which currently are free from the pest and for the effective monitoring, sampling and eradication of PWN in case of isolated outbreaks. To this end the infection, population build-up, distribution and spread of PWN in individual pine trees will be investigated, in particular in trees with long-term latent infections, and statistically reliable sampling strategies will be developed. The natural spread of PWN from such trees will be analysed with the emphasis on the potential for long-distance dispersal with European *Monochamus* species, which is critical for developing management strategies such as precautionary clearcuts. Vector traps for early detection will be improved and employed for determining the dispersal potential. The magnitude of the risk of infested wood packaging material, wood chips and isolated bark as a pathway for spread of PWN to healthy forests will be quantified experimentally. Resistance in pine trees will be investigated in support to breeding and reforestation. The potential environmental and economic damage that PWN might cause outside of Portugal will be examined by detailed modelling for regional prediction of PWN establishment and of disease expression, taking into account possible climate change and the entire sylvo-climatic diversity of Europe. The modelling will be validated through field experimentation in Portugal as well as, for latent infections, PWN-infested countries outside Europe with cool climatic conditions. The project shall interact intensively with ongoing EU-funded research projects on plant health (such as those addressing pest risk analysis, identification methods and the development of early PWN detection methods) and will utilise and expand the results of previous projects (such as PHRAME) as much as possible. Project results shall be shared and discussed with EU and Member State authorities and made public rapidly.

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: The project should involve scientific expertise from PWN-infested countries in North-America and Asia. This will be considered in the evaluation.

Expected impact: The project will provide critical information to the European authorities and the Member States for improving and effectively implementing strategies for eradication and control of PWN. The information to be generated is of urgent and critical importance to address the spread of PWN.

Area 2.1.5 "The ocean of tomorrow" call - Joining research forces to meet challenges in ocean management

Oceans offer opportunities for sustainable economic development. However, human activities are exerting increasing environmental pressure on the oceans, which is threatening marine ecosystems and sustainable maritime activities. In particular, the growing demand for maritime transport, offshore energy, tourism, coastal development, fisheries and aquaculture, security and surveillance poses a major threat to the marine environment.

The European Union has taken up this challenge and established a new integrated maritime policy, of which the "European Strategy for Marine and Maritime Research"¹⁵ is a fundamental part. The strategy highlights the importance of integration between established marine and maritime research disciplines in order to reinforce excellence in science and to reconcile the growth of sea-based activities with environmental sustainability as highlighted in the European Marine Framework Directive 2008/56/C. In particular, the Commission announced the launch of a joint call under FP7 on major research topics requiring a cross-thematic approach.

The aim of the call "The ocean of tomorrow: Joining research forces to meet challenges in ocean management" is to improve our understanding and the predictive capacity concerning how marine ecosystems respond to a combination of natural and anthropogenic factors. Also how rapid environmental changes will affect the full range of goods and services provided by the oceans and which measures could be developed to mitigate or adapt to these changes. Research addressed in the call will be of cross-thematic nature, integrating in a coherent way marine and maritime research domains in order to reach an impact that a single Theme of the Cooperation programme could not attain on its own.

The call will be implemented through three different topics: topic 1 "Quantification of climate change impacts on economic sectors in the Arctic"; topic 2 "Vectors of changes in marine life, impact on economic sectors" and topic 3 "Sub-seabed carbon storage and the marine environment".

A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

OCEAN.2010-1: Quantification of climate change impacts on economic sectors in the Arctic

Call: FP7-OCEAN-2010

Changing climatic conditions in the Arctic have far reaching consequences both economically and environmentally, in particular considering the specificity and vulnerability of the region and its local populations. On the one hand there may be opportunities due to enhanced accessibility; on the other hand changes in the future use of the Arctic region would involve potentially increased anthropogenic environmental pressures, such as: noise affecting marine mammals, fisheries, shipping, accident risk and consequence, soot, pollution etc. The research is to be seen in the context of policies, such as the Communication of the Commission 'The European Union and the Arctic Region' (COM(2008) 763 final) and relevant actions in the Communication should be noted.

¹⁵ Com (2008) 534 final, 3.9.2008 - Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: A European Strategy for Marine and Maritime Research : A coherent European Research Area framework in support of a sustainable use of oceans and seas

The project will focus on assessing and quantifying Climate change impacts on both macro and meso-economic level for key sectors (maritime transport, fisheries, tourism and resource extraction) and on how these sectors could affect the Arctic environment, including climate feedbacks.

Research concerning these sectors, in particular maritime transport and fisheries, should draw upon environmental and economic modelling and explore the potential scale, benefits and issues of these activities within the Arctic environment (e.g. protection of sensitive habitats, accident response, infrastructure, noise, ship types). The project should also discuss policy and governance options including marine spatial planning, for sustainable development, whilst protecting and preserving the Arctic environment. Governance including geopolitical aspects in relation to these activities and climate change has also to be addressed, including foresight and assessment of economic impacts. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Funding scheme: Collaborative project (large-scale integrating project)

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 11 000 000.

Expected Impact:

- Providing a foundation for the sustainable development of human activities, with a minimal impact on the sensitive Arctic environment (e.g. noise affecting marine mammals, fisheries, shipping , accident risk and consequence, soot, pollution,);
- Quantifying climate change impacts at macro and meso-economic levels and in key economic sectors in the Arctic, using an integrated and trans-sectoral approach;
- Understanding the economic and social impact of climate changes in the Arctic region, and assess the risks and opportunities in relation to climate change;
- Providing a scientific foundation to support governance, geopolitics, ecosystem conservation, and socio-economic issues necessary for sustainability in relation to the expected increase in human activities in the Arctic region including with a forward-looking perspective an assessment of the state and evolution of the Arctic environment in relation to economic activities to contribute to formulation of appropriate EU policies.

OCEAN.2010-2: Vectors of changes in marine life, impact on economic sectors

Call: FP7-OCEAN-2010

Marine environments are under major global threats and subject to many changes. However, the mechanisms inducing these changes in particular changes in marine life are poorly understood and quantified. It is crucial to better understand and assess, in an integrated way, the interaction between changes in marine life and European marine and maritime economic sectors. Research shall contribute to formulating feasible adaptive management strategies for the EU.

The project will include consideration of human induced changes on marine life, including impact from transport, energy devices, exploitation of living resources, discharges, together with environmental changes (including climate changes). The focus will be on outbreaks of invasive or indigenous species, changes in distribution of population of marine organisms

such as fish populations, on the vectors of changes and the impacts of these changes on biodiversity and related maritime economic sectors. Research should consider the present situation and investigate future scenarios for adaptation and mitigation considering the introduction of new technologies and structures, such as new ballast water practices, ocean and off-shore wind energy devices, new fishing strategies and new policies needs.

The project will improve the understanding of the mechanisms causing outbreaks of indigenous species e.g. jellyfish, the spread of invasive species caused by transport or via other transfer vectors, changes in fish distribution and productivity (including exploited species) at population and community level, caused by environmental and human-induced changes. It will quantify the impact of these changes on the ecosystem and identify the trends on ecosystem structures (e.g. biodiversity) and function (e.g. food chain). It will also provide data and tools to relevant stakeholders within the environmental, policy and economic spheres e.g. for exploitation of offshore devices, transport and fisheries.

Moreover, the project will evaluate the social and economic consequences of changes in the marine ecosystems, market and non-market impacts including public perception and engagement, risk and vulnerability for related sectors (public health, tourism, transport, fisheries and aquaculture, ocean and off-shore wind energy devices, etc). When appropriate, the project should consider forthcoming strategies such as the IMO Convention on ballast water management. It will also investigate feasibility of additional management measures if necessary to address changes in the marine environment in cooperation with stakeholders, aiming to contribute information and knowledge that is vital for addressing forthcoming requirements, policies and regulations such as the EU Maritime Policy and Marine Strategy Framework Directive 2008/56/EC, Common Fisheries Policy, IMO conventions.

The project should maximise its impact by addressing several ocean and sea areas bordering the EU and when appropriate building upon existing work. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Funding scheme: Collaborative project (large-scale integrating project)

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 12 500 000.

Expected impact:

- Improved knowledge on the impact of human induced and environmental changes on marine life and economic activities in several ocean and sea areas bordering the EU;
- Quantification of the impact of changes in marine life (invasive species, outbreak, changes in marine organisms populations such as fish populations) on biodiversity and related economic sectors (tourism, fisheries and aquaculture, transport, energy), including public perception;
- Providing scientific foundation for feasible, sustainable management measures supporting policies and possible related technologies;
- Contributing to sustainable management of marine ecosystems and activities.

OCEAN.2010-3: Sub-seabed carbon storage and the marine environment

Call: FP7-OCEAN-2010

The EU Climate-Energy package contains a directive on Geological Storage of Carbon Dioxide which allows sub-seabed storage of CO₂. Moreover, in order to prepare for the large-

scale use of Carbon Capture and Storage technology, the European Commission proposes to launch a European Industrial Initiative on CO₂ capture, transport and storage, to stimulate, coordinate and support a series of large-scale demonstration plants that should be operational by 2015. Several of these demonstration projects could rely on sub-seabed storage sites. Confidence in the technology will be further enhanced by increased knowledge and assessment ability, in particular with respect to the environmental impact of CO₂ on the marine seafloor. So far, few studies specifically address possible effects on marine ecosystems in case of CO₂ seepage from sub-seabed geological storage.

The project will address the potential impact of sub-seabed CO₂ storage on marine ecosystems: during the deployment of the CO₂ injection equipment, during the injection of CO₂ into the storage site, and after the end of the storage operations. It should identify and focus on those aspects likely to be novel as compared with related activities such as hydrocarbon extraction. The project should encompass modelling as well as field studies in at least one existing European off-shore storage site. It should establish a framework of best environmental practices in the management of off-shore CO₂ injection and storage, tested in situ at least at small scale. This shall include procedures for establishing an environmental baseline for a prospective storage site (including a quantitative assessment of the vulnerability of surrounding ecosystems), and for assessment of the actual environmental impact of the sites. The development of innovative monitoring techniques able to detect episodic events and/or prolonged low-flux seepage is a key element of the project. Possible environmental impacts on long time scales (several decades to centuries), and associated risk management needs, will also need to be investigated. The scope of the project should be ambitious but realistic; the investigations should be extended to water depths with expected relevance to CO₂ storage including the continental margins. Economic issues such as the cost of long term monitoring or the cost of intervention if leakage were to happen should be considered, taking account of general site characteristics such as storage type, water depth, etc. Public perception of sub-seabed carbon storage should also be assessed.

The project shall take account of knowledge accumulated in ongoing CO₂ storage experiments in Europe. A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

Funding scheme: Collaborative project (large-scale integrating project)

Additional eligibility criteria: The requested EC contribution shall not exceed EUR 10 500 000.

Additional information: The participation of industrial partners operating - or planning to operate – sub-seabed CO₂ storage sites is crucial to the implementation of the project. Because sub-seabed carbon storage is a global issue, the participation of one or several partners (funded under their national budget) from either Japan, Australia or the US would maximise the impact of the project. This will be considered in the evaluation.

Expected impact:

- A better understanding of the potential impact of the whole life cycle of sub-seabed carbon storage on marine ecosystems in accordance with the precautionary principle of the EU marine strategy;
- Development and use of innovative monitoring techniques able to detect episodic events and/or prolonged low-flux seepage;
- Improved economic assessment of monitoring costs and possible mitigation costs;
- Assessment of public perception of sub-seabed carbon storage;

- Enhanced international collaboration.

Activity 2.2 Fork to farm: Food (including seafood), health and well being

Area 2.2.1 Consumers

Understanding consumer behaviour and consumer preferences as a major factor in the competitiveness of the food industry and the impact of food on the health, and well-being of the European citizen. The focus will be on consumer perception and attitudes towards food including traditional food, understanding societal and cultural trends, and identifying determinants of food choice and consumer access to food. The research will include the development of data bases on food and nutrition research.

KBBE.2010.2.1-01: Determinants of food choice and eating habits

Call: FP7-KBBE-2010-4

The objective is to identify the main driving factors for food choice and eating habits (including genomics and brain functions). Research will help understanding discrepancies between actual versus optimal dietary behaviour. It should also develop strategies to induce behavioural changes and facilitate consumers' choice for a healthy diet. Cross-cultural and sub-population group differences and interactions with other life style factors such as physical activity should also be considered taking, where applicable, existing longitudinal studies into account. Methods for communication and dissemination based on the developed strategies should be set up to reach the consumers, in particular children, adolescents, and their parents. A cross-disciplinary approach should be encouraged. Where appropriate, gender issues should be considered.

Funding scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Expected impact: It is expected that the results will help to better understand (un-)healthy food choice through identification of main determinants and triggers and to facilitate a healthy food choice for European consumers. Methods for a better communication and dissemination strategy in Europe that will induce healthier lifestyles in children, adolescents, and adults. Increased collaboration between different scientific fields and contribution to the successful achievements of the EU Platform on Diet, Physical Activity and Health.

KBBE.2010.2.1-02: Media training for food and nutrition scientists

Call: FP7-KBBE-2010-4

Most food scientists lack experience and knowledge on how to deal with the media, both the print media and the audiovisual media. The first aim of this topic is to design suitable communication training tools oriented to among (young) scientists and engineers dealing with issues covering the food chain. The ability of scientists to structure information and to make it available to the public in an attractive, understandable and convincing manner has to be developed first, thereby taking into account the framework surrounding research and innovation. Writing and editing skills will be developed to enable scientists to produce texts for journalists. Behavioural training courses will be developed and held, in which scientists will learn how to prepare for, and participate effectively in, a range of different types of media interviews with regard to food, nutrition and health issues including communication in crisis situations.

Funding scheme: Coordination and Support Action (supporting action). The requested European Community contribution shall not exceed EUR 1 000 000.

