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European Research Area



International co-operation in

Food, Agriculture and Fisheries and Biotechnology

Achievements and Prospects of EU-INDIA co-operation



Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Elisabetta Balzi
European Commission
DG Research
Biotechnologies, Agriculture, Food





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International co-operation in FP7

Food, Agriculture and Fisheries and Biotechnology

- **FP7 Food, Agriculture, Fisheries and Biotechnology**
- **International co-operation in FAFB:
Principles, Objectives, Strategy and Modalities**
- **Results from 2007-2009: EU-India co-operation**
- **Prospects for 2010**

**Food,
Agriculture and Fisheries,
and Biotechnology**

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The 7th EU Framework Programme for Research and Development 2007-2013

total funding 53 billion €



• Specific Programmes

Cooperation – Collaborative Research	€ 32.365 m
Ideas – Frontier Research	€ 7.460 m
People – Human Potential	€ 4.728 m
Capacities – Research Capacity	€ 4.217 m
JRC, non nuclear	€ 1.751 b
JCR, nuclear	€ 0.517 b
EURATOM	€ 2.234 b

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

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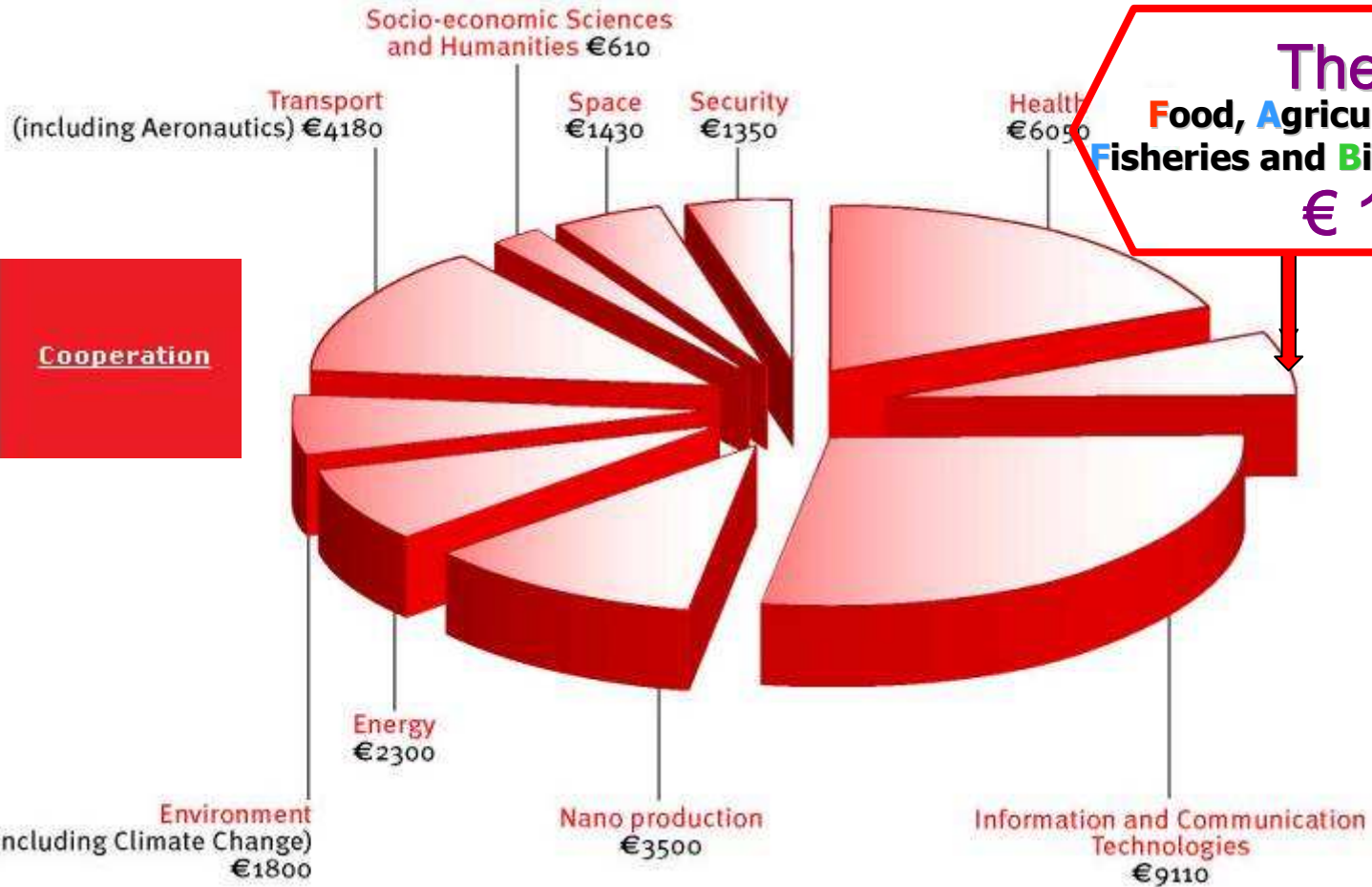




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Cooperation programme – 10 thematic areas



Theme 2
Food, Agriculture and Fisheries and Biotechnology
€ 1935

Food,
Agriculture and **F**isheries,
and **B**io**T**echnology
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FP7 – Co-operation *Theme 2*

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)



Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

RATIONAL

Life-sciences and biotech research can contribute to the Lisbon objectives on economic growth, employment, sustainable development

building a

Knowledge-Based Bio-Economy (KBBE)



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FP7 – Co-operation *Theme 2*

Food, **A**griculture and **F**isheries, and **B**iotechnology

K n o w l e d g e - B a s e d B i o - E c o n o m y (K B B E)

OBJECTIVES

Food,
Agriculture and **F**isheries,
and **B**iotechnology

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SEVENTH FRAMEWORK
PROGRAMME



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Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

OBJECTIVES

➤ Build a European Knowledge-Based Bio-Economy (KBBE)

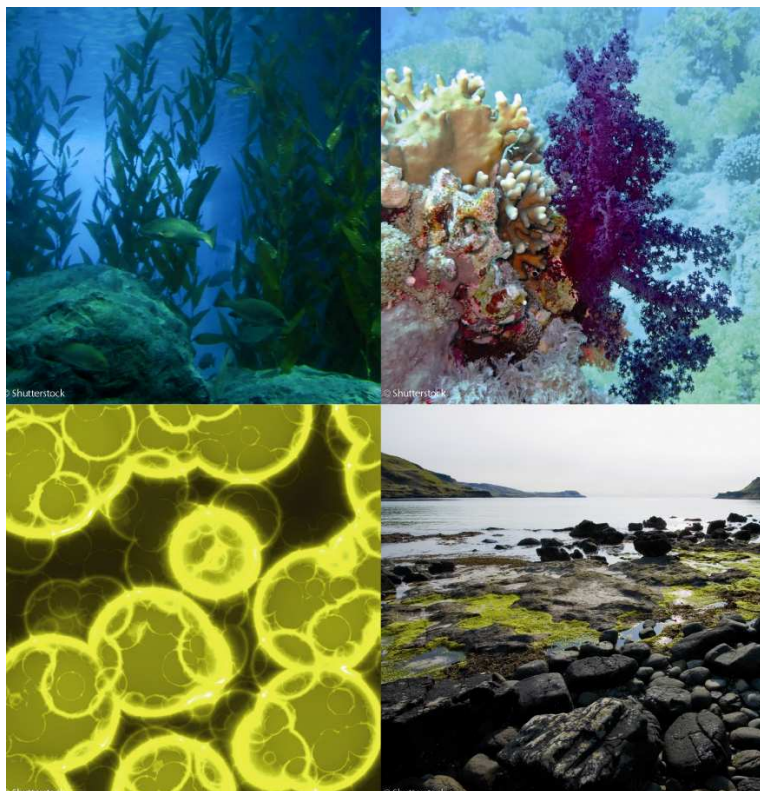
➤ Respond to social, economic and GLOBAL challenges:

- **Food security, quality and safety**
- **Sustainable agriculture / fishery and climate change**
- **Food-related disorders**
- **Infectious animal diseases and zoonoses**
- **Renewable energy and biomaterials**

➤ **Support other EU policies** such as CAP, CFP, Forest Strategy, Animal Health, Environment, Energy, Development and Trade Policies

➤ **Respond quickly to emerging research needs**

➤ **Support the coordination of National Research Programmes - ERA-NETS**



Food,
Agriculture and **F**isheries,
and **B**iotechnology

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PROGRAMME



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Some major trends/challenges affecting the Bio-Economy

- **Feeding the increasing world population**
 - 6.5 bn in 2005 _ 8.3 bn in 2030
 - increasing calorie consumption per capita
 - rising meat demand – up 70% by 2030
- **Coping with high food and commodity prices and with difficulties in maintaining food security**
- **Competition for land use**
 - food, non-food, amenity
- **Coping with climate change**
 - spread of plant/animal diseases
 - new varieties/crops
 - coping with unpredictability
 - water issues
 - soil degradation
- **Addressing increasing environmental considerations**
 - minimizing further agricultural land use
 - habitat protection
 - maintenance of biodiversity
- **Adjusting to consumer demands**
 - food safety and quality issues
- **Biosecurity concerns**



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Recent EU policies and strategies

- **Renewed Sustainable Development Strategy**
- **Green paper on adaptation to climate change**
- **Strategic Energy Technology Plan**
- **Integrated Maritime policy**
- **Revision of EU strategy for sustainable aquaculture**
- **Animal Health Strategy**
- **Strategy on nutrition, overweight and obesity related health issues**
- **Organic Farming Action Plan**
- **Forestry Action Plan**
- **Food, CAP Health Check**
Agriculture and Fisheries,
and Biotechnology

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FP7 – Co-operation *Theme 2*

Food, **A**griculture and **F**isheries, and **B**iotchnology

K n o w l e d g e - B a s e d B i o - E c o n o m y (K B B E)

3 ACTIVITIES of RESEARCH

Food,
Agriculture and **F**isheries,
and **B**iotchnology

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3 KBBE - ACTIVITIES



FP7 KBBE - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments



FP7 KBBE - Activity 2.2

"Fork to farm": Food (including sea-food), health and well being



FP7 KBBE - Activity 2.3

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

Food, Agriculture and Fisheries, and Biotechnology Knowledge - Based Bio - Economy (KBBE)

- **Enabling research** ('omics' converging technologies, bio-informatics, biodiversity) for **micro-organism, plants and animals**
- Competitive, sustainable and multifunctional **agriculture, forestry, fishery and aquaculture**
- **Animal health** production and welfare; animal diseases
- **Marine resources**, fishery, aquaculture
- Development of **policy** strategies for knowledge based bio-economy, agriculture, fishery as well as rural and coastal areas

- **Consumer, societal, industrial and health** aspects of food and feed
- **Nutrition**, diet related **diseases** and disorders
- Innovative **food and feed processing**
- Improved **quality and safety** of food, beverage and feed

- Novel sources of **biomass and bioproducts**
- **Marine** and fresh-water **biotechnology** (blue biotechnology)
- **Industrial biotechnology**: novel high added-value bio-products and bioprocesses
- **Biorefinery**
- **Environmental biotechnology**
- Emerging trends in biotechnology



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International co-operation in FP7

Food, **A**griculture and **F**isheries and **B**iotechnology

➤ FP7 Food, Agriculture, Fisheries and Biotechnology

➤ **International co-operation in FAFB:
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➤ Results from 2007-2009: EU-India co-operation

➤ Prospects for 2010

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THIRD COUNTRY

is a country which is not a European Union Member State:

- 1- Associated countries, associated candidate countries (Croatia, FYR Macedonia, Iceland, Israel, Liechtenstein, Norway, Serbia, Switzerland, Turkey, Albania, Montenegro)**
- 2- Industrialised countries (Australia, Canada, USA, New Zealand....)**
- 3- International Cooperation Partner Countries (ICPC):**

ICPC is a third country that the European Commission classifies as a low-income, lower-middle-income or upper-middle-income country

- **Countries neighbouring the EU (Mediterranean Partners , Western Balkans, Eastern Europe and Central Asia)**
- **Emerging economies (e.g. Brazil, China, India, Russia, South Africa)**
- **Developing countries (from ACP, ASIA, Latin America)**
- **Least Developed Countries, with focus on MDGs**

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International Cooperation in FP7 - PRINCIPLES

Efforts should be made to strengthen international co-operation towards:

- Reaping the full benefits of **internationalization of R&D**
- Contributing to the production of **global public goods**
- Further integrating the EU into the **world-wide research community**

FP7 should contribute towards promoting world-wide

**GROWTH,
SUSTAINABLE DEVELOPMENT and
ENVIRONMENTAL PROTECTION, also by addressing climate change**

Where possible, the FP will contribute to meeting the

Millennium Development Goals by 2010



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International Cooperation in FP7

Food, **A**griculture and **F**isheries and **B**iotecnology Research

The context

Agriculture, food and biotechnology research is a priority for most countries:
highly industrialised, emerging and developing economies

The socio-economic challenges addressed by research in this theme

Sustainable agriculture/fishery under climate change
Increasing need for high quality and sustainable food production
Food-related disorders (cardiovascular, obesity ...)
Infectious animal diseases and zoonoses
Renewable energy sources

are GLOBAL and require international S&T cooperation



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International Cooperation in FP7

Food, **A**griculture and **F**isheries and **B**iotecnology Research

Objectives:

- Contribute to global sustainable development and foster Europe's S&T excellence in partnership with the world
- Enhance EU competitiveness, through strategic research partnerships with third countries
- Address scientific challenges requiring broad international efforts
- Address global societal and economic challenges
- Support research of specific interest for developing countries in recognition of UN Millennium Development Goals

Knowledge-based Bio-Economy (KBBE)

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3 KBBE - ACTIVITIES



FP7 KBBE - Activity 2.1

Sustainable production and management of biological resources from land, forest and aquatic environments



FP7 KBBE - Activity 2.2

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Food, Agriculture and Fisheries, and Biotechnology

Knowledge - Based Bio - Economy (KBBE)

- **Enabling research** ('omics' converging technologies, bio-informatics, biodiversity) for **micro-organism, plants and animals**
- **Competitive, sustainable and multifunctional agriculture, forestry, fishery and aquaculture**
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- **Consumer, societal, industrial and health** aspects of food and feed
- **Nutrition, diet related diseases and disorders**
- **Innovative food and feed processing**
- **Improved quality and safety** of food, beverage and feed

- **Novel sources of biomass and bioproducts**
- **Marine and fresh-water biotechnology** (blue biotechnology)
- **Industrial biotechnology:** novel high added-value bio-products and bioprocesses
- **Biorefinery**
- **Environmental biotechnology**
- **Emerging trends in biotechnology**

International Cooperation



STRATEGY - DRIVERS

➤ EU policies

- EC Communication *A Strategic European Framework for International Science and Technology Co-operation*
- other main EU policies - Development, Agriculture, Fisheries, Environment, Energy, Health, Trade...
- International policies: UN Millennium Development Goals...

➤ Bilateral and Biregional Thematic Dialogues

- **S&T Bilateral Co-operation Agreements** Road-maps from JSTCC
(Australia, Argentina, Brazil, Canada, Chile, China, Egypt, India, Korea, Mexico, Morocco, New Zealand, Russia, South Africa, Tunisia, Ukraine, United States)
- **Bilateral Working Groups and Task Forces** (e.g. Canada, Russia, USA...)
- **Bi-regional fora** (e.g. ASEAN, Latin America, MED, EECA, including INCO-Nets...)

and INTERNATIONAL FORA, PLATFORMS, WORKING GROUPS... relevant to this theme



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EU- India S&T co-operation POLICY DRIVE

- **The EU-India Strategic Partnership**
(includes a heading on "Building on synergies in science and technology")
and its **Action Plan** agreed in Delhi in 2005

- **The EU-India Science and Technology**
bilateral agreement

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Food, Agriculture and Fisheries and Biotechnology

EU - INDIA DIALOGUES and SUPPORT

- ❖ Dialogues and joint initiatives with **DBT** Dpt of Biotechnology, Gvt of India
- ❖ bio-NCP : JNU 
- ***EU-India Workshop on Biotechnologies: Prospects and Strategies for the next 25 Years***, DBT, Delhi, April 2007
- ***Nutraceutical Summit***, including EU-IN Day, Mumbai Feb 2008
- **Meetings EC RTD-E and DBT** (Bxl: April 2008, Oct 2008, March 2009; Delhi: Nov 2006, April 2007, Feb 2008)
- **EU-INDIA Co-ordinated Call – EC & DBT, 2008**
- ***EU-India Days***, Delhi Nov 2009
- ***Information Day on EU-India co-operation in the 7th Framework Programme***, JNU, Delhi, Feb 2007
- ***FP7 Info Days and bioNCP Meetings***, Brussels (Nov 2008, Oct 2009...)



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International co-operation in FP7

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MODALITIES of International Cooperation in

Food, Agriculture and Fisheries and Biotechnology

1. Participation of Third countries (= non EU) in FP7

- **GENERAL OPENING**

All activities / topics are open to participation by Third Countries

Third countries (other than AC): as additional partners

- **TARGETED OPENING:**

Some topics encourage international cooperation with some TC

Third countries (other than AC): as additional partners (encouraged)

- **SICAs - Specific International Co-operation Actions**

Topics with mandatory participation of some TC - ICPC

International Co-operation Partner Countries : as **COMPULSORY partners**

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*any legal entity established in an International
Cooperation Partner Country (ICPC) may
receive a Community financial contribution*



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MODALITIES of International Cooperation in

Food, Agriculture and Fisheries and Biotechnology

2. Co-ordination of FP7 & EU with Third countries Programmes

- **COORDINATED CALLS**

Synchronised Calls, by FP7-Theme2 and a Third country, on topics of shared interest and with co-funding (ex **Russia 2008**, India 2009)

- **TWINNING of projects**

between FP7-Theme 2 and related programmes from Third countries, on on-going projects throughout this Theme, since 2008 (ex Canada, Argentina)

- **ERA-Nets**

Coordination of European National Research Programmes, including some third countries programmes (e.g. agriculture for development, agriculture for Mediterranean countries)

- **GLOBAL INITIATIVES and PARTNERSHIP INITIATIVES**

CSA for co-ordination of programmes activities between EU and Third countries

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Food, Agriculture and Fisheries, and Biotechnology Knowledge-Based Bio-Economy (KBBE)

IMPLEMENTATION

Yearly Call for proposals

The screenshot shows the CORDIS website interface for the Seventh Research Framework Programme (FP7). The main content area is titled "Cooperation : Calls" and lists "Food, Agriculture and Fisheries, and Biotechnology" calls. A table lists "Calls for Proposals" with two entries: "FP7-KBBE-2007-1" (General Call 1) and "FP7-KBBE-2007-2A" (General call 2), both marked as "CLOSED". Below this, "Coordination of Research Activities related to this theme (Calls for Proposals)" lists "FP7-ERANET-2007-RTD" (ERA-NET / ERA-NET Plus Call 2007), also marked as "CLOSED". A link for "Other FP7 calls" is provided at the bottom of the list.