Expected impact: The project will provide an answer to consumers' needs and demands regarding food and nutrition information, thereby improving consumer trust in food research and the food industry. The necessary multicultural aspects will be addressed via trainers and students from different European countries.

Area 2.2.2 Nutrition

Understanding beneficial and harmful dietary factors as well as the specific needs and habits of population groups as a major controllable factor in the development and reduction of occurrence of diet-related diseases and disorders including obesity and allergies. This will involve the investigation of new dietary strategies, the development and application of nutrigenomics and systems biology, and the study of the interactions between nutrition, physiological and psychological functions. It could lead to reformulation of processed foods, and development of novel foods and ingredients, dietetic foods and foods with nutritional and health claims. The investigation of traditional, local, and seasonal foods and diets will also be important to highlight the impact of certain foods and diets on health, and to develop integrated food guidance.

KBBE.2010.2.2-01: Neurological pathways regulating hunger/satiety and gut behaviour

Call: FP7-KBBE-2010-4

The main objective is to better understand the mechanism of hunger/satiety. This will contribute to reducing the risk of the development of chronic diseases. More knowledge of the brain-gut function and dysfunction related to the food intake, the neurological and neuro-endocrine pathways that regulates the digestive processes and the mechanism of hunger/satiety is needed. This will lead to identify dietary components/food structure that can help to control food intake and to develop food prototype that control satiety. The development of cerebral responses to food through the gut-brain axis across lifespan particularly during childhood, adolescence and elderly will be studied. Links between the appetite regulatory network, eating behaviour and food preferences should be considered. The use of imaging and other cutting edge technologies is recommended. Intervention studies should help to validate the effects of the relevant food characteristics on the regulation of satiety/hunger. Where appropriate, gender issues should be considered.

Funding scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Additional information: It is viewed that the participation of representatives of all relevant disciplines (such as nutrition, neurology, neuroimaging, psychology, food technology and physics) and of the food industry should add to the scientific and/or technological excellence of the project and/or is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: Better knowledge of mechanisms of the neurological and neuro-endocrine pathways regulating hunger/satiety will lead to relevant preventive strategies for the European population, to reduction of chronic disease burden, and to increased competitiveness of European food industry through the development of new food products. It will contribute to

the activities of the EU Platform on Diet, Physical activity and Health and support European public health policy, such as the White Paper on Nutrition, Overweight and Obesity.

KBBE.2010.2.2-02: Diet and prevention of functional decline of the elderly

Call: FP7-KBBE-2010-4

The proportion of elderly people over 65 years in Europe is predicted to increase from 25% to 40% by 2030. The aim of this topic is to study the effect of diet on ageing including the decline of mental health function, cardiovascular health, digestive health, bone density, immunity and muscle mass and any other relevant functions. In order to prevent functional decline and prolong quality of life, the impact of nutrition on the ageing process needs to be further studied at molecular, cellular and whole-organism levels taking into account the whole diet rather than single nutrients. Food will be designed to better meet the specific nutritional requirements, and specific dietary behaviours and preferences of the older population and prevent functional decline. Where appropriate, gender issues should be considered.

Funding scheme: Collaborative Project (large integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Additional information: It is viewed that the participation of relevant industrial partners, in particular SMEs, and/or other end-users should add to the scientific and/or technological excellence of the project and/or is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The results of the research shall contribute to a better understanding of nutritional needs for a better quality of life while ageing. This will support European strategies on nutritional recommendations and provide scientific input that will contribute to the substantiation of nutritional and health claims. The outcome will also contribute to increase competitiveness of the European food industry through the development of population-targeted food products.

KBBE.2010.2.2-03: Identifying research needs on malnutrition in Africa – Mandatory Africa

Call: FP7-AFRICA-2010

Intensified actions against malnutrition in countries most severely affected can greatly increase the chances of achieving the Millennium Development Goals to eradicate extreme poverty and hunger, to reduce child mortality and to improve maternal health. The policy strategies have to be based on scientific evidence. The objective is to map current nutrition research programmes and activities and to identify research needs to tackle malnutrition in Africa, particularly in sub-Saharan Africa.

Funding scheme: Coordination and Support Action (supporting action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt).

Additional information: This topic is part of the call for Africa published in coordination with Environment (including climate change) and Health Themes (see introduction to call for Africa on page 6 and call fiche on page 77).

The active participation of African ICPC, particularly from sub-Saharan Africa and of relevant non-governmental organisations should lead to an increased impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European added value will lie in establishing priorities, strengthening commitment and identifying possible needs for resources, for synergies and coordinated research efforts on European and global level to tackle the malnutrition issue. Research should contribute to the eradication of malnutrition and to the human, social, and economic development of African nations.

Area 2.2.3 Food processing

Optimising innovation in the European food industry through the integration of advanced technologies into traditional food production including fermented food, tailored process technologies to enhance the functionality, quality and nutritional value of food including organoleptic aspects in food production including new foodstuffs. Development and demonstration of high-tech, eco-efficient processing and packaging systems, smart control applications and more efficient valorisation and management of by-products, wastes, water and energy. New research will also develop sustainable and novel technologies for animal feed, including safe feed processing formulations and for feed quality control.

KBBE.2010.2.3-01: Development of biodegradable food packaging

Call: FP7-KBBE-2010-4

The objective is to develop biodegradable packaging for food applications. The packaging material should be derived in a sustainable way from food industry by-products. Particular attention will be paid to the stability of the food and the food packaging during storage: food safety and quality will be the primary aims through development of new packaging materials and processes. The environmental aim is to reduce packaging waste by making the materials biodegradable. The industrial applicability has to be demonstrated together with the positive impact on the environment via a Life Cycle Assessment.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: It is viewed that the participation of relevant industrial partners from the food and the packaging industry, in particular SMEs, and/or other end-users is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The main expected impact is the application of biodegradable packaging by the food industry. The European added value lies in the combination of a lower environmental impact and a higher competitiveness of European packaging and food industries, including SMEs. The project will provide an answer to consumers' demands regarding food safety and environmental issues.

KBBE.2010.2.3-02: Strategies for personalised nutrition

Call: FP7-KBBE-2010-4

Nutrigenomics offers significant opportunities to improve public health via tailoring diet on the basis of genotype and phenotype. The aim is to integrate scientific, technical, IT, sensory

and socio-economic aspects to develop possible principles of personalised nutrition, with consumer benefit being the main driver. The project should develop and test several models and concepts for development, production and distribution logistics of personalised foods. All levels of personalisation should be discussed, from the self choice in shops, over foods for target groups (from healthy consumers to patients), until customised production and delivery systems. Besides the scientific and technical issues, a broad Europe-wide stakeholder discussion of risks and benefits should be organised, involving scientists, industry, retailers, consumer and patient representatives, health professionals, health insurance companies, public health authorities, and others, and also assuring media coverage. Topics for this discussion should be Europe-wide success and failure factors of personalised nutrition such as scientific evidence, ethical and legal issues, communication, economic issues, consumer acceptance, benefits in terms of public health. It should be emphasised that this topic definitely goes beyond the following issues: genome and biomarker analysis; specific nutrients; dietary supplements; dietary advice; development of a specific food product. Where appropriate, gender issues should be considered.

Funding scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Additional information: It is viewed that the participation of relevant international partners from Australia, Canada, New Zealand and USA as well as of relevant industrial partners, in particular SMEs, and/or other end-users should add to the scientific and/or technological excellence of the project and/or is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European added value lies in building up the necessary critical mass in several fields of expertise and strengthening European research capacity in this area to provide sound scientific support to a technology that might be a revolution in food distribution. Basic science and enabling technologies will be integrated into applicable technologies with direct impact on the consumer. In the long run, strong contribution to renewing the offer of the food industry to the consumers. Another aspect of European added value lies in contributing to identifying and addressing socio-economic challenges, risks and benefits in the field of personal nutrition. Overall, this research will help foster an early debate between scientists and the general public and support policy in the area of public health.

KBBE.2010.2.3-03: Health-value-added food products for population groups at risk of poverty

Call: FP7-KBBE-2010-4

Food poverty impacts on the social behaviour of poor households and their dependents. It requires an adequate nutritional aim at the level of food production, manufacture and preparation. The objective is to develop health-value-added food products in order to improve the diets of population groups at risk of poverty, considering that the quality and/or the quantity of the food they consume is too low to cover their basic nutritional requirements, so that their health and social participation are adversely affected. Attention will also be paid to develop knowledge for a robust understanding of the existing barriers to healthy nutrition and of the effectiveness of ways to overcome them. The health-value-added food products should be developed considering lower production costs, high accessibility, convenience, sensory quality, nutritional quality, shelf-life, and safety. Besides food technology, research will include input from social science, consumer science and nutrition. The ethical dimension of the work should be carefully considered in view of the target group.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: Creation of new links and synergies between research actors is essential to achieve the targeted integration in an enlarged European Union, thereby filling transition gaps in the field of food processing. This will be considered in the evaluation. The active participation of relevant non-governmental organisations should lead to an increased impact of the research to be undertaken; this will be considered by the evaluators. It is viewed that the participation of relevant industrial partners from the food and the packaging industry, in particular SMEs, and/or other end-users is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: Affordable and accessible health-value-added food for targeted social groups in different European countries, especially low-income populations, produced by an optimised utilisation of resources. Effective exploitation by research institutions and the food industry, including SMEs, of the products developed. This area of research and development has received little attention by now. The results will support the application of the European nutrition and social policy.

Area 2.2.4 Food quality and safety

Assuring chemical and microbiological safety and improving quality in the European food supply. This will include understanding the links between microbial ecology and food safety; developing methods and models addressing the integrity of the food supply chains; new detection methods, traceability and its further development, technologies and tools for risk assessment, including emerging risks, management, and communication, as well as enhancing the understanding of risk perception. This will also include science based methods for risk benchmarking in the field of food safety.

KBBE.2010-2-4-01: Improving integration in food safety research

Call: FP7-KBBE-2010-4

Transitional gaps have occurred in the enlarged European Union in the field of food safety, requiring efforts to strengthen capacity in areas of transnational scientific collaboration, standardisation, and scientific policy support. Therefore, collaborative research including research actors/institutions in the enlarged EU and the Candidate countries is needed to close these gaps through improved integration, characterised by an increased level of collaboration and by a stronger European dimension in the proposed research. The research should promote excellence and be of high relevance for the safety of the European food supply and for protecting the European consumers. The activities will also include medium-term researcher exchanges, joint net-working workshops, joint publications, and other actions for sharing of expertise and knowledge transfer, etc.

Funding scheme: Collaborative project (small or medium scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: A complementary and balanced partnership of research actors especially supporting and assuring participation from the enlarged EU and the Candidate countries will improve the quality of the consortium as a whole. This will be considered in the evaluation.

Expected impact: The European added value lies in reinforcing cooperation and better exploiting research synergies across the enlarged EU and the Candidate countries to promote excellence. By building new bridges and widening the participation through joint research in the area of food safety, full profit from the complementary expertises will be achieved. This will strengthen the European Research Area, provide opportunities for capacity building and knowledge transfer between European research actors, increase transnational collaboration, and support EU and national policies. Moreover, the project will contribute to a safer European food supply, which is in the interest of the European consumers.

KBBE.2010.2.4-02: Identification of the effect of processing on food contaminants

Call: FP7-KBBE-2010-4

The research will generate new knowledge on the dynamics of priority chemical hazards; structural changes and interactions with other molecules or substrates during food processing and storage. It includes process-induced contaminants from inoffensive precursors, mitigation and removal strategies, tracing through the food processing, final fate and level in the end-product, including the potential impact on quality attributes in the final product. It also includes chemical hazards or structural changes influenced by different processing techniques. This project will require industry involvement, including relevant demonstration activities.

Funding scheme: Collaborative project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: It is viewed that the participation of relevant industrial partners, in particular SMEs, and/or other end-users is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European added value lies in increasing the competitiveness of the European food industry by improved understanding of the effects of food processing on chemical hazards and improved processing monitoring techniques. Relevant demonstration activities will enhance the cooperation between scientific disciplines and stakeholders. This should help the EU food industry to increase its innovation potential, in particular regarding food safety and SMEs.

KBBE.2010.2.4-03: Quality and safety aspects of feed

Call: FP7-KBBE-2010-4

European livestock production largely depends on safe high-quality feed, which provides the basis for the supply of food of animal origin with the same characteristics. Research in this area should focus on traceable, appropriate and safe feed, including unconventional/emerging feed, with a strong link to the food chain by incorporating the aspect of transfer to food of animal origin. Technologies and tools ensuring improvement of feed safety, and thereby food safety, through monitoring and reducing microbiological and/or chemical risks related to feed are important deliverables. Relationships between quality of feed and quality of food of animal origin will be investigated.

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Expected impact: The European added value lies in enabling a full food chain approach and promoting safe feed for safe food production with support of scientific data. Production of

safe feed of high quality will improve food safety and food quality. It is expected that the research will support feed and food safety policies.

Area 2.2.5 Environmental impacts and total food chain

Protecting both human health and the environment through a better understanding of the environmental impact on and from food/feed chains. This will involve study of food contaminants and health outcomes, monitoring of environmental effects, developing enhanced tools and methods for the assessment and management of impacts on, and resistance of, food and feed chains to global changes, in particular to the environment. Assuring quality and the integrity of the food chain requires new models for commodity chain analysis and total food chain management concepts, including consumer aspects.

KBBE.2010.2.5-01: Transparency of food pricing

Call: FP7-KBBE-2010-4

Research in this area should support the improvement of the food supply chain performance against the background of the recent food crisis. It should examine pricing mechanisms as a means to identify deficiencies or malfunctioning of the food supply chain. Mechanisms linking commodity prices with producer and consumer prices will be investigated and related to relevant explanatory variables. Models for efficiency improvements, including all food chain operators and consumer perspectives, also covering logistics, will be developed. The research should have a European and cross-country perspective promoting wide participation across the enlarged European Union, and focus on solutions for several specific short and long distribution chains of staple foods.