Calls for Proposals	
FP7-KBBE-2007-1 CLOSED	General Call 1
FP7-KBBE-2007-2A CLOSED	General call 2

Coordination of Research Activities related to this theme (Calls for Proposals)	
FP7-ERANET-2007-RTD CLOSED	ERA-NET / ERA-NET Plus Call 2007

See Calls publications on :
www.cordis.europa.eu/fp7/kbbe/home_en.htm



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KBBE Work Programmes 2007-2010:

52 SICAs / topics with mandatory TC and 45 topics targeted to TC

⇒ 35% of KBBE topics call for international co-operation

	WP 2007		WP 2008	WP 2009	WP 2010
	Call 1 +ERANET	Call 2A	Call 2B + ERANET	Call 3 + Biorefineries + ERANET	Call 4 + Africa + Ocean + Influenza + ERANET
Total topics called	78	23	50	72	56
SICAs & topics with mandatory TC participation	6	2	10	19	15
Targeted topics	17	4	10	11	4
General topics	55	17	30	40	29
Coordinated call			Russia 2 topics (Act 3)	India 2 topics (Act 2)	
Twinning			Canada (Act 3, 2)	Argentina (Act 1, 2)	open



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International co-operation in FP7

Food, **A**griculture and **F**isheries and **B**iotechnology

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➤ Prospects for 2010

Food,
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and **B**iotechnology

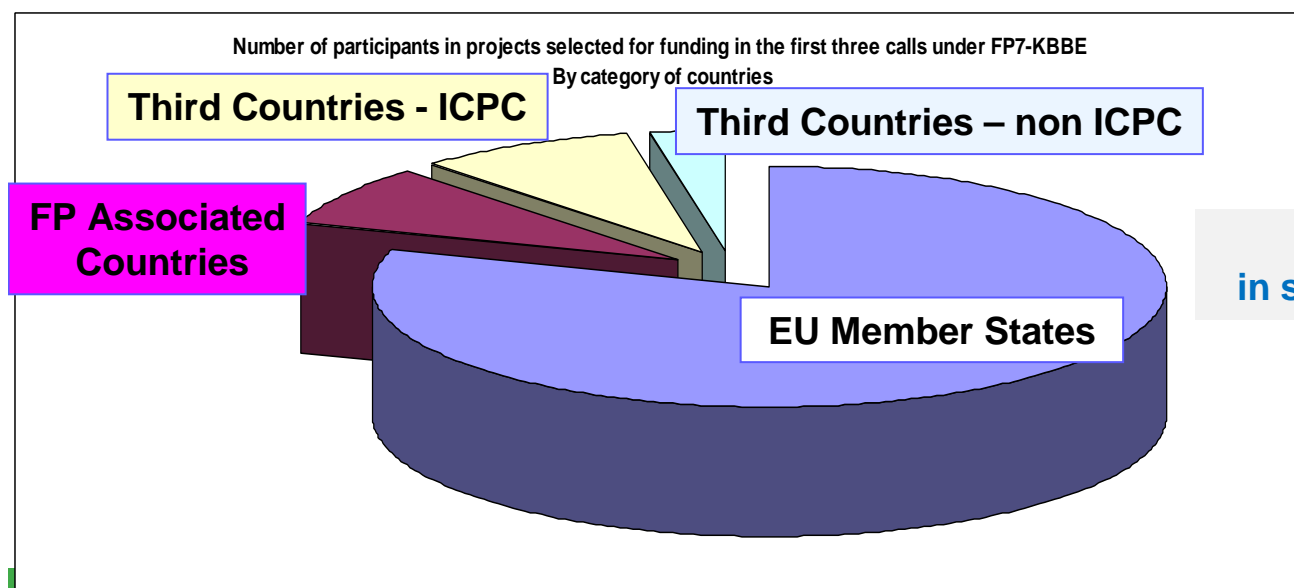
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Strong Response and Participation by Third Countries in FP7-KBBE calls (2007-2008)

	Call 1	Call 2A	Call 2B	Total
Response by Third Countries in submitted proposals	9,44 %	9,6%	17,2 %	12 %
Participation of Third Countries in proposals selected for funding	8,70%	10,10%	18,50%	11,90%
Success rate of Third Countries	18,5 %	22,70%	19,20%	19,4 %



Distribution of Countries
in selected proposals - 2007-2008



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In 2007-2009:

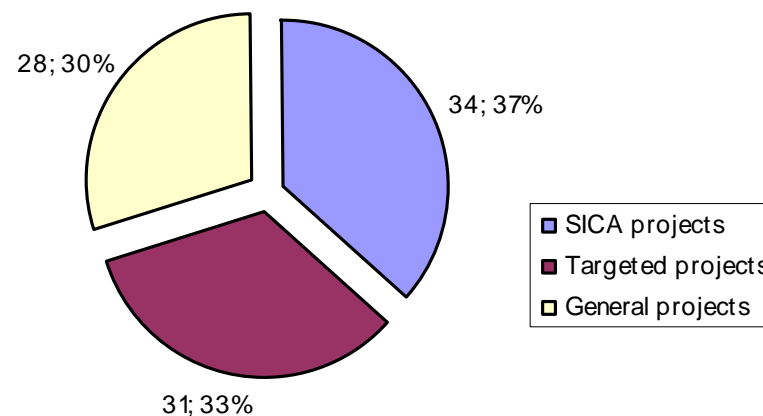
93 PROJECTS with TC partners (others than AC) (out of 189 tot)

(301 partners from 57 different Third Countries – excluding AC)

50 % of all projects selected include Third Countries partners

**TC succeeded in all
types of topics**

Number of projects funded including Third countries (except AC) partners under the first four FP7-KBBE calls (2007-2009)



**Food,
Agriculture and Fisheries,
and Biotechnology**

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SEVENTH FRAMEWORK
PROGRAMME

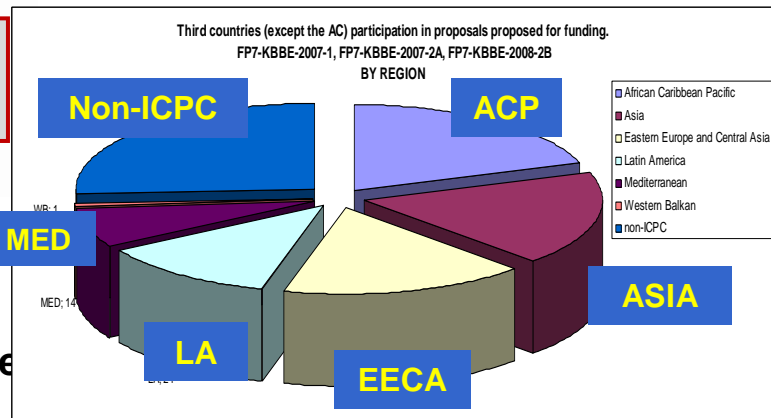


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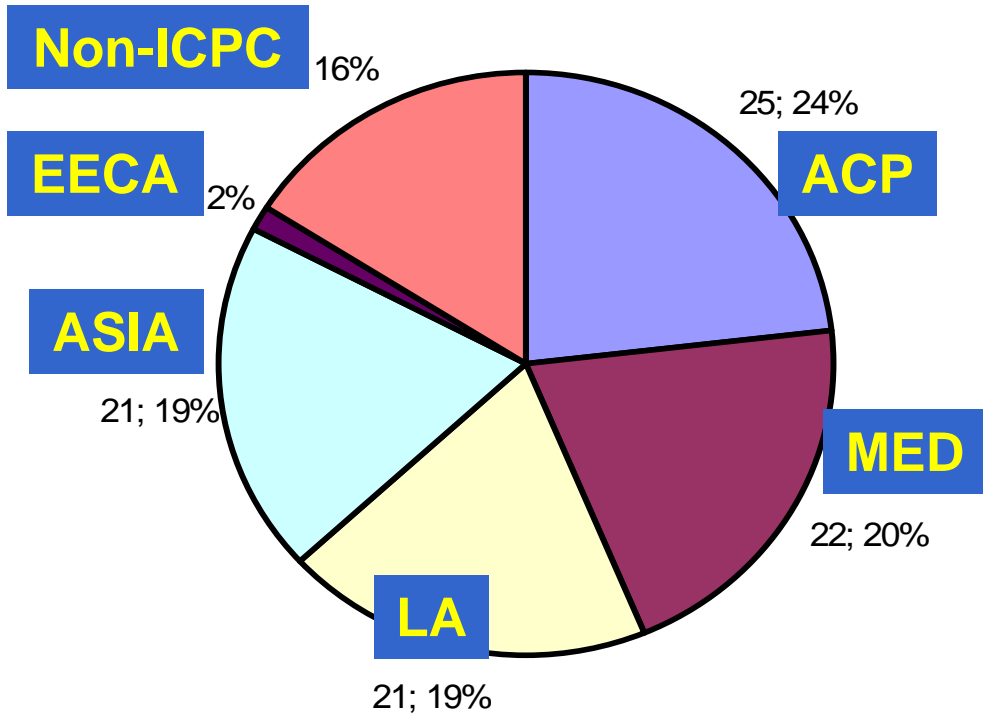
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Participation by different REGIONS

2007-2008



2009



- ACP
- MED
- Latin America
- ASIA
- Eastern Europe and Central Asia
- Industrialised Third countries



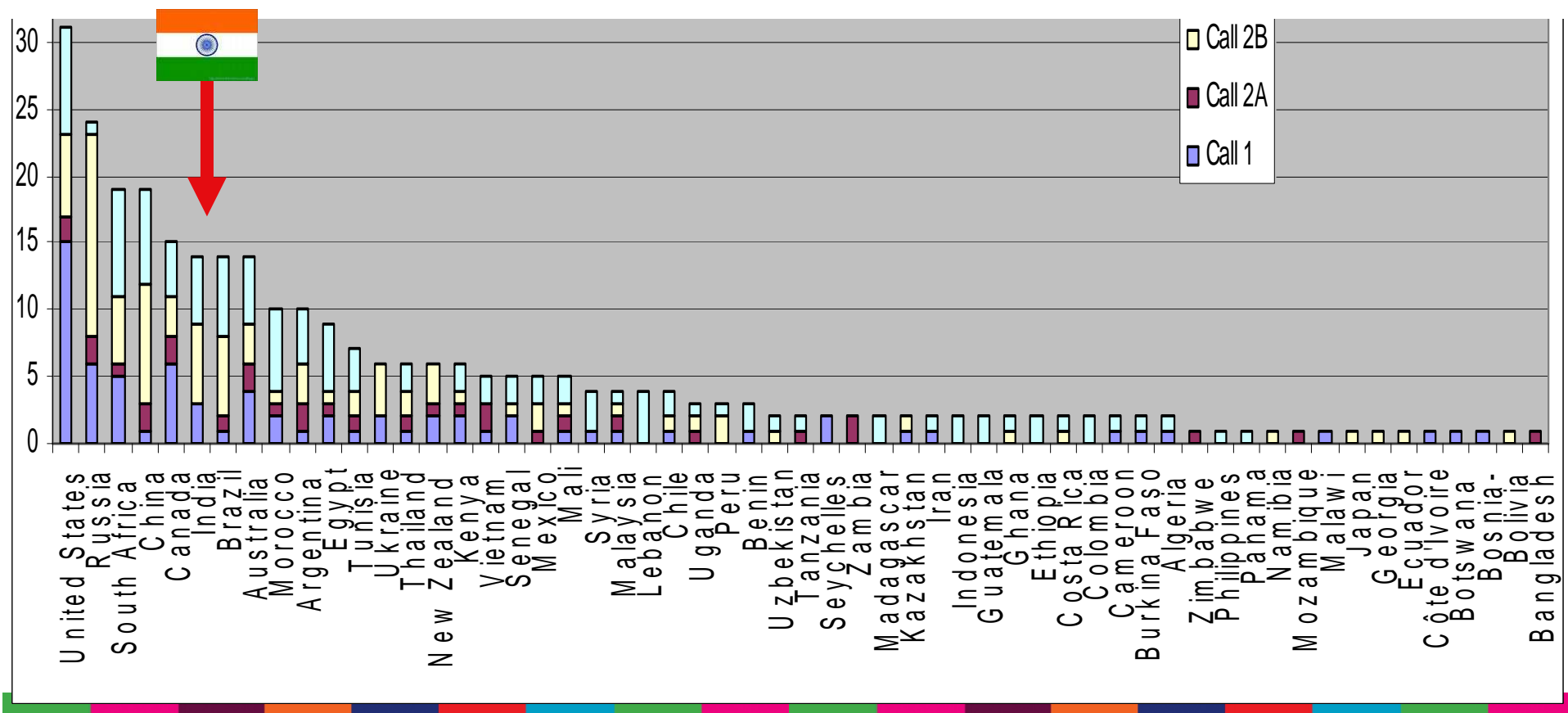


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PARTICIPATION of Third Countries in selected KBBE projects - 2007-2009

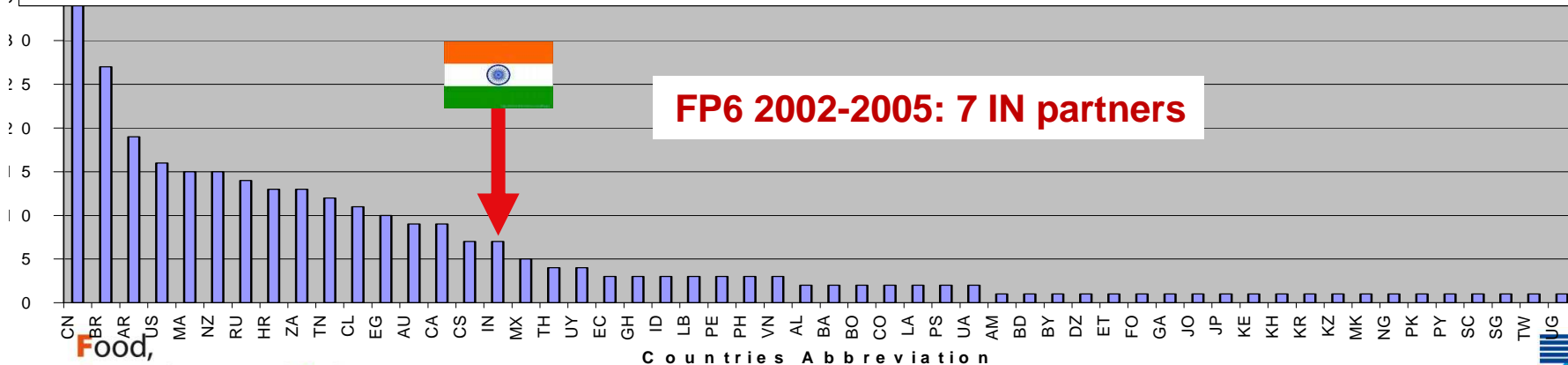
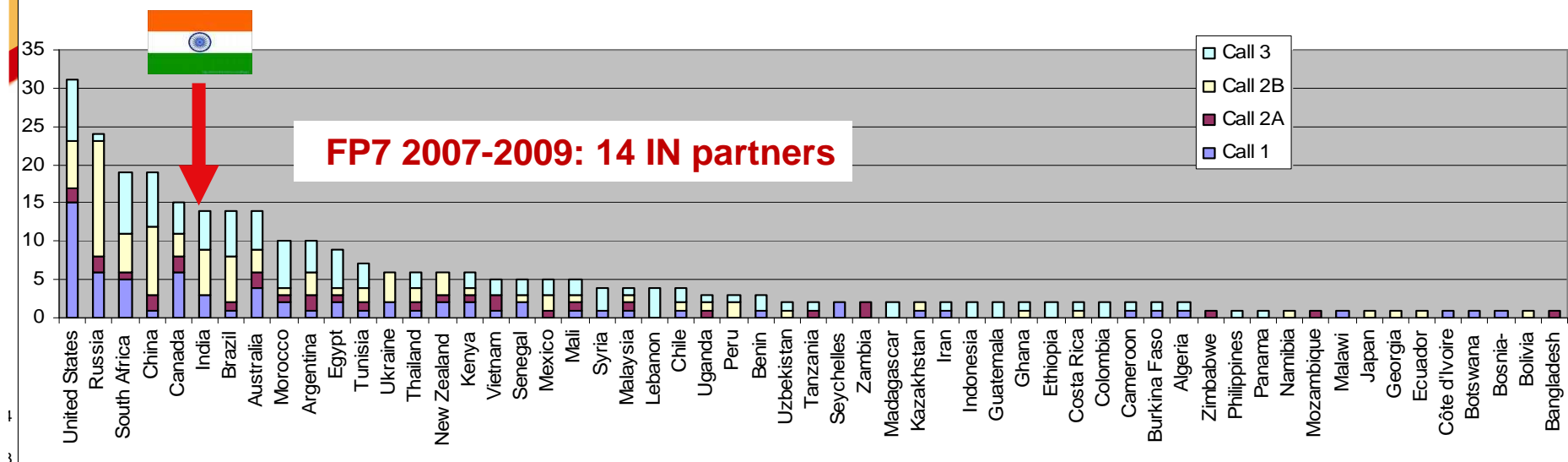
301 partners from 57 different Third Countries (others than AC) in successful proposals

Top 10: US; RU; SA, CN; CA, **IN**; BR, AU; MA, AR



PROGRESS of INDIA PARTICIPATION from FP6 to FP7

Evolution of Third countries participation (except AC)
in selected projects (2007-2009)