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: It is viewed that the participation of the retail sector and of relevant industrial partners, in particular SMEs, is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European added value lies in an increased understanding of the essential drivers of food market functioning, reinforced cooperation and better exploitation of research synergies in an enlarged EU, and strengthening of institutional capital in the area of food quality and safety. This research will contribute to the identification of an action plan at EU/country level forwarding solutions to address the shortcomings of the food markets. In addition, enhanced awareness of determinants of food prices by industry and consumers may lead to improved competitiveness of the European food industry as well as to the preservation of the buying power of European households.

KBBE.2010.2.5-02: Eco-challenges in the food chain of the Latin American region – SICA (Latin America)

Call: FP7-KBBE-2010-4

The research should focus on eco-challenges in the Latin American countries food production and supply chain by developing new knowledge and the means to transfer it to end users. This will address the socio-economic and environmental dimension of sustainable development including market access for small scale food producers and transformers. The project will

offer new perspectives for assessing and exploiting the value added food chains. Appropriate activities include improvement of existing methodologies and processes, and/or development of novel methodologies and improved handling procedures, traceability and hazard based controls. Emphasis should be on dissemination and education strategies. The project will deliver development and implementation of methods for value chain analysis of entire food chains, explicitly incorporating sustainability assessment. The principle of mutual interest and shared benefits will underpin this international cooperation with third countries.

Funding scheme: Collaborative project (small or medium-scale focused research project) for Specific Cooperation Actions dedicated to International Cooperation. The requested European Community contribution shall not exceed EUR 3 000 000.

Additional eligibility criteria: Specific International Cooperation Action (SICA) – minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from the Latin American region.

Additional information: It is viewed that the participation of relevant industrial partners, in particular SMEs, and/or other end-users is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European and international added values lies in mutual knowledge generation, capacity-building, and enhanced collaboration between different scientific disciplines in research, training, sharing information and public education, for the benefit of food consumers, locally and internationally. Through an eco-innovative approach to sustainability of value added export food chains, the project will increase competitiveness of the food industry. Improved life cycle analyses integrating ethical and socio-economical aspects that quantify the impact, for a given technological system, by measuring the environmental burden flows will be delivered. The project therefore addresses and adds value to the globalised food market.

Area 2.2.6 European Research Area

KBBE.2010.2.6-01: Strengthening cooperation in food safety research in the enlarged European Union

Call: FP7-KBBE-2010-4

This coordinating action will consist of a set of activities focussing on coordination of research activities and policies in the area of food safety. It will connect research and policy actors in the enlarged European Union and the Candidate countries, in order to fill transitional gaps and achieve a broader network and deeper collaboration between them. Bringing in the appropriate European dimension will improve the effectiveness of the coordinating action.

Funding scheme: Coordination and support action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional information: A complementary and balanced partnership of research and policy actors especially supporting and assuring participation from the enlarged EU and the Candidate countries will improve the quality of the consortium as a whole. This will be considered in the evaluation.

Expected impact: The European added value lies in the contribution to structure and enhance the European Research Area in the field of food safety. A broad collaboration will lead to a more efficient use of research funds and sharing of best practices.

Activity 2.3 Life sciences, biotechnology and biochemistry for sustainable non-food products and processes

- *Strengthening the knowledge base and developing advanced technologies for terrestrial or marine bio-mass production for applications in industrial processes and in energy production. This will include plant, animal and microbial genomics and metabolomics to improve the productivity and composition of raw materials and bio-mass feedstocks for optimised conversion to high added-value products including biological resources utilisable in pharmaceutical industry and medicine, while exploiting natural or enhanced terrestrial and aquatic organisms as novel sources. This will fully incorporate life cycle analysis of bio-mass production practices, transportation, and storage and market deployment of bio-products.*
- *Addressing the application of industrial bio-technologies within whole crop and forest bio-mass chains to realise the full potential of the bio-refinery approach (e.g. green chemicals), including socioeconomic, agronomic, and ecological and consumer aspects. This will be enhanced by an increased understanding and control of plant and microbial metabolism at the cellular and sub-cellular level, and how this is integrated into whole system performance in the production of high value commodities deploying bio-processes with increased yield, quality and purity of conversion products, including bio-catalytic process design.*
- *Using or developing bio-technologies for novel and improved high quality, high added-value and renewable forest based products and processes to increase sustainability of wood and wood production, including timber, renewable materials and bio-energy stocks.*
- *Addressing the potential of biotechnology to detect, monitor, prevent, treat and remove pollution.*
- *Maximising the economic value of waste and by-products through new and potentially energy-saving bio-processes, alone or in combination with plant systems and/or chemical catalysts.*

Area 2.3.1 Novel sources of biomass and bioproducts

The production of bio-mass in terrestrial environments is of greatest importance for the development of the KBBE as this will deliver feedstocks and precursors for nearly all bio-industries or directly saleable end-products.

Research and development activities will foster the optimisation of these biomasses for industrial purposes. It will generate knowledge in metabolic control, pathway design, metabolic engineering in plants, animals and other organisms (such as fungi)¹⁶, and domestication and breeding, also improving agricultural traits. Novelty will rely to some extent on screening of terrestrial biodiversity and discovery of new organisms and new biochemical pathways. The development and optimisation of novel expression systems in terrestrial organisms will eventually lead to new products and practices.

KBBE.2010.3.1-01: Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants – Mandatory ICPC (Latin America and/or

¹⁶ However, the focus will be on plant and animal biotechnology. Microbial biotechnology will be mainly covered in Areas 2.3.3 and 2.3.5.

Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries)

Call: FP7-KBBE-2010-4

Research on abiotic stress tolerance of plants under climate change conditions is priority in the EU and in third countries, with biotechnology as a key tool addressing the ability of plants to cope with e.g. droughts, floods, exposure to intensive radiation, high or low temperatures, depletion of soil nutrients, salinity, acidification and others. The current fragmentation of ongoing efforts, in particular across vulnerable areas in Latin America, Asia and Africa, calls for better coordination. This topic aims to reinforce world-wide cohesion of relevant EU R&D projects and programmes addressing abiotic stress tolerance with similar projects and programmes launched by third countries and international organisations, such as the Food and Agriculture Organisation (FAO) and the Consultative Group on International Agricultural Research (CGIAR). This co-ordination action will consist of the establishment of an international forum of programme managers, representing R&D programmes operating in plant stress tolerance, from: i) the EU – both FP7 and Member States/Associated countries national programmes, with the involvement of ERA-NETs -, ii) third countries and iii) international organisations. The activities of such forum would include: a) exchange information, share objectives and create links between the respective programmes (mapping and comparisons of on-going activities, etc.); b) organise multilateral networking and partnership initiatives among on-going projects from each programme (including project-twinning activities, valorisation of research results and transfer of results to end users...) and c) discuss and formulate co-ordinated research agendas, jointly plan and possibly implement future initiatives in a concerted manner, in order to tackle this global issue via world-wide co-ordinated efforts. Overall, this global initiative should thus improve the co-ordination and efficiency of programmes operating in plant stress tolerance world-wide, both by pooling efforts and resources and thus increasing synergies on current activities and by facilitating a concerted and co-ordinated planning of future activities.

Relevant experts together with programme managers will identify concrete strategic needs, bottlenecks, tools, methods, resources and standards for the development of a generic translational pipeline (not linked to a particular crop plant or plants for a particular use such as food, feed or bio-materials) for agricultural and forest crops. The main focus of this exercise should be on exploiting further the synergies to be gained by interfacing physiological and molecular/genetic research, taking into account local conditions and practices. A multidisciplinary approach will review scientific and technical challenges in the context of societal needs and ethical, economic, environmental, legislative and regulatory implications. This will result in global synergies and alliances as well as recommendations and actions on key activities on abiotic stress tolerance that are of highest priority for translation of modern plant sciences (e.g. plant genomics) to the field. A successful proposal should include an efficient communication and dissemination strategy.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries.

Additional information: The participation of countries with S&T bilateral agreements with the EC, ICPC and industrialised ones (Argentina, Australia, Brazil, Canada, Chile, China, Egypt, India, Korea, Mexico, Morocco, New Zealand, Russia, Ukraine, Tunisia, South Africa,

United States), is particularly encouraged. Participation of these countries as well as of international organisations active in this field should add to the scientific and/or technological excellence of the project. This will be considered in the evaluation.

Expected impact: The project will contribute to accelerate transformation of investment and research efforts on plant sciences and genomics into practical strategies, technological tools and applications for the optimisation of crop systems, generating European and world-wide know-how in terms of adaptation of crops to abiotic stress. It furthermore aims to contribute to poverty reduction (UN Millennium Development Goals) and mitigation of climate change consequences.

Area 2.3.2 Marine and fresh-water biotechnology (blue biotechnology)

The economic and scientific potentials of aquatic environments (principally marine but including freshwater also) remain insufficiently explored using the power that modern biotechnology provides. Moreover, their resources remain largely untapped by European industry. Extreme or specific environmental conditions (e.g. in temperature, pressure, salt content, pH, chemical composition) and the enormous biodiversity of these ecosystems offer multiple opportunities for bio-prospecting, exploitation and use of microbes (e.g. cyanobacteria, fungi), plants (micro- and macro-algae) and animals (e.g. fish, molluscs, sponges) and their physiological performance and genes. This can lead to novel products or sources for industrial applications (e.g. bio-processing, biomass, bio-energy, bio-materials, specialties, pharmaceuticals, and aquaculture) and beyond.

KBBE.2010.3.2-01: Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products

Call: FP7-KBBE-2010-4

In the context of exploiting marine biomass for industrial applications by means of biotechnological tools, it is of high importance to provide appropriate culture methods for target organisms as alternative to specimen collection, and to valorise the existing knowledge in this field by disseminating it widely to private and public researchers.

The aim of the project will be to overcome bottlenecks and barriers currently encountered in culturing marine organisms with suspected or known bioactive properties. Focusing on one or more types of, for instance, bacteria, algae, fungi or invertebrates such as sponges, corals and molluscs, the project will also aim at facilitating the efficient and sustainable enclosed cultivation of these organisms in order to improve the availability of secondary metabolites and avoid destructive *in situ* harvesting processes (e.g. in endangered coral reefs). Specifically, the project will explore these underutilized or novel organisms and their bioactive compounds as potential new sources of e.g. pharmaceutical, cosmetic or industrial products. Culture and/or fermentation conditions will be optimised so that the relevant bioactive characteristics (e.g. composition, product stability) are appropriately expressed and the bioactive compounds can be recovered with selective downstream processing techniques. Finally, it will identify possible applications as a prerequisite for the design of sustainable production pathways. Socio-economic and environmental sustainability aspects connected with the optimisation of these production systems should be considered. Collecting the chosen organisms will fully adhere to relevant international treaties related to biodiversity preservation, sustainable use of its components, and fair and equitable sharing of benefits

arising from genetic resources. Where appropriate existing collections of marine organisms should be taken into consideration as sources of biological material.

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: It is viewed that the active participation of relevant industrial partners, in particular SMEs, and of relevant partners from ICPC should add to the scientific and/or technological excellence of the project, and is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation. Up to 3 projects may be funded.

Expected impact: The topic's European added value originates from its support to the European Strategy for Marine and Maritime Research (2008) and as a result of enhancing the research capacities at European level, including in the outermost EU regions¹⁷. The project will also strengthen the competitiveness of European industry, by providing a science and technology basis to develop products for the quickly increasing world market of biotech products.

KBBE.2010.3.2-02: Learning from research projects: specific dissemination action to potential users in marine genomics

Call: FP7-KBBE-2010-4

The proposed action should link direct knowledge transfer, dissemination and training from a range of projects in marine genomics, including those from previous EU and other Research Programmes. Marine genomics is a key area for direct knowledge transfer from recent projects to potential users and future practitioners. Genomic approaches such as metagenomics are now providing new methods of understanding the marine environment and resources. They offer the ability to mine marine diversity for products and processes that will contribute to the welfare of mankind in a sustainable and environmentally compatible manner. Interdisciplinary approaches as offered by genomic techniques are essential for the necessary advancement of marine biotechnology. The direct transfer of knowledge from research projects to private and public researchers in marine genomics and related fields will significantly enhance the European research capacity. Particular emphasis should be put on providing knowledge to SMEs using genomic methods for their activities. Institutions with training and dissemination experience, either for individuals or in courses, in advanced molecular techniques for the study of marine organisms are encouraged to apply.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Expected impact: This specifically targeted dissemination action is an important element to improve the availability of specialists in marine genomics in Europe. It will significantly contribute to realizing the potential offered by marine genomics for understanding the marine environment and for the wise utilisation of marine resources by means of biotechnology, in particular in the industry. The action will also maximise the exploitation of results from recent and on-going projects in marine genomics and will thus allow fast knowledge transfer for an improved interdisciplinary research capacity in Europe.

¹⁷ Guadeloupe, French Guiana, Martinique and Réunion (the French overseas departments), the Canaries (Spain), and the Azores and Madeira (Portugal)

KBBE.2010.3.2-03: Modification of marine or freshwater algae to better suit industrial applications

Call: FP7-KBBE-2010-4

The use of algae for industrial products requires significant adaptations in their genetic and metabolic capacities in order to optimize them for industrial exploitation. Taking into account the results of recent algae or plant genome sequencing efforts, the project will target the improvements needed for efficient development and application of industrial algae-based products (e.g. bioplastics, biofuels, biocomposites, pharmaceuticals, pigments). With this analysis, the project will modify accordingly, via genetic engineering, several selected species of micro- and/or macroalgae (excluding cyanobacteria). It will also develop new (or improve existing) effective stable transformation protocols, which are particularly missing for multicellular algae. The optimization of selected organisms will result in new or modified products and/or in improved content of components for an effective commercial application. Depending on the target molecules and organisms selected, the project will also include the study of cellular accumulation (e.g. cell wall, intracellular), metabolism or secretion mechanisms, or procedures for extraction and/or purification. This will be followed by functional testing of products, and development of a concept for industrial scale production facilities. The project will fully adhere to relevant EU and national regulations implementing appropriate safeguards for regulation and monitoring of genetically modified organisms, as well as to international treaties related to biodiversity preservation, sustainable use of its resources and fair and equitable sharing of benefits arising from genetic resources.