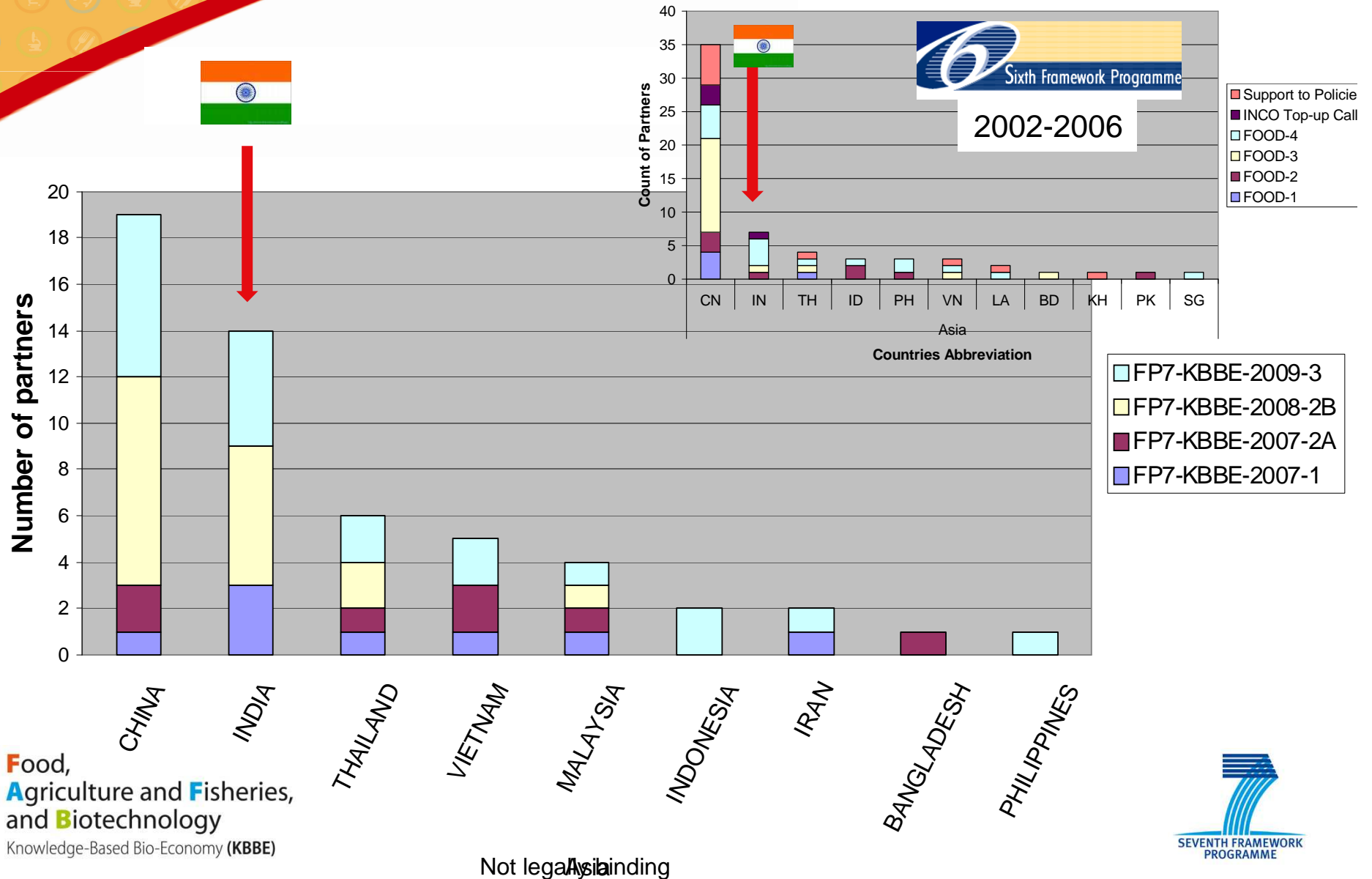
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ASIA

in FP7 KBBE projects 2007-2009



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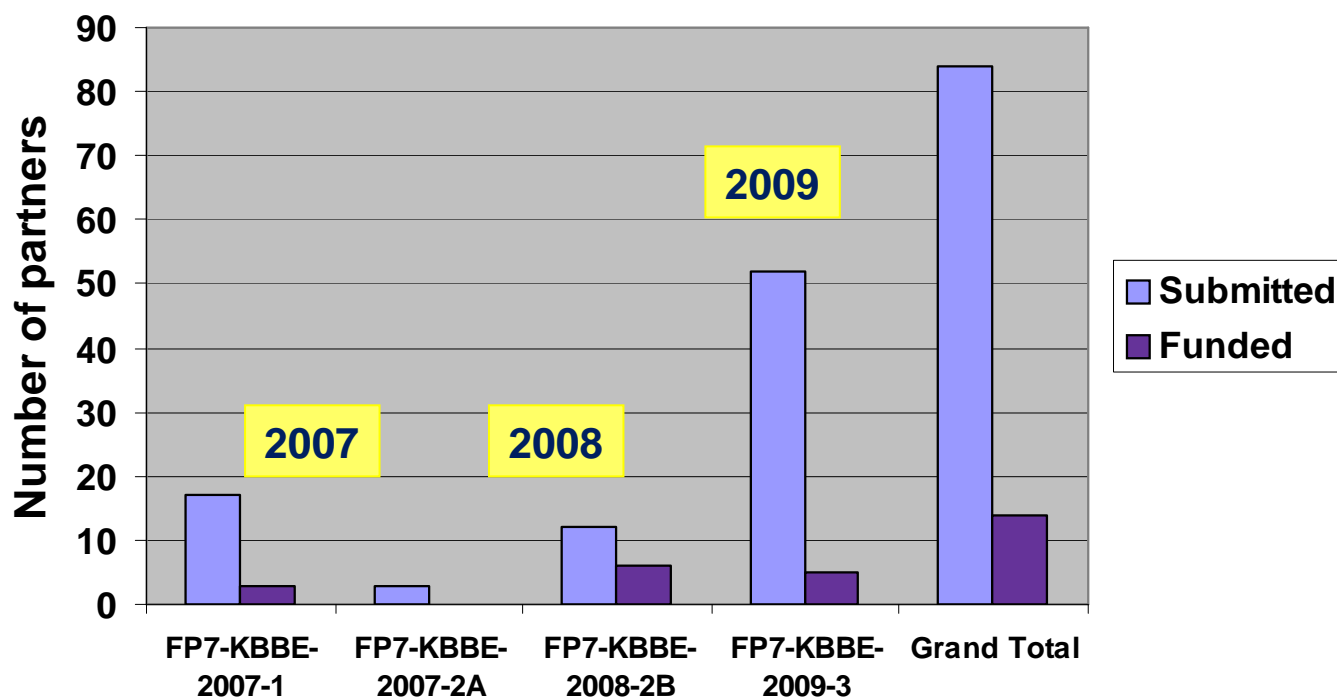


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Participation of India 2007-2009

Participation of India in submitted and selected projects in the first four FP7 KBBE Calls 2007-2009



Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Success rate: 16.7%



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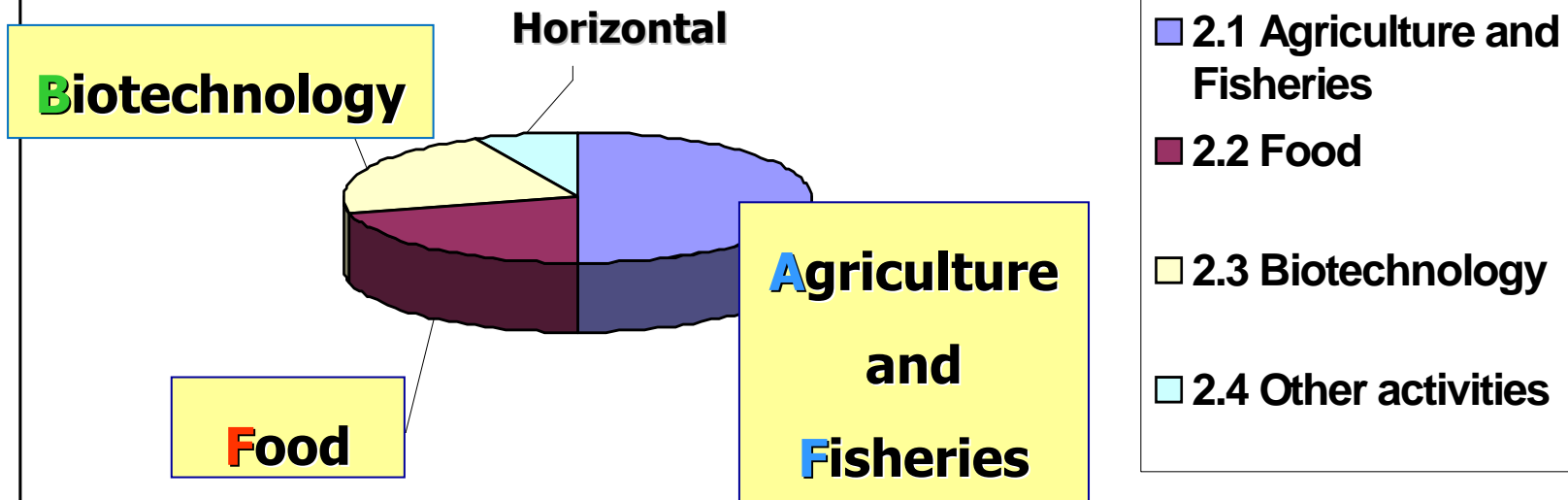


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Participation of India by **ACTIVITY** in 2007-2009 FP7-KBBE Calls

Participation of India by ACTIVITY in 2007-2009 FP7-KBBE Calls



Food
Agriculture
and
Knowledge



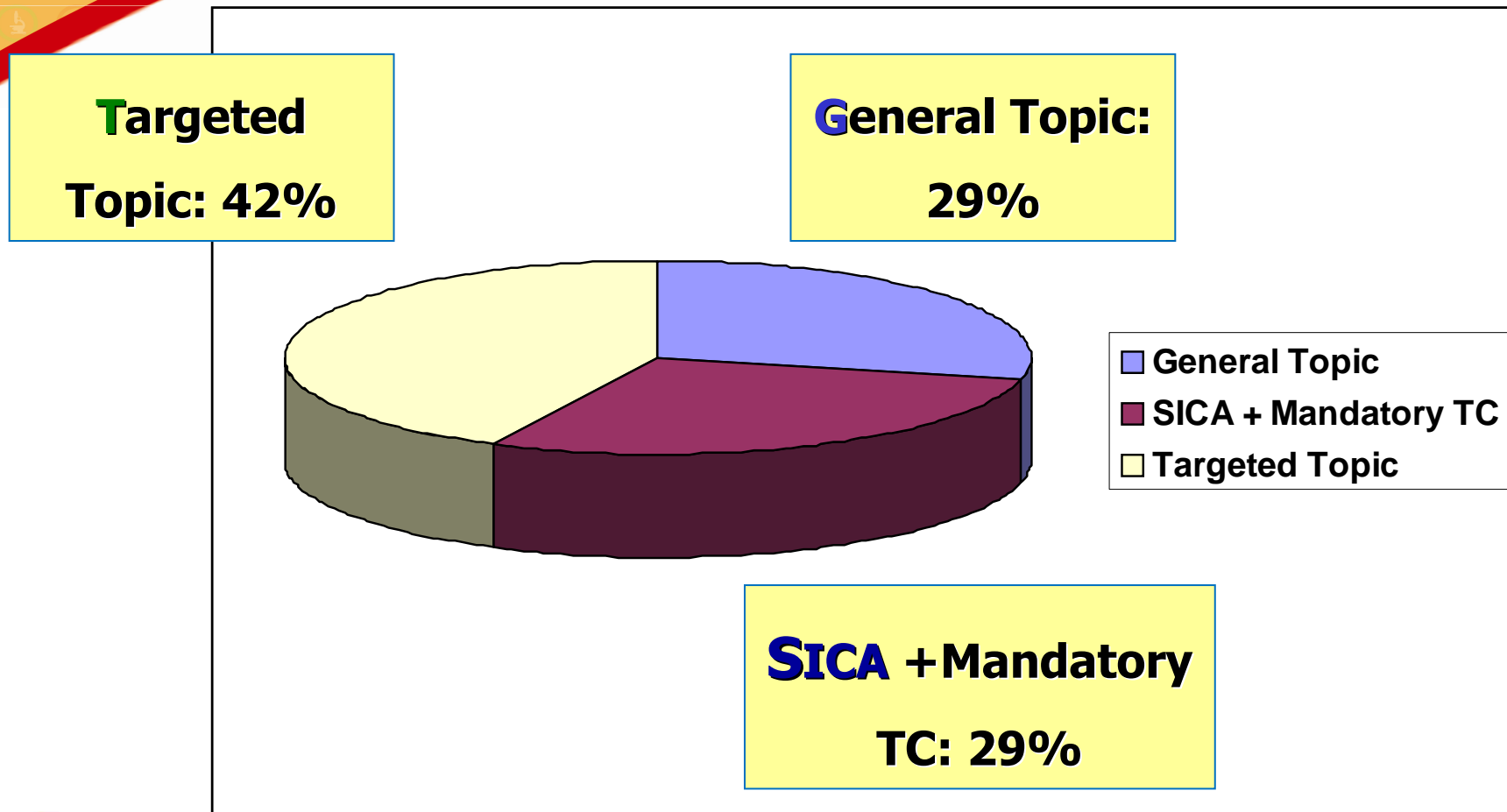
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Participation of India by **INSTRUMENT** in 2007-2009 FP7-KBBE Calls



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SEVENTH FRAMEWORK
PROGRAMME



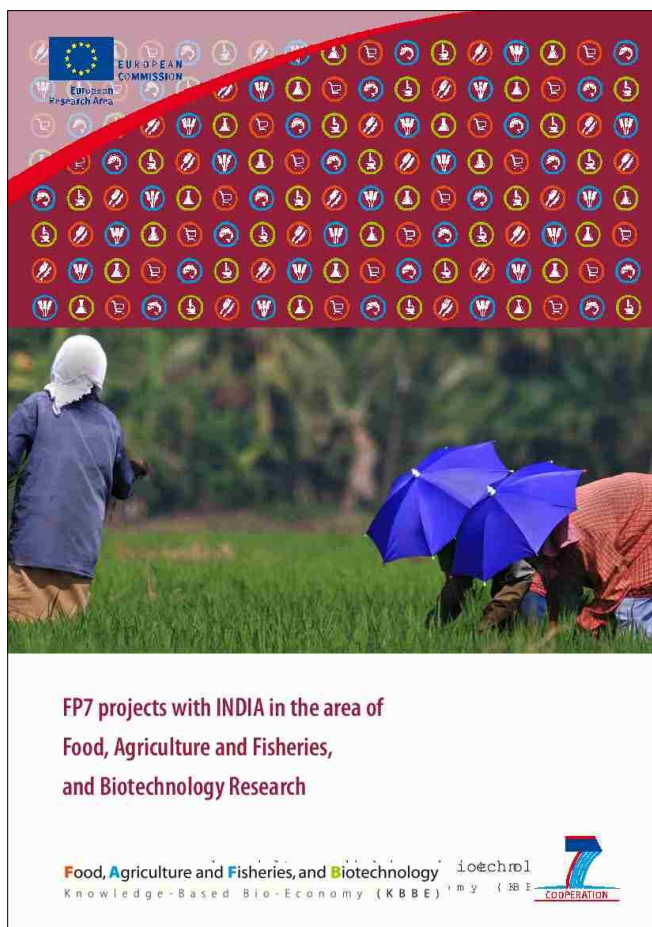
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10 FP7 projects with India

in Food, Agriculture, Fisheries and Biotechnology

2007-2009



10 projects + 2 co-ordinated projects
+ new one under negotiation...

CATALOGUE

http://cordis.europa.eu/fp7/kbbe/home_en.html

Food,
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and **B**io**t**echnology

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Sweet Sorghum: an alternative energy crop

Indian partner:

- **International Crops Research Institute for Semi Arid Tropics (IN)**

Project Co-ordinator:

Centre de Coopération Internationale en Recherche Agronomique pour le Développement (FR)

Food, Agriculture and Fisheries, and Biotechnology

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Call:FP7-KBBE-2008-2B

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Projects with India in FP7-KBBE : **SWEETFUEL**

ACTIVITY 2.3 BIOTECHNOLOGIES

Biotechnology

SWEETFUEL
Sweet Sorghum: an alternative energy crop

Increasing world market prices for fossil fuels, driven by limited reserves, growing demand and instability in producing regions, now render renewable fuels economical. Such fuels are also a pathway to reducing GHG emissions and mitigating climate change. Bio-ethanol from crop plants is a promising, partial solution to sustainably satisfy the energy demand for road transport. The success of bio-ethanol from sugarcane in Brazil demonstrates proof of concept but cannot be transferred to water-limited or temperate environments. Sweet sorghum, as a source of either fermentable free sugars or lignocellulosics, has many potential advantages, including high water, nitrogen and radiol use efficiency; broad agro-ecological adaptation; rich genetic diversity for useful traits; and the potential to produce fuel feedstock, food and feed in various combinations. Fuel-food crops can thereby help reconciling energy and food security issues. This project will breed for improved cultivars and hybrids of sorghum for temperate, tropical semi-arid and tropical acid-soil environments by pyramiding in various combinations, depending on region and ideotype, tolerance to cold, drought and acid (Al-toxic) soils; and high production of stalk sugars, easily digestible biomass and grain (WP 1-3). Molecular-genetic and physiological breeding support is given by WP4, and agro-ecological adaptation and sustainable practices are developed by WPs. Other WPs (6, 7, 8) provide for integrated technology and impact assessments including economics.

PROJECT COORDINATOR

- Serge BRACONNIER
- CENTRE DE COOPERATION INTERNATIONALE EN RECHERCHE AGRONOMIQUE POUR LE DEVELOPPEMENT (FR)
- serge.braconnier@cirad.fr

PROJECT NUMBER 227422

EC CONTRIBUTION

- 2967975,00 EURO

FUNDING SCHEME

- CP-SICA





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Projects with Indian partners in FP7- KBBE Calls: **JATROP**

Jatropha curcas - Applied and Technological Research on Plant Traits

Indian partner:

- **Tamil Nadu Agricultural University (IN)**

Project Co-ordinator:

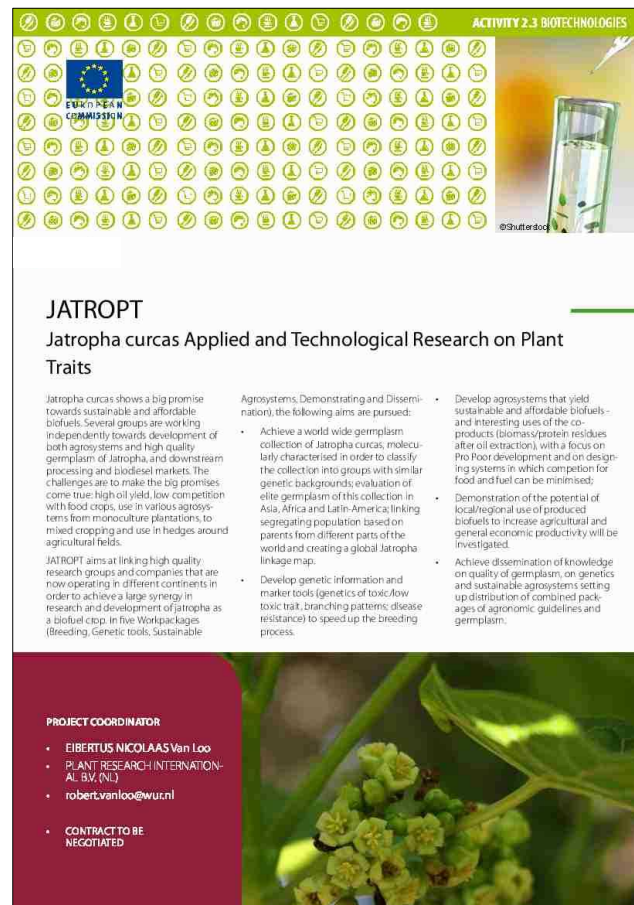
Plant Research International B.V.(NL)

Food,
Agriculture and **F**isheries,
and **B**iotchnology

Knowledge-Based Bio-Economy (KBBE)

Call:FP7-KBBE-2009-3

Not legally binding



ACTIVITY 2.3 BIOTECHNOLOGIES

JATROP
Jatropha curcas Applied and Technological Research on Plant Traits

Jatropha curcas shows a big promise towards sustainable and affordable biofuels. Several groups are working independently towards development of both agrosystems and high quality germplasm of Jatropha, and downstream processing and biodiesel markets. The challenges are to make the big promises come true: high oil yield, low competition with food crops, use in various agrosystems from monoculture plantations, to mixed cropping and use in hedges around agricultural fields.