Funding Scheme: Collaborative Project (large scale integrating project). The requested European Community contribution shall not exceed EUR 6 000 000.

Additional information: Involvement of European industry, in particular SMEs, and its close collaboration with leading research institutions should add to the scientific and/or technological excellence of the project and is essential to achieve a clear economic potential and the expected impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: The European added value lies in supporting the objectives of the European Strategy for Marine and Maritime Research (2008), which aims at developing a competitive and sustainable European maritime economy, in harmony with the marine environment. At the same time, based on the similar scientific techniques applied to freshwater algae, the project extends these policy objectives to the freshwater environment.

KBBE.2010.3.2-04: Innovative aquatic biosensors

Call: FP7-KBBE-2010-4

By combining technological and biological elements in a single measurement device biosensors offer the possibility for highly specific and precise measurements. Their biological elements can be chosen according to the many different applications in the detection of complex molecules, e.g. of toxins in food and of pollutants in the environment as well as for the surveillance of production processes.

Biosensors based on the use of aquatic organisms or derived components open new avenues to respond to the growing need for accurate spot and on-line measurements in the monitoring of aquatic environments, environmental remediation, industrial production, diagnostics and research. Based on most recent knowledge on genomics and physiology as well as information technology the project will develop innovative biosensors in order to detect and

measure biological and chemical processes. Research should *inter alia* focus on the identification of suitable source organisms, the molecular structure of the necessary reactive elements or biological components in the biosensor(s) and the effective integration of those elements/components into the technical system of the measurement device. The project should, furthermore, include a test phase to demonstrate the potential application of the biosensor(s).

Funding Scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: Close collaboration between European industry, in particular SMEs, and leading research institutions should add to the scientific and/or technological excellence of the project and is essential to achieve a clear economic potential and the expected impact of the research to be undertaken. This will be considered in the evaluation. Up to 2 projects may be funded.

Expected impact: New biosensors will broaden the range of innovative technological tools, which form the basis of the European industrial leadership in monitoring and diagnostic technologies. Improved measurement capabilities for highly specific and complex biological components will improve the analytical capabilities of European research institutions and industry.

Area 2.3.3 Industrial biotechnology: novel high added-value bio-products and bio-processes

This area will address the development and application of industrial biotechnology for the production of high-value products such as fine and speciality chemicals, antibiotics, vitamins, detergents, etc. Industrial biotechnology enables industries to deliver novel products which cannot be produced by conventional industrial methods; in addition it will make possible replacing chemical processes by more resource efficient biotechnological methods with reduced environmental impact, thereby extending and strengthening the KBBE.

Research and development will enable among others the discovery of novel enzymes and micro-organisms with novel applications, the elucidation and optimisation of their functions, improvements in concept and design of bioreactors, such as biocatalytic process design, advancing fermentation science and engineering, and improving up- and down-stream processing where relevant.

KBBE.2010.3.3-01: Robust and novel biocatalysts for industrial applications

Call: FP7-KBBE-2010-4

Enzymes are a sustainable alternative (both in environmental and economic terms) to the use of harsh chemicals and costly and toxic catalysts by industry. Working under moderate temperatures and pH conditions, they reduce energy consumption, while their high specificity minimizes the production of wastes and toxic by-products.

Constantly increasing industrial competitiveness and higher environmental standards have resulted in a greater demand for enzymes to be used in a number of industrial processes. Discovery of novel enzymes for specific applications and their development to ensure optimal properties, stability and performance under industrial conditions is therefore essential for the viability of new bioprocesses and bioproducts.

The proposals should address one or both of the following aspects:

(i) The search for novel enzymes in micro-organisms from specific or extreme environments (extremophiles) whether by direct isolation or by metagenomic mining to create an expanding range of biological catalysts for industrial use. The design and development of efficient expression systems for the newly identified enzymes might also be addressed.

(ii) Development and implementation of technologies and methods for fast and accurate determination of enzyme activity (e.g. high-throughput screening) and methods to produce enzymes that are better suited to the rigours of the industrial environment (e.g. by use of directed evolution, rational design, gene shuffling and protein or cofactor engineering).

The proposal should combine the discovery and/or development of specific enzymes for targeted industrial products and processes with the development of platform technologies with the view to expand their industrial use.

In order to avoid duplication with previously EC funded RTD, the development of marine polysaccharide modifying enzymes is excluded.

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: The effective involvement of industrial partners, in particular SMEs, is essential to achieve the expected impact of the research to be undertaken. This will be considered in the evaluation. This topic maybe particularly suited for collaboration throughout the enlarged European Union and Candidate countries. Up to 3 projects may be funded.

Expected impact: New industrial applications of enzymes with improved sustainability. Increased competitiveness of European biotechnology industry and those industrial sectors incorporating enzyme-based bioprocesses. The development of platform technologies is expected to enhance industry's capabilities for screening and/or design of biocatalysts.

KBBE.2010.3.3-02: Biotechnology for 'greening' the chemical industry - Industrial bioprocesses for fine and speciality chemicals and intermediates

Call: FP7-KBBE-2010-4

In the trend towards increased eco-efficiency, the chemical industry is taking two main pathways: Firstly, there is a gradual move towards using renewable resources with reduced greenhouse gas production as compared to their fossil counterparts. Secondly, there is an increased use of biotechnological routes with reduced energy consumption and with lower toxic wastes as compared to conventional chemical processes. The possibility of using bio-based feed stocks and/or bio-processes promises to deliver to the chemical industry innovative new products with added profitability and lower environmental impact.

Specialised, high-value chemicals (e.g. vitamins, amino-acids, antibiotics, chiral chemical compounds, therapeutic products) normally require long chemical synthetic routes involving complex reaction steps with possible toxic side products and waste streams.

To broaden the range of fine and speciality chemicals and intermediates produced by biotechnological routes, research is needed on aspects such as: (i) design and optimisation of enzymes to be used in synthetic chemistry, (ii) the selection/development of modified microorganisms which may be resistant to heat, pressure or low pH while producing relevant

or new chemical entities and (iii) the integration of biotechnological steps into conventional chemical processes.

The project should develop and integrate biotechnological routes yielding identified fine and speciality chemicals and intermediates which are promising in terms of eco-efficiency, economic potential, complexity and /or specificity of the synthetic pathways. Economic viability and eco-efficiency should be evaluated and assessed on a quantitative basis. Wherever feasible, the use of renewable sources is encouraged. The project is also expected to address technological /economic barriers for the up-scaling of the most promising candidate/s to industrial production.

Funding scheme: Collaborative Project (large scale integrating project). The requested European Community contribution shall not exceed EUR 9 000 000.

Additional information: The strong involvement of industrial partners, in particular SMEs is essential to achieve the expected impact of the research to be undertaken. Close research collaboration between the European chemical and biotechnology industries and leading research institutions will both reinforce the scientific and/or technological excellence and the industrial relevance and economic potential of the research. This will be considered in the evaluation. This topic maybe particularly suited for collaboration throughout the enlarged European Union and Candidate countries.

Expected impact: Enhance the competitiveness of European industry by substituting complex chemical syntheses by clean and non-polluting bioprocesses. The identification of promising biotechnological routes for the production of fine and speciality chemicals and chemical intermediates, wherever possible from renewable bio-based resources, will have significant impacts in helping building Europe's KBBE. The project should contribute to realising the objectives of environmental and industrial European policy initiatives, such as Lead Market in Bio-based Products and Environmental Technology Action Plan (ETAP).

Area 2.3.4 Biorefinery

This area addresses the development and application of industrial biotechnologies for the conversion of renewable raw materials into sustainable and cost-efficient bulk bio-products (e.g. chemicals such as lactic acid, biopolymers), and/or bio-energy. Regarding biofuels, the focus will be on the development of second generation biofuels with improved energy and environmental balance and which avoid the potential food/fuel conflict.

Aiming at achieving integrated and whole crop use of the biomass, biorefineries can use a broad range of biomass feedstocks, ranging from dedicated agricultural, aquatic, forest biomass chains to residues/waste and by-products of biomass-based industrial sectors.

Emphasis will be on the discovery, characterisation and development of novel enzymes and strains with optimised biocatalyst and microbial function for improved production of energy and bioproducts; characterisation of the structure and composition of the feedstock for optimised pre-treatment and fractionation of the biomass into its components; development of improved bio-processes with increased yield, quality and purity through bioprocess design, process optimisation and integration as well as downstream processing; fermentation science and engineering. Environmental and social aspects will also be incorporated.

In this Area, no topics are open in this work programme

Area 2.3.5 Environmental biotechnology

The concept of the KBBE implies environmental sustainability which will be promoted through the development and application of modern biotechnology.

Research and development activities will provide solutions for sustainable processes and products as well as for preventing and cleaning-up pollution. This will comprise the application of biotechnologies for the design, manufacture and use of more environmentally benign products and processes as well as for applications such as bio-sensors, bio-remediation, waste treatment and recycling¹⁸.

In addition, this area will also foster the application of modern biotechnology for the understanding of microbial biodiversity and ecology (e.g. bacterial cell-cell communication). This approach will expand the understanding on systematics and will lead to the unravelling of new genes, pathways etc. with the potential to enrich several of the biosynthetic domains of biotechnology. It will also serve to the purpose of cataloguing and therefore preserving microbial diversity.

KBBE.2010.3.5-01: Biotechnology for the environment - Soil and water treatment and bioremediation

Call: FP7-KBBE-2010-4

Together with the pollution prevention and detection, the elimination of a wide range of pollutants from waters and soils is an absolute requirement for sustainable development. Biotechnology is already offering some unique solutions to these environmental challenges. However, many bioremediation and water treatment technologies are still operated on "black box" principles. Their performance often lacks reliability and predictability. Their future development depends on continuing R&D efforts on related modern biotechnology issues. Recent advancements in environmental microbiology, plant biology, ecology and molecular biology are providing valuable new insights into the exploring and understanding of biological processes offering new means for the pollution control and abatement. The aim of proposals under this topic should be to bring progress to front-line research in environmental biotechnology which translates into novel or improved bioremediation or water treatment processes. Management, regulatory, safety, financial and environmental aspects of the proposed approach should be taken on board in the proposal.

Funding scheme: Collaborative Project (small or medium-scale focused research project). The requested European Community contribution shall not exceed EUR 3 000 000.

Additional information: In order to achieve the expected impact of the research efforts, the active participation of SMEs and other end-users is essential. This will be considered in the evaluation. Up to 3 projects may be financed.

Expected impact: Improvement in effectiveness of depollution and water treatment technologies through precise and reliable biotechnological processes. The availability of advanced, efficient and socio-economically acceptable technological solutions will help decision makers to undertake immediate and long term effective environmental strategies to reduce pollution's environmental impact and strengthen the European industrial competitiveness in this field. Support to the Thematic Strategy for Soil protection and the

¹⁸ Where wastes can be regarded as feedstocks for bio-processing and biorefinery they shall be dealt with in the respective Areas (2.3.3 and 2.3.4).

implementation of the Water Framework Directive as well as contribution to the implementation of the Environmental Technologies Action Plan (ETAP).

KBBE.2010.3.5-02: Coping with water scarcity in developing countries: Role of biotechnology in water treatment – Mandatory ICPC (Africa)

Call: FP7-AFRICA-2010

A way in which developing countries have to cope with water scarcity is the treatment of polluted water sources before use. The treatment of water and elimination of pollutants, mainly pathogenic organisms, xenobiotics and heavy metals, although in itself presents significant challenges, is crucial for human health and environmental considerations. Numerous water cleaning methods are based in natural, plants or micro-organisms, biochemical processes. Some of these methods are quite sophisticated but others are simple and adapted to local conditions and resources of developing countries. The objectives of this topic are: the assessment of biotechnological methods adapted to the socio-economic and environmental conditions of developing countries for the treatment of water pollution (cost benefit analysis of the techniques); to document best practices including traditional knowledge and management strategies and opportunities offered by innovative technologies. Novel schemes and methodologies for knowledge transfer and application, for education and training, e.g. short exchanges of staff or training workshops, and for raising awareness of the water treatment options in developing countries should also be taken on board in the proposal.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Egypt, Libya, Morocco, Tunisia).

Additional information: This topic is part of the call for Africa published in coordination with Environment and Health Themes (see introduction to call for Africa on page 6 and call fiche on page 77).

A well balanced participation of African and non-African partners is recommended to address the issues properly and produce the expected impact. The participation of international organisations active in the field should add to the scientific and technical excellence and to the potential impact of the project and it is therefore particularly encouraged. This will be considered in the evaluation.

Expected impact: Contribution to the Millennium Development Goals and EU water Initiative by promoting the sustainable management of water resources in developing countries, taking also into account the need for developing countries to master the technology they require.

KBBE.2010.3.5-03: Approaches towards bioremediation of the Mediterranean Sea by exploring its microbial diversity – SICA (Mediterranean Partner Countries)

Call: FP7-KBBE-2010-4

The Mediterranean Sea is an ecosystem with rich microbial diversity. This diversity is undergoing rapid changes due to pollution, industrial and touristic activities and climate change. Environmental biotechnology offers technologies for improving the environment

(prevention of pollution, detection and remediation) and at exploring and exploiting the microbial diversity of a given ecosystem. The latter is the source and basis of many catabolic or anabolic enzymatic reactions of biotechnological interest.

This topic aims at the study, exploration and management of the microbial diversity of the Mediterranean Sea so that biodiversity can act as the source of bioremediation reactions in their own niches. Molecular techniques, genomic and metagenomic approaches should be used, as appropriate, for mining of genetic resources of the microbial communities. The socio-economic dimension should be an integral part of the proposals.

Funding scheme: Collaborative Project (small or medium-scale focused research project) for Specific Cooperation Actions Dedicated to International Cooperation. The requested European Community contribution shall not exceed EUR 3 000 000.

Additional eligibility criteria: SICA – Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from the Mediterranean Partner Countries.

Additional information: A balanced partnership between European and Mediterranean Partner Countries is essential. The participation of municipal authorities and other relevant end-users is essential to achieve the expected impact of the project. This will be considered in the evaluation.

Expected impact: New ways of bioremediation will be developed by using and managing the endogenous microbial diversity of the region. In addition the study of microbial diversity of Mediterranean Sea could unravel new biotechnological functionalities and will help the understanding of the relation pollutant/degrader. It will support the active scientific collaboration of the region towards clean-up biotechnologies and will contribute to the implementation of the Environmental Technologies Action Plan (ETAP).

KBBE.2010.3.5-04: Microbial diversity and metagenomic mining for biotechnological innovation

Call: FP7-KBBE-2010-4

The environment is the source of biological wealth which is used in biotechnology processes for driving forward the bioeconomy. This wealth is based by far on the microbial diversity. Metagenomics is an emerging field which unravels the microbial diversity by overcoming the twin problems of unculturability and genomic diversity of most microbes. The power of genomic analysis is applied to entire communities of microorganisms (viruses, bacteria, fungi, yeast, etc.), bypassing the need to isolate and to culture them.

The aim of this topic is the identification of novel genes or enzymatic functionalities of potential biotechnological applications from a selected ecosystem using the tool of metagenomics. This approach applied to a proposed ecosystem should lead to a better understanding and managing its microbial biodiversity and ecology in order to explore the gene reservoir and its related enzymatic reactions.

The final goal is to enrich biotechnological processes with new genes and enzymes and to improve metagenomic screening, library formation and bioinformatic relevant techniques. Proposals must be multidisciplinary and should also cover socio-economic and environmental sustainability aspects.

Funding scheme: Collaborative Project (large-scale integrating project). The requested European Community contribution shall not exceed EUR 6 000 000.

Additional information: This topic is particularly suited to EU-US cooperation. In order to achieve the expected impact of the research efforts, the active participation of SMEs is essential. This will be considered in the evaluation.

Expected impact: Enrich the repertoire of biotechnological reactions with new ones by using new genes and enzymes through metagenomic analysis. Encouraging SME involvement specialising in library screening and other related techniques. Supporting the EU-US dialogue on metagenomics.

Area 2.3.6 Emerging trends in biotechnology

Novel technologies and new trends in biotechnology will be instrumental for the rational advancement of the KBBE. Yet, not all future trends in enabling technologies and interdisciplinary research can be foreseen. However the potentials of e.g. meta-genomics, bioinformatics, systems biology, virtual cell, synthetic biology, and nano-biotechnology have become rather concrete. These and other fields deserve appropriate measures in terms of research and development to facilitate effective transfer and implementation into industrial applications.

In this Area, no topics are open in this work programme

Activity 2.4 Other Activities

KBBE.2010.4-01: Strengthening the implementation of durable integration in FP6 Networks of Excellence

Call: FP7-KBBE-2010-4

As a contribution to structure the European Research Area, this topic aims at strengthening the implementation of durable integration in Networks of Excellence (NoEs) funded as a result of their selection in Calls 1 and 2 of Thematic Priority 5 – Food quality and safety of FP6. Funding will be limited to NoEs that can prove a high-level institutional commitment and already convincing developments as well as realistic plans towards durable integration in the near future. An additional requirement is a realistic strategy to attract funding also from other sources than FP6 and FP7. The management activities of the NoE should continue, together with activities related to shaping the integration process, training, communication and shared tools like databases. The consortium may comprise a revised number of beneficiaries as compared to the original NoE, but the inclusion of any new beneficiary should be strongly justified and in line with the institutional commitment to integration.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Only those NoEs from Calls 1 and 2 of Thematic Priority 5 of FP6 that are relevant under Theme 2 Activity 2.1 and 2.2 within FP7 are eligible. The duration shall be limited to two years.

Additional information: More than one project may be funded under the maximum budget of the topic of EUR 3 000 000.

Expected impact: The European added value lies in a directed effort towards a sustainable integration for the NoE, hereby contributing to structure the European Research Area. It will strengthen the scientific and technological excellence at European level in the research area of Theme 2 of FP7 through further support/coordination of activities, dissemination and spreading of excellence.

KBBE.2010.4-02: Networking of non-governmental organisations involved in agricultural research for development

Call: FP7-AFRICA-2010

This action will support the networking of European and non European NGOs which are involved in agricultural, food and related research for development, including social-economic aspects, in ACP and Mediterranean countries, in order to:

- Identify research topics and activities of mutual interest and benefit that could involve the civil society of Europe and partner countries.
- Develop strategies for the best way to involve the European civil society in agricultural and food research for development, supporting an innovation system approach of agricultural research that translates scientific results into innovations in action.
- Promote interaction between European NGOs with Southern civil society organisations (NGOs, farmers organisations) in agricultural research projects.

- Promote capacity building for NGOs in ACP and Mediterranean countries.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 500 000.

Additional eligibility criteria: Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC from African ACP and African Mediterranean Partner Countries (Algeria, Tunisia, Libya, Morocco, Egypt).

Additional information: This topic is part of the call for Africa published in coordination with Environment (including climate change) and Health Themes (see introduction to call for Africa on page 6 and call fiche on page 77).

The proposal shall contribute to EFARD (European Forum for Agricultural Research for Development). A well balanced participation of African and non-African partners is recommended to address the issues properly and produce the expected impact. This will be considered in the evaluation.

Expected impact: Considering that there is a lack of involvement and coordination of European NGOs in ARD, this action will allow a better involvement of civil societies and users of ARD both in Europe and partner countries in ACP and the Mediterranean area.

KBBE.2010.4-03: Towards a Latin America & Caribbean Knowledge Based Bio-Economy in partnership with Europe

Call: FP7-KBBE-2010-4

Agriculture, food and biotechnology research and innovation represent a major sector of shared interest between the EU and Latin America & Caribbean (LAC). The LAC countries are important actors in the Knowledge Based Bio Economy (KBBE) at global level but also to answer to Millennium Development Goals issues at national level. This action will consist of a bi-regional effort for a strategic alliance between EU and LAC in order to facilitate collaboration and co-ordination of research and innovation within the broader sphere of the Knowledge Based Bio Economy (KBBE), including agriculture fisheries, forestry, food and biotechnologies. The action will be implemented through the establishment of a platform of regional and continental organisations from both EU and LAC involved in funding and implementing KBBE research, including also stakeholders from the public and private sector as well as from civil society. Activities of this platform should include: i) activities which aim to assess the potential social, economic and environmental benefits of KBBE. More specifically, the project shall allow for a sound analysis of the current situation, the potential, scenarios and future prospects for agricultural development in the LAC, taking into account its importance for rural areas and the overall economy (including for LAC – EU trade issues), sustainable management of resources and contribution to global CO₂ reduction goals. In view of climate change and mitigation issues, the project should tackle questions such as a) the potential of biotechnology applications e.g. GMO, for adaptation of agriculture to increased biotic and abiotic stress and assessment of the potential implications of these applications on farming-systems, land-use, management practices and other socio-economic issues b) assessment and recommendations as regards co-existence between the conventional, biotechnology-driven and organic farming sector. Analyses and recommendations derived from the action could provide a framework for establishing areas of mutual interest as well as implementing concrete research collaborations and partnerships between actors in the LAC area and EU.

The project should also include the following activities: ii) sharing information and creating links among on-going LAC and EU research programmes in agriculture, food and biotechnology; iii) networking and match-making towards engaging in joint research efforts; iv) strategic reflections on each own respective research agendas and programming, in view of co-ordinating future initiatives at programmes level.

Funding scheme: Coordination and Support Action (supporting action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 4 from different Member States or Associated countries and 4 from different ICPC from Latin America and Caribbean ACP.

Additional information: It is viewed that the active participation of LAC and EU continental and regional organisations operating in this field (e.g. FORAGRO, EFARD, FONTAGRO, etc.) should add to the scientific and/or technological excellence and relevance of the project and/or lead to an increased impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: This co-ordination action is expected to support policies and strategies for KBBE in the LAC area, increase existing and catalyse new EU-LAC collaborations in diverse areas of the agri-food and biotechnology research sectors. This is in line with several bilateral S&T co-operation agreements between the EU and LAC countries, but would also contribute to broader international efforts to address global challenges affecting the KBBE world-wide. It will contribute to increase competitiveness in both LAC and the EU, to the sustainable management of natural resources, to the production of public goods and also to the Millennium Development Goal of poverty reduction, in the rural sector.

KBBE.2010.4-04: Network of Third Countries bio NCPs

Call: FP7-KBBE-2010-4

This co-ordination action is aimed at supporting the network of Third Countries bio-NCPs, in order to reinforce international cooperation in FP7 Food, Agriculture, Fisheries and Biotechnology. This initiative is the follow-up of the co-ordination action for a network of Third Countries bioNCP supported in the first half of FP7, and is particularly targeted to the countries with bilateral S&T agreements with the EU. It will support activities by the Third Countries bioNCPs, in collaboration with their EU counterparts, focussing on: disseminating information and training researchers and project managers in third countries, facilitating match-making and reinforcing links between the scientific communities from the EU and the other countries, in view of fostering collaboration and joint research efforts within this FP7 theme and beyond. Adapted strategies for each Third Country or region could be considered, such as for instance the support to networks of sub-regional NCPs in case of large countries/regions. The network should also consider the importance of a regional approach for international co-operation with the EU, for instance by grouping of and joint actions by Third countries from the same region. This network will also contribute to addressing global challenges in food, agriculture, fisheries, forestry and biotechnology research by facilitating multilateral international initiatives.

Funding scheme: Coordination and Support Action (coordinating action). The requested European Community contribution shall not exceed EUR 1 000 000.

Additional eligibility criteria: Minimum number of participants: 2 from Member States or Associated countries and 1 from each of the different ICPC having signed bilateral S&T

cooperation agreements with the EU (Argentina, Brazil, Chile, China, Egypt, India, Mexico, Morocco, Russia, Ukraine, Tunisia, South Africa).

Additional information: It is viewed that the active participation of the non-ICPC having signed S&T cooperation agreements with the EU (Australia, Canada, New Zealand, USA, Korea) should add to the scientific and/or technological excellence of the project and/or lead to an increased impact of the research to be undertaken. This will be considered in the evaluation.

Expected impact: This action will contribute to scaling up the collaborations with Third Countries signatories of bilateral S&T agreements with the EU. It will also contribute to the implementation of various international initiatives, both on bi-regional and multilateral basis, to address global challenges affecting the KBBE world-wide.

KBBE.2010.4-05: Networking of KBBE relevant ERA-NETS

Call: FP7-KBBE-2010-4

More than 20 ERA-NETS have been set-up in FP6 and FP7 on a wide range of scientific subjects and disciplines relevant to the KBBE. While focusing on different scientific areas, they all work towards achieving a common goal of the transnational networking and coordination of national research programmes and address a number of horizontal issues, such as the mapping of existing research potential and foresight activities, the launching of joint calls and addressing the challenges of IPR rules and bioethical concerns. The topic aims to set a network of the coordinators of the already existing ERA-NETS in the KBBE relevant areas who based on their previous experiences and mutual learning will address issues of common interest including foresight activities, education and training needs, opportunities and strategies for international cooperation, communication and societal dialogue, synergies with other actors (i.e. ETPs), common programming in view of addressing major societal challenges such as food security, agriculture and climate change.

Funding scheme: Coordination and support action (coordinating action). The requested European Community contribution shall not exceed EUR 500 000.

Expected impact: The network of KBBE relevant ERA-NETS shall through regular exchanges of views and personnel and the identification of best practices foster a more effective and harmonised environment for the ERA-NET users.

III IMPLEMENTATION OF CALLS**Call title: KBBE 2010: general call for proposals**

- **Call identifier:** FP7-KBBE-2010-4
- **Date of publication**¹⁹: 30 July 2009
- **Deadline**²⁰: 14 January 2010 at 17.00.00 (Brussels local time)
- **Indicative budget:** EUR 190.01 million from 2010 Budget^{21 22}

The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:

- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

Activity	Funding Schemes	Indicative amount (EUR million)
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environments	Collaborative project (large scale integrating project) Collaborative project (small or medium-scale focused research project) Collaborative project (large scale integrating project) for Specific Cooperation Actions Dedicated to international Cooperation Coordination and Support Action (coordinating action) Coordination and Support Action (supporting action)	71.54
Activity 2.2: Fork to farm: Food (including seafood), health and well being	Collaborative Project (large-scale integrating project) Collaborative Project (small or medium-scale focused research project) Collaborative project (small or medium-scale focused research project) for Specific	56.95

¹⁹ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

²⁰ The Director-General responsible may delay this deadline by up to two months.

²¹ Specific International Cooperation Actions (SICA) represent a maximum budget of EUR 28 million of the total budget and other actions with an important international dimension of EUR 6.5 million.

²² Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budget authority.