JATROP aims at linking high quality research groups and companies that are now operating in different continents in order to achieve a large synergy in research and development of jatropha as a biofuel crop. In five Workpackages (Breeding, Genetic tools, Sustainable

Agrosystems: Demonstrating and Dissemination), the following aims are pursued:

- Achieve a world wide germplasm collection of Jatropha curcas, molecularly characterised in order to classify the collection into groups with similar genetic backgrounds; evaluation of elite germplasm of this collection in Asia, Africa and Latin America; linking segregating population based on parents from different parts of the world and creating a global Jatropha linkage map.
- Develop genetic information and marker tools (genetics of toxic/low toxic trait, branching patterns, disease resistance) to speed up the breeding process.
- Develop agrosystems that yield sustainable and affordable biofuels- and interesting uses of the co-products (biomass/protein) residues after oil extraction), with a focus on Pro-Poor development and on designing systems in which competition for food and fuel can be minimised;
- Demonstration of the potential of local/regional use of produced biofuels to increase agricultural and general economic productivity will be investigated.
- Achieve dissemination of knowledge on quality of germplasm, on genetics and sustainable agrosystems setting up distribution of combined packages of agronomic guidelines and germplasm.

PROJECT COORDINATOR

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CONTRACT TO BE NEGOTIATED





EUROPEAN COMMISSION

European Research Area

Exploring Marine Resources for Bioactive Compounds: From Discovery to Sustainable Production and Industrial Applications

Indian partner:

- **National Institute of Oceanography (IN)**

Project Co-ordinator :

Helsingin Yliopisto (FI)

Call:FP7-KBBE-2009-3

Food,
Agriculture and **F**isheries,
and **B**iotchnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : **MAREX**



ACTIVITY 2.3 BIOTECHNOLOGIES

MAREX
Exploring Marine Resources for Bioactive Compounds: From Discovery to Sustainable Production and Industrial Applications

Biodiversity in the seas is only partly explored, although marine organisms are excellent sources for many industrial products. Through close co-operation between industrial and academic partners, the MAREX project will collect, isolate and classify marine organisms, such as micro- and macroalgae, cyanobacteria, sea anemones, tunicates and fish from the Atlantic, Pacific and Indian Oceans as well as from the Mediterranean, Baltic and Azovian Seas. Extracts and purified compounds of these organisms will be studied for several therapeutically and industrially significant biological activities, including anticancer, anti-inflammatory, antiviral and anticoagulant activities by applying a wide variety of screening tools, as well as for ion channel/receptor modulation and plant growth regulation. Chromatographic isolation of bioactive compounds will be followed by structural determination. Sustainable cultivation methods for promising organisms, and biotechnological processes for selected compounds will be developed, as well as biosensors for monitoring the target compounds. The work will entail sustainable organic synthesis of selected compounds and new derivatives, and development of selected hits to lead compounds. The project will expand marine compound libraries. MAREX innovations will be targeted for industrial product development in order to improve the growth and productivity of European marine biotechnology. MAREX aims at a better understanding of environmentally conscious sourcing of marine biotechnology products and increased public awareness of marine biodiversity and potential. Finally, MAREX is expected to offer novel marine-based lead compounds for European industries and strengthen their product portfolios related to pharmaceutical, nutraceutical, cosmetic, agrochemical, food processing, material and biosensor applications.

PROJECT COORDINATOR

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• CONTRACT TO BE NEGOTIATED





EUROPEAN COMMISSION

European Research Area

Novel staple food-based strategies to Improve micronutrient status for better health and development in sub-Saharan Africa

Indian partners:

- **International Crops Research Institute for the Semi-arid Tropics (IN)**

Project Co-ordinator:

Wageningen Universiteit (NL)

Call:FP7-KBBE-2008-2B

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : INSTAPA



Food,

INSTAPA

Novel staple food-based strategies to improve micronutrient status for better health and development in sub-Saharan Africa

Malnutrition, and especially deficiencies of micronutrients like iron, zinc and vitamin A, undermine the progress towards most of the Millennium Development Goals. In view of the serious coverage, compliance and safety concerns of supplementation, this project aims to identify novel staple food-based approaches to improve micronutrient malnutrition for better health and development of women and children in sub-Saharan Africa.

It will focus on the improvement of millet, sorghum, maize, and cassava based (complementary) foods.

The genetic potential of staple foods for increasing the micronutrient and antioxidant content will be evaluated and the

determinants of success and failure of introducing biofortified staple foods in local farming systems will be assessed.

The efficacy of biofortified staple foods with adequate levels of provitamin A will be determined. Concerning fortification, the project will develop and test new approaches to optimise iron and zinc fortification of staple food-based foods.

The project will develop improved (traditional) processing methods of the staple foods concerned to enhance micronutrient uptake and bioavailability. The developed approaches in the area of biofortification, fortification and processing will be compared on efficacy of improving iron and zinc intake and status.

The safety of the improved staple foods on immunity and infections will be evaluated as well as the impact on cognitive development of young children.

Through capacity building and strengthening the scientific and technological excellence in the field of staple food-based approaches in Africa and Europe, the project seeks to significantly contribute to the improvement of the dietary quality of young children and their mothers living in resource poor areas in sub-Saharan Africa.

New scientific knowledge will be exploited to strengthen the competitiveness of local SMEs targeted at evidence-based production of healthier (complementary) foods for African children.

PROJECT COORDINATOR
• Inge D. Brouwer
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PROJECT NUMBER 211484

EC CONTRIBUTION
• 5,900,284 EURO

FUNDING SCHEME
• CP-SICA





EUROPEAN COMMISSION

European Research Area

Projects with India

in FP7-KBBE : FMD-DISCONVAC

Development, enhancement and complementation of animal-sparing, Foot and-Mouth Disease vaccine-based control strategies for free and endemic regions

Indian partner:

- **Indian Immunologicals Limited (IN)**

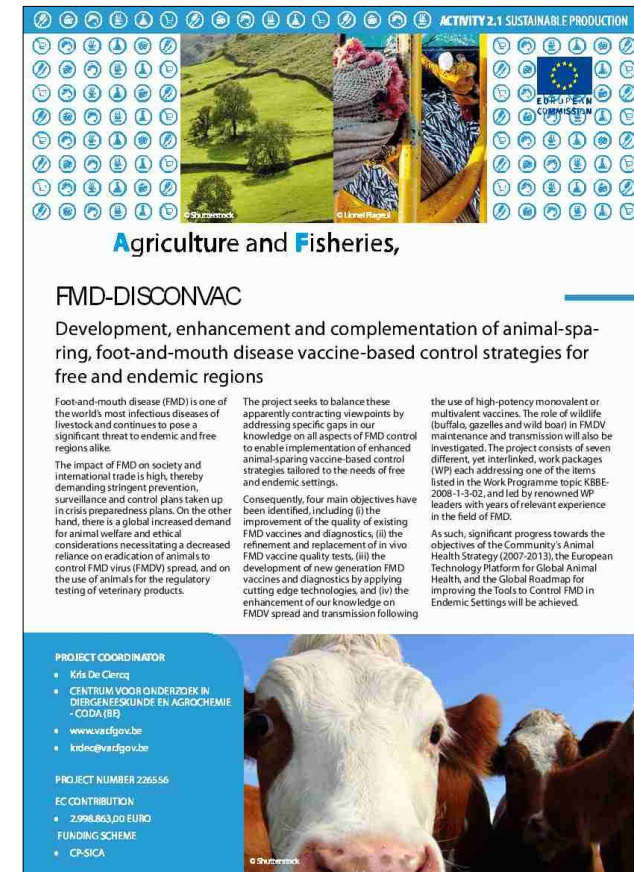
Project Co-ordinator : **Centrum Voor Onderzoek in Diergeneeskunde en Agrochemie-Coda (BE)**

Call:FP7-KBBE-2008-2B

Food,
Agriculture and **F**isheries,
and **B**iotecnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding



ACTIVITY 2.1 SUSTAINABLE PRODUCTION

Agriculture and Fisheries,

FMD-DISCONVAC

Development, enhancement and complementation of animal-sparing, foot-and-mouth disease vaccine-based control strategies for free and endemic regions

Foot-and-mouth disease (FMD) is one of the world's most infectious diseases of livestock and continues to pose a significant threat to endemic and free regions alike. The impact of FMD on society and international trade is high, thereby demanding stringent prevention, surveillance and control plans taken up in crisis preparedness plans. On the other hand, there is a global increased demand for animal welfare and ethical considerations necessitating a decreased reliance on eradication of animals to control FMD virus (FMDV) spread, and on the use of animals for the regulatory testing of veterinary products.