	Cooperation Actions dedicated to International Cooperation Coordination and support action (coordinating action) Coordination and Support Action (supporting action)	
Activity 2.3: Life sciences, biotechnology and biochemistry for sustainable non-food products and processes	Collaborative Project (large scale integrating project) Collaborative Project (small or medium-scale focused research project) Collaborative project (small or medium-scale focused research project) for Specific Cooperation Actions dedicated to International Cooperation Coordination and Support Action (coordinating action)	56.02
Activity 2.4: Other activities	KBBE.2010.4-01: Strengthening the implementation of durable integration in FP6 Networks of Excellence, Coordination and Support Action (coordinating action)	3.00
	Coordination and support action (coordinating action) Coordination and Support Action (supporting action)	2.50

- **Topics called:**

Activity/ Area	Topics called	Funding Schemes
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environments		
2.1.1	<i>KBBE.2010.1.1-01: Genetic and genomic tools to increase the breeding efficiency in fruit trees</i>	<i>Collaborative project (large scale integrating project) Max. EC contribution/proposal: EUR 6 000 000</i>
2.1.1	<i>KBBE.2010.1.1-03: Characterisation of biodiversity resources for wild crop relatives to improve crops by breeding</i>	<i>Collaborative project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.1.2	<i>KBBE.2010.1.2-01: Integrating mitigation and adaptation options for sustainable livestock production under climate change – SICA (Latin America, African Mediterranean Partner Countries, African ACP)</i>	<i>Collaborative project (large scale integrating project) for Specific Cooperation Actions Dedicated to international Cooperation Max. EC contribution/proposal: EUR 9 000 000</i>
2.1.2	<i>KBBE.2010.1.2-02: Sustainable organic and</i>	<i>Collaborative project (large scale</i>

	<i>low-input dairy production</i>	<i>integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 6 000 000</i>
2.1.2	<i>KBBE.2010.1.2-04: Improving European berries production, quality, nutraceutical and nutritional value (Strawberries, Currents, Blackberries, Blueberries and Raspberries)</i>	<i>Collaborative projects (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 3 000 000</i>
2.1.2	<i>KBBE.2010.1.2-05: Integrated pest management in farming systems of major importance for Europe</i>	<i>Collaborative Project (large scale integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 9 000 000</i>
2.1.2	<i>KBBE.2010.1.2-07: Understanding of the basic mechanisms involved in coping strategies of fish towards improvement of welfare</i>	<i>Collaborative Project (large scale integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 4 500 000</i>
2.1.2	<i>KBBE.2010.1.2-08: Improving European mollusc aquaculture: disease detection and management</i>	<i>Collaborative projects (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 3 000 000</i>
2.1.3	<i>KBBE.2010.1.3-01: Development of vaccines and improvement of detection systems to control helminth parasite infections of livestock and reservoirs – SICA (Latin America and/or Asia and/or African Mediterranean Partner Countries and/or African ACP)</i>	<i>Collaborative Project (large-scale integrating project) for Specific Cooperation Actions Dedicated to International Cooperation</i> <i>Max. EC contribution/proposal:</i> <i>EUR 9 000 000</i>
2.1.3	<i>KBBE.2010.1.3-02: Promoting coordination and cooperation at international level of research programmes in the area of animal health, in particular infectious diseases including zoonoses - Mandatory ICPC (Latin America and Asia)</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 000 000</i>
2.1.3	<i>KBBE.2010.1.3-03: Development and integration of animal based welfare indicators in livestock species</i>	<i>Collaborative Project (large scale integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 4 500 000</i>
2.1.3	<i>KBBE.2010.1.3-04: Improving integration in farm animal welfare research in an enlarged Europe</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 000 000</i>
2.1.4	<i>KBBE.2010.1.4-01: Sharing best practice and enhancing European collaboration on research, knowledge transfer and innovation in farm animal sciences</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 000 000</i>
2.1.4	<i>KBBE.2010.1.4-02: Development of modelling tools based on Farm Accountancy</i>	<i>Collaborative Project (small or medium-scale focused research</i>

	<i>Data Network data adapted to assess the dynamic impacts of the Common Agricultural Policy</i>	<i>project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 2 500 000</i>
2.1.4	<i>KBBE.2010.1.4-03: Assessment of transition pathways to sustainable agriculture and social and technological innovation needs</i>	<i>Collaborative Project (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 500 000</i>
2.1.4	<i>KBBE.2010.1.4-04: Knowledge systems for farming in the context of sustainable rural development</i>	<i>Collaborative Project (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 2 500 000</i>
2.1.4	<i>KBBE.2010.1.4-05: EU-China Partnership initiative in plant breeding– Mandatory China</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 500 000</i>
2.1.4	<i>KBBE.2010.1.4-06: EU-Russia Partnership initiative in Microbes - Plants Biodiversities– Mandatory Russia</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 500 000</i>
2.1.4	<i>KBBE.2010.1.4-07: Using results-based management to achieve CFP objectives</i>	<i>Collaborative Project (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 3 000 000</i>
2.1.4	<i>KBBE.2010.1.4-08: Improving research in support to scientific advice to fisheries management in the Mediterranean and Black Seas – Mandatory ICPC (Mediterranean Partner Countries and Black Sea countries)</i>	<i>Coordination and Support Action (coordinating action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 000 000</i>
2.1.4	<i>KBBE.2010.1.4-09: Analysis of the potential of the pine wood nematode (<i>Bursaphelenchus xylophilus</i>) to spread, survive and cause pine wilt in European coniferous forests in support of EU plant health policy</i>	<i>Collaborative Project (small or medium-scale focused research project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 3 000 000</i>
Activity 2.2: Fork to farm: Food (including seafood), health and well being		
2.2.1	<i>KBBE.2010.2.1-01: Determinants of food choice and eating habits</i>	<i>Collaborative Project (large-scale integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 9 000 000</i>
2.2.1	<i>KBBE.2010.2.1-02: Media training for food and nutrition scientists</i>	<i>Coordination and Support Action (supporting action)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 1 000 000</i>
2.2.2	<i>KBBE.2010.2.2-01: Neurological pathways regulating hunger/satiety and gut behaviour</i>	<i>Collaborative Project (large-scale integrating project)</i> <i>Max. EC contribution/proposal:</i> <i>EUR 9 000 000</i>

2.2.2	<i>KBBE.2010.2.2-02: Diet and prevention of functional decline of the elderly</i>	<i>Collaborative Project (large integrating project) Max. EC contribution/proposal: EUR 9 000 000</i>
2.2.3	<i>KBBE.2010.2.3-01: Development of biodegradable food packaging</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.3	<i>KBBE.2010.2.3-02: Strategies for personalised nutrition</i>	<i>Collaborative Project (large-scale integrating project) Max. EC contribution/proposal: EUR 9 000 000</i>
2.2.3	<i>KBBE.2010.2.3-03: Health-value-added food products for population groups at risk of poverty</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.4	<i>KBBE.2010.2.4-01: Improving integration in food safety research</i>	<i>Collaborative project (small or medium scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.4	<i>KBBE.2010.2.4-02: Identification of the effect of processing on food contaminants</i>	<i>Collaborative project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.4	<i>KBBE.2010.2.4-03: Quality and safety aspects of feed</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.5	<i>KBBE.2010.2.5-01: Transparency of food pricing</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 1 000 000</i>
2.2.5	<i>KBBE.2010.2.5-02 : Eco-challenges in the food chain of the Latin American region – SICA (Latin America)</i>	<i>Collaborative project (small or medium-scale focused research project) for Specific Cooperation Actions dedicated to International Cooperation Max. EC contribution/proposal: EUR 3 000 000</i>
2.2.6	<i>KBBE.2010.2.6-01: Strengthening cooperation in food safety research in the enlarged European Union</i>	<i>Coordination and support action (coordinating action) Max. EC contribution/proposal: EUR 1 000 000</i>
Activity 2.3: Life sciences, biotechnology and biochemistry for sustainable non-food		

products and processes		
2.3.1	<i>KBBE.2010.3.1-01: Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants – Mandatory ICPC (Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries)</i>	<i>Coordination and Support Action (coordinating action) Max. EC contribution/proposal: EUR 1 000 000</i>
2.3.2	<i>KBBE.2010.3.2-01: Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.3.2	<i>KBBE.2010.3.2-02: Learning from research projects: specific dissemination action to potential users in marine genomics</i>	<i>Coordination and Support Action (coordinating action) Max. EC contribution/proposal: EUR 1 000 000</i>
2.3.2	<i>KBBE.2010.3.2-03: Modification of marine or freshwater algae to better suit industrial applications</i>	<i>Collaborative Project (large scale integrating project) Max. EC contribution/proposal: EUR 6 000 000</i>
2.3.2	<i>KBBE.2010.3.2-04: Innovative aquatic biosensors</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.3.3	<i>KBBE.2010.3.3-01: Robust and novel biocatalysts for industrial applications</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.3.3	<i>KBBE.2010.3.3-02: Biotechnology for 'greening' the chemical industry - Industrial bioprocesses for fine and speciality chemicals and intermediates</i>	<i>Collaborative Project (large scale integrating project) Max. EC contribution/proposal: EUR 9 000 000</i>
2.3.5	<i>KBBE.2010.3.5-01: Biotechnology for the environment - Soil and water treatment and bioremediation</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.3.5	<i>KBBE.2010.3.5-03: Approaches towards bioremediation of the Mediterranean Sea by exploring its microbial diversity – SICA (Mediterranean Partner Countries)</i>	<i>Collaborative Project (small or medium-scale focused research project) Max. EC contribution/proposal: EUR 3 000 000</i>
2.3.5	<i>KBBE.2010.3.5-04: Microbial diversity and metagenomic mining for biotechnological innovation</i>	<i>Collaborative Project (large-scale integrating project) Max. EC contribution/proposal: EUR 6 000 000</i>
Activity 2.4: Other activities		

2.4.1	<i>KBBE.2010.4-01: Strengthening the implementation of durable integration in FP6 Networks of Excellence</i>	<i>Coordination and Support Action (coordinating action) Max. EC contribution/proposal: EUR 1 000 000</i>
2.4.1	<i>KBBE.2010.4-03: Towards a Latin America & Caribbean Knowledge Based Bio-Economy in partnership with Europe</i>	<i>Coordination and Support Action (supporting action) Max. EC contribution/proposal: EUR 500 000</i>
2.4.1	<i>KBBE.2010.4-04: Network of Third Countries bio NCPs</i>	<i>Coordination and Support Action (coordinating action) Max. EC contribution/proposal: EUR 1 000 000</i>
2.4.1	<i>KBBE.2010.1.4-05: Networking of KBBE relevant ERA-NETS</i>	<i>Coordination and Support Action (coordinating action) Max. EC contribution/proposal: EUR 500 000</i>

- **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

- **The budget limits indicated for each topic in the work programme and in the above table are eligibility criteria.**

- Standard minimum number of participating legal entities for all funding schemes used in the call, in line with the Rules for Participation:

Funding scheme	Minimum conditions
Collaborative Projects	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC
Collaborative Project for specific cooperation actions (SICA) dedicated to international cooperation partner countries	At least 4 independent legal entities. Of these, 2 must be established in different MS or AC. The other 2 must be established in different international cooperation partner countries (ICPC)
Coordination and Support Actions (coordinating action)	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC
Coordination and Support Actions (supporting action)	At least 1 independent legal entity

- **For the following topics, additional eligibility criteria apply, over and above the criteria stated above:**

TOPICS	Particular requirements
KBBE.2010.1.2-01: Integrating mitigation	SICA - minimum number of participants: 3

and adaptation options for sustainable livestock production under climate change – SICA (Latin America, African Mediterranean Partner Countries, African ACP)	from different Member States or Associated countries and 3 from different ICPC among which one from Latin America, 1 from African Mediterranean Partner Countries (Algeria, Egypt, Libya, Morocco, Tunisia) and one from African ACP
KBBE.2010.1.3-01: Development of vaccines and improvement of detection systems to control helminth parasite infections of livestock and reservoirs - SICA (Latin America and/or Asia and/or African Mediterranean Partner Countries and/or African ACP)	SICA - minimum number of participants: 2 from different Member States or Associated countries and 2 from different ICPC from Latin America and/or Asia and/or African Mediterranean Partner Countries (Algeria, Morocco, Tunisia, Libya, Egypt) and/or African ACP countries
KBBE.2010.1.3-02: Promoting coordination and cooperation at international level of research programmes in the area of animal health, in particular infectious diseases including zoonoses - Mandatory ICPC (Latin America and Asia)	Minimum number of participants: 2 from different Member States or Associated countries and 2 from different ICPC from Latin America and Asia
KBBE.2010.1.4-05: EU-China Partnership initiative in plant breeding – Mandatory China	Minimum number of participants: 3 from different Member States or Associated countries and 1 from China
KBBE.2010.1.4-06: EU-Russia Partnership initiative in Microbes - Plants Biodiversities – Mandatory Russia	Minimum number of participants: 3 from different Member States or Associated countries and 1 from Russia
KBBE.2010.1.4-08: Improving research in support to scientific advice to fisheries management in the Mediterranean and Black Seas – Mandatory ICPC (Mediterranean Partner Countries and Black Sea countries)	Minimum number of participants: 3 from different Member States or Associated countries and 3 from different ICPC, among which at least 1 from the Mediterranean Partner Countries and at least 1 from any of the following Black Sea countries: Georgia, Ukraine and Russia
KBBE.2010.2.5-02: Eco-challenges in the food chain of the Latin American region – SICA (Latin America)	SICA – minimum number of participants: 3 from different MS or AC and 3 from different ICPC from Latin American region
KBBE.2010.3.1-01: Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants – Mandatory ICPC (Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean partner countries)	Minimum number of participants: 3 from different Member States or associated countries and 3 from different ICPC from Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean partner countries
KBBE.2010.3.5-03: Approaches towards bioremediation of the Mediterranean Sea by exploring its microbial diversity – SICA (Mediterranean Partner Countries)	SICA – minimum number of participants 3 from different Member States or Associated countries and 3 from different ICPC from the Mediterranean Partner Countries
KBBE.2010.4-01: Strengthening the implementation of durable integration in FP6 Networks of Excellence	Only those NoEs from Calls 1 and 2 of Thematic Priority 5 of FP6 that would be relevant under Theme 2 Activity 2.1 and 2.2 within FP7 are eligible. The duration should

	be limited to two years
KBBE.2010.4-03: Towards a Latin America & Caribbean Knowledge Based Bio-Economy in partnership with Europe	Minimum number of participants: 4 from different Member States or Associated countries and 4 from different ICPC from Latin America and Caribbean ACP
KBBE.2010.4-04: Network of Third Countries bio NCPs	Minimum number of participants: 2 from Member States or Associated countries and 1 from each of the different ICPC having signed bilateral S&T cooperation agreements with the EU (Argentina, Brazil, Chile, China, Egypt, India, Mexico, Morocco, Russia, Ukraine, Tunisia, South Africa)

- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and minimum number of eligible participants.

Evaluation procedure

- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.
- Proposal page limits: Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.
 - The Commission will instruct the experts to disregard any pages exceeding these limits.
 - The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).
- Experts will carry out the individual evaluation of proposals remotely.
- The procedure for prioritising proposals with equal scores is described in annex 2 of the work programme.

It is envisaged that **up to one project** will be retained for each topic, except for the topics indicated below:

Topic number	Topic title	Maximum number of proposals
KBBE.2010.3.2-01	Sustainable culture of marine microorganisms, algae and/or invertebrates for high added value products	Up to 3 projects may be funded
KBBE.2010.3.2-04	Innovative aquatic biosensors	Up to 2 projects may be funded
KBBE.2010.3.3-01	Robust and novel biocatalysts for industrial applications	Up to 3 projects may be funded
KBBE.2010.3.5-01	Biotechnology for the environment – Soil and water treatment and bioremediation	Up to 3 projects may be funded

KBBE.2010.4-01	Strengthening the implementation of durable integration in FP6 Networks of Excellence	More than one project may be funded
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- There may be competition between proposals submitted on different topics and proposals submitted on the same topic. This may result in some topics not being supported. A reserve list may be produced of projects that pass the evaluation but fall below the available budget in case additional budget becomes available.
- **Indicative timetable:** Evaluation results: three months after the relevant deadline mentioned above. Grant agreement signature: it is estimated that the first grant agreements related to this call will come into force at the end of 2010.
- **Consortia agreements:** Participants in Collaborative Projects (large scale integrating projects) are required to conclude a consortium agreement. For other projects consortia agreements are recommended.
- **The forms of grant and maximum reimbursement rates** which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.
- **Additional information concerning twinning of projects under Theme 2 and related programmes in third countries:** with a view to promoting international cooperation with third countries that have signed bilateral S&T agreements with the European Community, initiatives for collaboration between projects under Theme 2 of FP7 and related research programmes in these third countries will be encouraged on the basis of mutual benefit and reciprocity. The Commission reserves the right to ask the coordinators of FP7 projects, during the grant agreement negotiations, to include collaboration activities with projects financed by these third countries. The costs of these activities are expected to be approximately 1% of the total European Community contribution to these projects. Parallel funding is expected from the related research programmes in the third countries for counterpart projects.

Call title: Call for AFRICA

- **Call identifier:** FP7-AFRICA-2010
- **Date of publication:** 30 July 2009²³
- **Deadline:** 14 January 2010 at 17.00.00, Brussels local time²⁴
- **Indicative budget**²⁵ : Total call budget EUR 63 000 000, of which:
 - EUR 39 000 000 from Theme 1 - Health
 - EUR 6 500 000 from Theme 2 - Food, Agriculture and fisheries, and Biotechnology
 - EUR 17 500 000 from Theme 6 - Environment (including climate change)
 - The budget for this call is indicative.
 - The final budget of the call may vary by up to 10% of the total value of the indicative budget for the call;
 - Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.
- **Topics called**

The aim of this Call is to address some of the Science & Technology objectives of the "Africa - EU Strategic Partnership" putting emphasis on 'Water and Food Security' and 'Better Health for Africa '.

The topics of this call are implemented jointly by Theme 1, 2 and 6 as mentioned above. When applying for this call, please choose the relevant topic codes below.

Theme/Activity	Topics called	Funding Schemes
Theme 1: HEALTH		
Activity 1.2 Translating research for human health	HEALTH.2010.2.3. 2-4: Controlling malaria by hitting the vector: New or Improved – Vector Control Tools	Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries. <i>Min. EC contribution/proposal: EUR 6 000 000</i> <i>Max. EC contribution/proposal:</i>

²³ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

²⁴ The Director-General responsible may delay this deadline by up to two months.

²⁵ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

		<p><i>EUR 12 000 000</i></p> <p><i>Only up to one proposal can be selected for this topic</i></p>
Activity 1.2 Translating research for human health	HEALTH.2010.2.4.1-4: Infectious agents and cancer in Africa	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries.</p> <p><i>Max. EC contribution/proposal: EUR 3 000 000</i></p> <p><i>One or more proposals can be selected for this topic</i></p>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-1: Develop and assess key interventions and policies to address the human resource crisis in the health sector	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries</p> <p><i>Max. EC contribution/proposal: EUR 3 000 000</i></p> <p><i>One or more proposals can be selected for this topic</i></p>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-2: Feasibility and community effectiveness of innovative intervention packages for maternal and new-born health in Africa	<p>Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries</p> <p><i>Max. EC contribution/proposal: EUR 3 000 000</i></p> <p><i>One or more proposals can be selected for this topic</i></p>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-3: Building sustainable capacity for research for health in Africa	<p>Coordination and Support Action (coordinating action)</p> <p><i>Max. EC contribution/proposal: EUR 2 000 000</i></p> <p><i>One or more proposals can be selected for this topic</i></p>
Activity 1.3 International public health and health systems	HEALTH.2010.3.4-4: Assessment of migrants' health, disease patterns and impact on health systems	<p>Coordination and Support Action (coordinating action)</p> <p><i>Max. EC contribution/proposal: EUR 2 000 000</i></p> <p><i>Only up to one proposal can be selected for this topic</i></p>

Theme 2: FOOD, AGRICULTURE, AND FISHERIES, AND BIOTECHNOLOGY		
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environment	KBBE.-2010.1.-2-03: Sustainable water resources management (WRM) and Soil fertility conservation for food production in Africa - SICA (Africa)	Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 4 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.2 Fork to farm: Food (including seafood), health and well being	KBBE.2010.2.2-03: Identifying research needs on malnutrition in Africa – (Mandatory Africa)	Coordination and Support Action (supporting action) <i>Max. EC contribution/proposal: EUR 1 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.3 Life sciences, biotechnology and biochemistry for sustainable non-food products and processes	KBBE.2010.3.5-02: Coping with water scarcity in developing countries: Role of biotechnology in water treatment – Mandatory ICPC (Africa)	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 1 000 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 2.4 Other Activities	KBBE.2010.4-02: Networking of non-governmental organisations involved in agricultural research for development	Coordination and Support Action (coordinating action) <i>Max. EC contribution/proposal: EUR 500 000</i> <i>Maximum one proposal can be selected for this topic</i>
Theme 6: ENVIRONMENT (INCLUDING CLIMATE CHANGE)		
Activity 6.1 Climate Change, pollution and	ENV.2010.1.2.1-1: The effect of	Collaborative Project (small or medium-scale focused research

risks	environmental change on the occurrence and distribution of water related vector-borne diseases in Africa	project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> Maximum one proposal can be selected for this topic
Activity 6.1 Climate Change, pollution and risks	ENV.2010.1.3.3-1: Early warning and forecasting systems to predict climate related drought vulnerability and risks in Africa	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 6.2 Sustainable management of resources	ENV.2010.2.1.1-1: Integrated management of water and natural resources in Africa	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 3 500 000</i> <i>Maximum one proposal can be selected for this topic</i>
Activity 6.3 Environmental technologies	ENV.2010.3.1.1-3: Decentralised water supply and sanitation technologies and systems for small communities and peri-urban areas	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>Maximum two proposals can be selected for this topic</i>
6.3 Environmental technologies	ENV.2010.3.1.1-4: Water harvesting technologies in Africa	Collaborative Project (small or medium-scale focused research project) for specific cooperation actions (SICA) dedicated to international collaboration partner countries <i>Max. EC contribution/proposal: EUR 2 000 000</i> <i>Maximum two proposals can be</i>

		<i>selected for this topic</i>
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- **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.
- The following additional eligibility criteria apply to the following funding schemes in this call²⁶:

Funding scheme	Minimum conditions
Collaborative Project for specific cooperation actions (SICA) dedicated to international cooperation partner countries	At least 4 independent legal entities, of which, 2 must be established in different MS or AC and the other 2 must be established in different international cooperation partner countries (ICPC) from African ACP and the following Mediterranean Partner Countries (African MPC): Algeria, Egypt, Libya, Morocco, and Tunisia.
Coordination and Support Action (coordinating action) and Coordination and Support Action (supporting action)	At least 6 independent legal entities, of which, 3 must be established different MS or AC, 2 of which are not established in the same MS or AC, and the other 3 must be established in different international cooperation partner countries (ICPC) from African ACP and the following Mediterranean Partner Countries (African MPC): Algeria, Egypt, Libya, Morocco, and Tunisia.

The budget limits shown in the above table are eligibility criteria.

- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

- **Evaluation procedure**

- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.

²⁶ MS = Member States of the EU; AC = Associated country; ACP = African Caribbean and Pacific Countries; MPC = Mediterranean Partner Countries, African MPC countries = Algeria, Egypt, Libya, Morocco, Tunisia.

Proposal page limits: Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

The Commission will instruct the experts to disregard any pages exceeding these limits.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

- The evaluation shall follow a single stage evaluation procedure. Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

The result of the evaluation will be one ranked list per Theme. Only the most highly ranked proposal(s) above the minimum threshold per topic will be recommended for funding. Reserve lists of projects will be established per Theme to be used in case the negotiation for entering into a grant agreement fails.

The following points will be reflected in the evaluation: A multi-disciplinary and integrated approach, taking into consideration broader socio-economic factors, and the participation of appropriate stakeholders and local and/or regional actors are considered essential to achieving the expected impacts. The aim is to achieve a fair level of participation for African countries in collaboration with their European partners. The evaluators will take into account the various geographical, sectoral and cultural differences which exist within Africa. A dedicated budget for clustering and coordination should be foreseen in the overall budget planning of each proposal.

- Experts will carry out the individual evaluation of proposals remotely with the consensus meetings being held in Brussels.
- The procedure for prioritising proposals with equal scores is described below:
At the Panel stage, according to Annex 2 to the Cooperation work programme, proposals with equal overall scores will be prioritised according to their scores for the S/T quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion.
- The number of proposals that can be funded per topic is indicated in the above 'Topics called' table.

- **Indicative timetable**

Evaluations are expected to be carried out during the months of February-March 2010. The evaluation results will be available within four months after the call deadline mentioned above. The grant agreement negotiations for the shortlisted proposals are expected to be opened in June 2010. It is estimated that the first grants related to this call will come into force at the end of 2010.

- **Consortia agreements**

Participants are encouraged to conclude a consortium agreement prior to grant agreement.

- **The forms of grant and maximum reimbursement rates which will be offered are specified in Annex 3 to the Cooperation work programme.** In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website:http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

- **Additional Information**

In addition to this call, the International Cooperation activities of the Capacities Programme publish an INCO-NET - call (call identifier FP7-INCO-2010-1) aimed at expanding the geographical coverage and deepening the coordination and structuring activities of the CAAST-NET project²⁷. This project was launched in January 2008 to increase the bi-regional S&T cooperation between European and the Sub-Saharan African Countries. The new INCO-NET call will offer the opportunity for the CAAST-NET project to support the interaction between the national and international programmes relevant to the topics covered by the Africa call.

²⁷ www.caast-net.org.

Call title: Call for INFLUENZA

- **Call identifier:** FP7-INFLUENZA-2010
- **Date of publication²⁸:** 30 July 2009
- **Deadline²⁹:** 29 October 2009 at 17.00.00 (Brussels local time)
- **Indicative budget³⁰:** EUR 18 million from 2010 budget of which:
 - EUR 12 000 000 from Theme 1 - Health
 - EUR 6 000 000 from Theme 2 - Food, Agriculture and fisheries, and Biotechnology

The budget for this call is indicative. The final budget awarded to actions implemented through calls for proposals may vary:

- The final budget of the call may vary by up to 10% of the total value of the indicated budget for each call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

- **Topics called:**

The aim of this Call is to address research needs in human and animal influenza in view of the recent outbreak of a novel human influenza virus containing swine and avian gene sequences, and taking into account the existing portfolio of FP-funded influenza projects.

The topics of this call are implemented jointly by Theme 1 and Theme 2. When applying for this call, please choose the relevant topic codes below.

Theme/Activity	Topics called	Funding Schemes
Theme 1: HEALTH		
Activity 2.3.2: Potentially new and re-emerging epidemics	HEALTH.2010.2.3.3-4: Novel therapeutics against influenza.	Collaborative project (Small or medium-scale focused research project ³¹) <i>Max. EC contribution per proposal: EUR 6 000 000. One or more proposals can be selected.</i>

²⁸ The Director General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

²⁹ The Director-General responsible may delay this deadline by up to two months.

³⁰ Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budget authority.

³¹ Please note that budget limits for "small or medium-scale" and "large scale integrating" collaborative projects may vary between themes.

Theme 2: FOOD, AGRICULTURE AND FISHERIES, AND BIOTECHNOLOGY		
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environment	KBBE.2010.1.3-05: Swine influenza surveillance network	Coordination and support action (coordinating action) <i>Max. EC contribution per proposal: EUR 1 000 000</i> <i>Maximum one proposal can be selected.</i>
Activity 2.1: Sustainable production and management of biological resources from land, forest and aquatic environment	KBBE.2010.1.3-06: Pathogenesis and transmission of influenza in pigs (CP-IP)	Collaborative project (large scale integrating project ³²) <i>Max. EC contribution per proposal: EUR 5 000 000</i> <i>Maximum one proposal can be selected.</i>

- **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the guide for applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.

- Standard minimum number of participating legal entities for all funding schemes used in the call, in line with the Rules for Participation:

Funding scheme	Minimum conditions
Collaborative Projects	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC
Coordination and Support Actions (coordinating action)	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC

In addition, specific eligibility criteria apply to this call as set out below:

- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.
- It is important to note that the upper limits for the EU contribution given per topic in table listing the topics of this call fiche, will be applied as an additional eligibility criterion and that proposals which do not respect these limits will be considered as ineligible.

Evaluation procedure

- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.
- Proposal page limits: Applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.
- The Commission will instruct the experts to disregard any pages exceeding these limits.

³² Please note that budget limits for "small or medium-scale" and "large scale integrating" collaborative projects may vary between themes.

- The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).
- Experts will carry out the individual evaluation of proposals remotely.
- The procedure for prioritising proposals with equal scores is described in annex 2 of the work programme. The priority lists will be prepared, per indicative sub-budget line as set out in this call fiche.

- ***Evaluation criteria and thresholds:***

Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

- **Indicative timetable:** Evaluation results: three months after the relevant deadline mentioned above. Grant agreement signature: It is estimated that the first grant agreements related to this call will come into force at the mid of 2010.
- **Consortia agreements:** Consortium agreements are recommended but not required for projects in this call.
- **The forms of grant and maximum reimbursement rates** which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website: http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

Call title: "The ocean of tomorrow"

- **Call identifier:** FP7-OCEAN-2010
- **Date of publication:** 30 July 2009³³
- **Deadline:** 14 January 2010 at 17.00.00, Brussels local time³⁴
- **Indicative budget**³⁵: EUR 34 million from the 2010 budget of which:
 - EUR 9 million from Theme 2 – Food, Agriculture and Fisheries, and Biotechnology (KBBE)
 - EUR 6 million from Theme 5 – Energy
 - EUR 10.5 million from Theme 6 – Environment (including climate change)
 - EUR 7.5 million from Theme 7 – Transport (including Aeronautics)
 - EUR 1 million from Theme 8 – Socio-economic Sciences and Humanities

The budget for this call is indicative. The final budget awarded to actions implemented through this call for proposals may vary:

- The final budget of the call may vary by up to 10% of the total value of the call; and
- Any repartition of the call budget may also vary by up to 10% of the total value of the indicated budget for the call.

- **Topics called**

Theme / Activity / Area implementing jointly 'The ocean of tomorrow' Location of the call and topics descriptions	Topics called	Funding Scheme
Theme 2 – Food, Agriculture and Fisheries, and Biotechnology Area 2.1.5 Call "The ocean of tomorrow"– Joining research forces to meet challenges in ocean management	OCEAN.2010-1 Quantification of climate change impacts on economic sectors in the Arctic	Collaborative Project (large scale integrating project)
	Theme 5 – Energy Area ENERGY.10.1 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management	OCEAN.2010-2 Vectors of changes in marine life, impact on economic sectors
Theme 6 – Environment (including		

³³ The Director-General responsible for the call may publish it up to one month prior to or after the envisaged date of publication.

³⁴ The Director-General responsible may delay this deadline by up to two months.

³⁵ Under the condition that the preliminary draft budget for 2010 is adopted without modification by the budgetary authority.

<p>climate change) Area 6.2.2.2 Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p> <p>Theme 7 – Transport (including Aeronautics) Activity 7.2.8 Call "The ocean of tomorrow" - Joining research forces to meet challenges in ocean management</p> <p>Theme 8 – Socio-economic Sciences and Humanities Activity 8.8 Horizontal Actions Call "The ocean of tomorrow" – Joining research forces to meet challenges in ocean management</p>	<p>OCEAN.2010-3 Sub-seabed carbon storage and the marine environment</p>	<p>Collaborative Project (large scale integrating project)</p>
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• **Indicative budget per topic**

Topic code	Topic title	Indicative budget ³⁶
OCEAN.2010-1	Quantification of climate change impacts on economic sectors in the Arctic	EUR 11 million
OCEAN.2010-2	Vectors of change in marine life, impact on economic sectors	EUR 12.5 million
OCEAN.2010-3	Sub-seabed carbon storage and the marine environment	EUR 10.5 million

A maximum of one project per topic will be funded.

• **Eligibility conditions**

- The general eligibility criteria are set out in Annex 2 of this work programme, and in the Guide for Applicants. Please note that the completeness criterion also includes that part B of the proposal shall be readable, accessible and printable.
- The minimum number of participating legal entities required for this funding scheme is set out in the Rules for Participation. They are summarised in the table below³⁷:

Funding scheme	Minimum conditions
Collaborative Project (large scale integrating project)	At least 3 independent legal entities, each of which is established in a MS or AC, and no 2 of which are established in the same MS or AC

³⁶ In case the budget can not be consumed (totally or partially), the remaining budget will be returned to each FP7 theme according to its respective contribution.

³⁷ MS = Member States of the EU; AC = Associated country.

- The following additional eligibility criteria apply in this call:
- The requested EC contribution shall not exceed the indicative budget for the topic chosen (see table displayed above).
- Only information provided in part A of the proposal will be used to determine whether the proposal is eligible with respect to budget thresholds and/or minimum number of eligible participants.

- **Evaluation procedure**

- The evaluation criteria and scoring scheme are set out in annex 2 of the work programme.
- Proposal page limits: applicants must ensure that proposals conform to the page limits and layout given in the Guide for Applicants, and in the proposal part B template available through the EPSS.

The minimum font size allowed is 11 points. The page size is A4, and all margins (top, bottom, left, right) should be at least 15 mm (not including any footers or headers).

The Commission will instruct the experts to disregard any pages exceeding these limits.

- The evaluation shall follow a single stage evaluation procedure. Proposals will be evaluated remotely with the consensus session being held in Brussels.
- The result of the evaluation will be one ranked list per topic. Only the most highly ranked proposal above the minimum threshold per topic will be recommended for support. A reserve list of projects will be established to be used in case the negotiation for entering into a grant agreement fails. Up to one project per topic may be funded.

Evaluation criteria and threshold:

Proposals are evaluated on the basis of the following three criteria: 1. S/T quality; 2. Implementation; 3. Impact. For each criterion marks will be given, with the possibility of 0.5 point scores. Successful proposals must pass the minimum thresholds as follows:

	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

Proposals with equal overall scores will be prioritised according to their scores for the S/T quality criterion. If they are still tied, they will be prioritised according to their scores for the Impact criterion.

The following points will be reflected in the evaluation:

A multi-disciplinary approach and a multi-sectoral partnership are considered essential to achieving the expected impacts.

In addition, the following point will be reflected in the evaluation of the topic OCEAN.2010-3 "Sub-seabed carbon storage and the marine environment":

The participation of industrial partners operating - or planning to operate – sub-seabed CO₂ storage sites is crucial to the implementation of the project. Because sub-seabed carbon storage is a global issue, the participation of one or several partners (funded under their national budget) from either Japan, Australia or the US would maximise the impact of the project.

- **Indicative evaluation and contractual timetable**

- Evaluation results: four months after the relevant deadline mentioned above.
- Grant agreements signature: it is estimated that the first grant agreements related to this call will come into force at the end of 2010.

- **Consortia agreements**

Participants are required to conclude a consortium agreement prior to grant agreement.

- **The forms of grant and maximum reimbursement rates** which will be offered are specified in Annex 3 to the Cooperation work programme. In accordance with Annex 3 of this work programme, this call provides for the possibility to use flat rates to cover subsistence costs incurred by beneficiaries during travel carried out within grants for indirect actions. For further information, see the relevant Guides for Applicants for this call. The applicable flat rates are available at the following website :http://cordis.europa.eu/fp7/find-doc_en.html under 'Guidance documents/Flat rates for daily allowances'.

IV. OTHER ACTIONS³⁸

Evaluations:

Appointed external experts will be used for the evaluation of project proposals

Indicative budget: EUR 2 700 000

Funding scheme: *Coordination and Support Action - expert-reviewer/evaluator appointment letter*

Monitoring, review and impact assessment:

Monitoring:

- *Study on 'Forward looking activity to identification of future actions in the field of KBBE research and their potential impacts':*

A forward-looking activity (global possible changes in a long term perspective – 2030-2050) will to be developed aiming at identifying and anticipating the key drivers of change and the related socio-economic impacts in the Food, Agriculture and Fisheries, and Biotechnology Theme, including the mapping update and data collection in EU activities/institutions/infrastructures. This Forward-looking activity should help to identify future research and innovation priorities contribution to build a strong European Research Area (ERA) in the specific Cooperation theme. It will also provide strategic intelligence useful for the preparation of the future Framework Programme.

Indicate budget: EUR 500 000

Funding scheme: *Coordination and Support Action - public procurement; estimated publication date 2nd half of 2009*

- *Eurobarometer survey: Life Sciences and Biotechnology 2010:*

A public opinion survey will be carried out as part of the prestigious Eurobarometer series to determine the attitudes of the European public to many aspects of the KBBE and to seek to understand the factors that influence the way people think. It will cover the EU27 plus Turkey, Norway and Switzerland.

The questionnaire will be designed by an independent group of social scientists and will comprise a core group of 'trend' questions relating to life sciences and their various applications; scientific knowledge; trust in key actors and perceptions of new technologies used in agriculture and food, with new questions covering areas of topical and potentially controversial interest in the KBBE such as synthetic biology, biofuels, bioplastics and use of stem cells/animal cloning. Expected impacts: Survey results will be an important resource for the EU institutions as well as policy makers and regulators in the Member States, ethical groups, industry/business groups and civil society organisations, researchers and science communicators.

Indicative budget: EUR 800 000

³⁸ In accordance with Articles 14, 17 and 27 of Regulation (EC) No 1906/2006 of 18 December 2006 laying down the rules for the participation of undertakings, research centres and universities in actions under the Seventh Framework Programme and for the dissemination of research results (2007-2013).

Funding scheme: *Coordination and Support Action - public procurement; estimated publication date 1st part of 2010*

- *Group(s) of independent experts for policy relevant analyses and forward looking reflection on KBBE related research*
 - Group(s) of independent experts will be established to provide a better understanding into existing and new trends which are of importance for the development of the European Knowledge Based Bio-Economy. In this respect, in the framework of the Monitoring and Signalling Mechanism (MSM) established in support of the SCAR foresight process, an ad hoc foresight expert group formed by high-level independent experts will be contracted by the Commission, with the task to build on the reports issued in the 2 previous foresight rounds and deliver new insight about possible changes of importance for the development of the European Knowledge Based Bio-Economy.
 - Group of independent experts will be established to prepare for the interim report of FP7 Theme 2.

Indicative budget: *EUR 190 000*

Funding scheme: *Coordination and Support Action – expert-reviewer/evaluator appointment letter*

Review of projects:

Appointed independent experts will be used to review FP-6 and FP-7 projects.

Indicative budget: *EUR 600 000*

Funding scheme: *Coordination and Support Action – expert-reviewer/evaluator appointment letter*

Grants to named beneficiaries:

Subject	EC contribution
<p>KBBE conference under the Belgian Presidency (end of 2010) - Flemish Government, Department of Economy, Science and Innovation (EWI), Brussels</p> <p><i>This conference will bring together the main actors at national and European level, to take stock of developments and needs for the BioEconomy. It will enhance political visibility for Biobased processes and sustainable production for an improved EU competitiveness, a cleaner environment and increased welfare of society (EU and global). It aims to identify the actions needed to ensure EU leadership in the field of the knowledge Based BioEconomy.</i></p>	80 000
<p>20th Anniversary conference of the EC-US Task Force on Biotechnology Research and the annual EC-US Task Force meeting, under the Spanish Presidency (1st part of 2010) - Universitat</p>	60 000

<p>Pompeu Fabra, Barcelona</p> <p><i>The conference will bring together policy makers and scientists from the EU and US to discuss the evolution of Biotechnology since the start of the Task Force and the impact the work of the Task Force had and has on the development and priority setting in EU and US . It also aims to discuss where the US and the EU will be in another 20 years in Biotechnology, what should be the elements of international cooperation in biotechnology research in the 21st century and what actions are needed in the future.</i></p>	
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Indicative budget is EUR 140 000

Funding scheme: Coordination and Support Action- Identified beneficiary

Indicative budget for the 'Food, Agriculture and Fisheries, and Biotechnology' Theme for 2010:

	Budget 2010^{39 40} (EUR million)
Call-KBBE-2010-4	190.01
Call FP7-AFRICA-2010	6.50
Call FP7-INFLUENZA-2010	6.00
Call FP7-OCEAN-2010	9.00
Call-ERANET-2010-RTD (cf Annex 4)	2.00
General activities (cf Annex 4)	2.25
Other actions: <ul style="list-style-type: none"> • Evaluations (EUR 2.70 million) • Monitoring, reviews and impact assessment (EUR 2.09 million) <ul style="list-style-type: none"> ○ Monitoring (EUR 1.49 million) ○ Review of projects (EUR 0.60 million) • Grants to named beneficiaries (EUR 0.14 million) 	4.93
Estimated total budget	220.69

Summary Budget allocation to general activities for 2010 (cf Annex 4) (EUR million):

Cordis	0.43
Eureka/Research Organisations	0.02
COST	1.74
Strategically oriented support actions	0.06
TOTAL:	2.25

All budgetary figures given in this work programme are indicative. The final budgets awarded to actions implemented through calls for proposals may vary by up to 10% of the total value of the indicated budget for each call.

For actions not implemented through calls for proposals:

³⁹ Under the condition that the preliminary draft budget for 2010 is adopted without modifications by the budget authority.

⁴⁰ The indicative budget may be raised by the budget of the Recettes tiers.

- The final budgets for evaluation, monitoring and review may vary by up to 20% of the indicated budgets for these actions;
- The final budget awarded for all other actions not implemented through calls for proposals may vary by up to 10% of the indicated budget for these actions.