The project seeks to balance these apparently conflicting viewpoints by addressing specific gaps in our knowledge on all aspects of FMD control to enable implementation of enhanced animal-sparing vaccine-based control strategies tailored to the needs of free and endemic settings. Consequently, four main objectives have been identified, including (i) the improvement of the quality of existing FMD vaccines and diagnostics (ii) the refinement and replacement of in vivo FMD vaccine quality tests, (iii) the development of new generation FMD vaccines and diagnostics by applying cutting edge technologies, and (iv) the enhancement of our knowledge on FMDV spread and transmission following

the use of high-potency monovalent or multivalent vaccines. The role of wildlife (buffalo, gazelles and wild boar) in FMDV maintenance and transmission will also be investigated. The project consists of seven different, yet interlinked, work packages (WP) each addressing one of the items listed in the Work Programme topic KBBE-2008-1-3-02, and led by renowned WP leaders with years of relevant experience in the field of FMD. As such, significant progress towards the objectives of the Community's Animal Health Strategy (2007-2013), the European Technology Platform for Global Animal Health, and the Global Roadmap for Improving the Tools to Control FMD in Endemic Settings will be achieved.

PROJECT COORDINATOR

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PROJECT NUMBER 226556

EC CONTRIBUTION

- 2 998 863,00 EURO

FUNDING SCHEME

- CFSICA





EUROPEAN
COMMISSION

European
Research Area

Coordination Actions in Support Of Sustainable And Eco Efficient Short Rotation Forestry In CDM Countries

Indian partner:

- Punjab Agricultural University

Project Co-ordinator : Energieautark Consulting GMBH (AT)

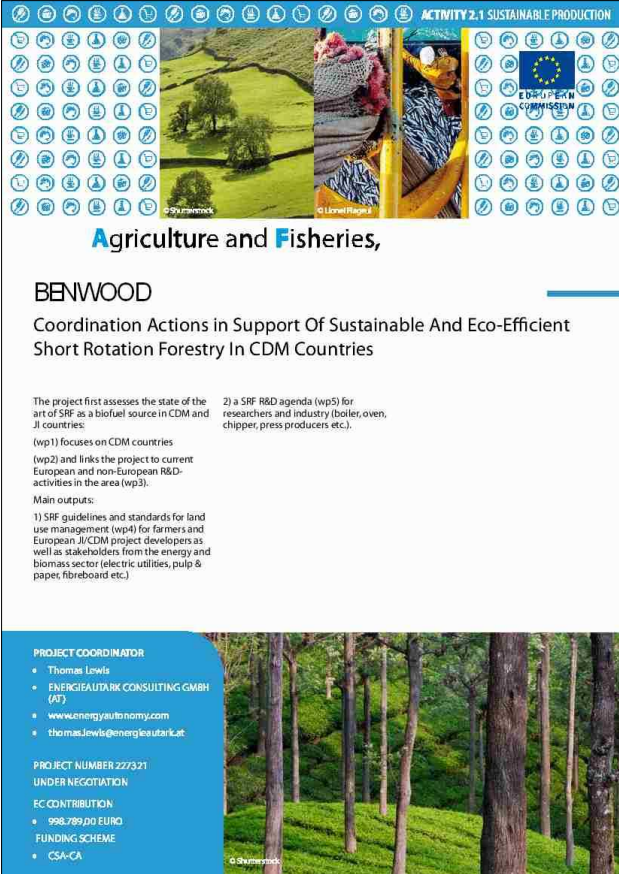
Call:FP7-KBBE-2008-2B

Food,
Agriculture and Fisheries,
and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : BENWOOD



ACTIVITY 2.1 SUSTAINABLE PRODUCTION

Agriculture and Fisheries,

BENWOOD

Coordination Actions in Support Of Sustainable And Eco-Efficient Short Rotation Forestry In CDM Countries

The project first assesses the state of the art of SRF as a biofuel source in CDM and JI countries:

(wp1) focuses on CDM countries

(wp2) and links the project to current European and non-European R&D-activities in the area (wp3).

Main outputs:

1) SRF guidelines and standards for land use management (wp4) for farmers and European JI/CDM project developers as well as stakeholders from the energy and biomass sector (electric utilities, pulp & paper, fibreboard etc.).

2) a SRF R&D agenda (wp5) for researchers and industry (boiler, oven, chipper, press producers etc.).

PROJECT COORDINATOR

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PROJECT NUMBER 227321

UNDER NEGOTIATION

EC CONTRIBUTION

- 998.799,00 EURO

FUNDING SCHEME

- CSA-CA





EUROPEAN COMMISSION

European Research Area

Trade, Agricultural Policies and Structural Changes in India's Agrifood System; Implications for National and Global Markets

Indian partners:

1. International Food Policy Research Organisation
2. ACCESS Development Services
3. Indira Gandhi Institute of Development Research

Project Co-ordinator: **Landbouw-Economisch Instituut B.V. (NL)**

Call:FP7-KBBE-2007-1

Food,
Agriculture and **F**isheries,
and **B**iotecnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : **TAPSIM**

ACTIVITY 2.1 SUSTAINABLE PRODUCTION

Agriculture and Fisheries,

TAPSIM
Trade, Agricultural Policies and Structural Changes in India's Agrifood System; Implications for National and Global Markets

The project offers a qualitative and quantitative analysis of future developments in Indian supply, demand and trade for the main agricultural commodities as well as developments in the food value chain.

Working tools are improved and used to evaluate the impact of trade and agricultural policies, structural changes on the Indian agrifood system as well as on world markets.

More specifically, the project will include the following actions:

- Design of an analytical framework for the analysis of future trade and agricultural policy developments (including trade agreements) on supply, demand and trade for the main agricultural commodities in India. Initial suggestions for analysis are cereals, pulses, vegetable oils, cotton, sugar, dairy, meat and fish, fruits and vegetables.
- Identify the key processes of change in the Indian and global economy and their impacts on the agrifood sector of India. This serves as a basis for understanding future trends.
- Update, test and improve modelling tools and value chain analysis that will be used as building blocks in this project.
- Define indicators and develop databases for understanding and forecasting the impacts of policies on future developments of agriculture in India up to 2020. This will be done at regional and national levels, taking into account international trade.
- Implementation of tools to simulate the impacts of domestic and international trade policy changes and structural changes in the agrifood sector on the Indian agricultural sectors, as well as on world markets, with a specific focus on the EU.
- Dissemination of our findings and interaction with the research and policy community, as well as the key stakeholders in the agrifood sector, both in India and the EU.

PROJECT COORDINATOR

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PROJECT NUMBER 212617

EC CONTRIBUTION

- 1.349.500,00 EURO

FUNDING SCHEME

- CP-FP





EUROPEAN COMMISSION

European Research Area

Assessment of the impacts of non tariff barriers - NTB on the competitiveness of the EU and selected trade partners

Indian partner:

- **Research and Information System for Developing Countries (IN)**

Project Co-ordinator:

Centre de Coopération Internationale en Recherche Agronomique pour le Développement (FR)

Call:FP7-KBBE-2008-2B

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : **NTB-IMPACT**

ACTIVITY 2.1 SUSTAINABLE PRODUCTION

Agriculture and Fisheries,

NTB-IMPACT

Assessment of the impacts of non-tariff barriers NTB on the competitiveness of the EU and selected trade partners

The overall objective of the project is to collect and analyze new data on non-tariff barriers (NTBs), particularly on governmental standards and regulations that prescribe the conditions for importing agri-food products into the EU market and into the markets of the main competing players. Furthermore, impacts from EU NTBs on least developing country (LDC) exports are examined. The project will deliver the following results:

1. An analytical framework for defining measures, methods, products and countries.
2. A data base on NTBs in EU, USA, Canada, Japan, China, India, Brazil, Argentina, Australia, Russia and New Zealand.
3. Comparative analyses on the impact of NTBs on agri-food trade of the EU.
4. Policy recommendations from case studies for quantifying NTBs on fruits and vegetables, meat and dairy trade clusters with the EU.
5. Policy recommendations from case studies on the impacts of EU private and public standards in LDCs.
6. Dissemination of project results to key stakeholders. This will be achieved:
 - By optimizing complementarities of the project with ongoing NTB research on the TRAINS data base at UNCTAD.
 - By organizing the research work in research, database, management and dissemination work packages.

- By developing research methodologies that are innovative and robust, optimizing the direct usefulness of the end results for the end users.
- By proposing a partner consortium that together reunites the relevant needs, for:
 - Scientific excellence and international project experience
 - Appropriate geographic coverage to collect the required data in all countries
 - Linkages and complementarities with ongoing international NTB analyses (UNCTAD, OECD, World Bank, IFPRI)
 - Policy contacts, dialogue and influence
 - Efficient and effective project management

With a budget of 326.5 person months, 2.3 ME EC request, for 18 partners, over 28 months.

PROJECT COORDINATOR

- Guy Henry
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PROJECT NUMBER 227202

UNDER NEGOTIATION

EC CONTRIBUTION

- 2.368.918,00 EURO

FUNDING SCHEME

- CP-FP





EUROPEAN COMMISSION

European Research Area

Public Perception of Genetically modified Animals – Science, Utility and Society

Indian partners:

- **Agri Biotech Foundation (IN)**

Project Co-ordinator:

Wageningen Universiteit (NL)

Call:FP7-KBBE-2008-2B

**Food,
Agriculture and Fisheries,
and Biotechnology**

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : PEGASUS



Agriculture and Fisheries,

PEGASUS

Public Perception of Genetically modified Animals - Science, Utility and Society

PEGASUS aims to provide policy support regarding the development, implementation and commercialisation of GM animals, and derivative foods. The results will contribute to the FP7 KBBE by integrating existing social, (including existing public perception), environmental and economic knowledge regarding GM animals.

The use of GM in farmed animals (aquatic and terrestrial) will be reviewed. A foresight exercise will be conducted to predict future developments.

Two case studies (1 aquatic, 1 terrestrial) will be applied to identify the pros and cons of GM animals from the perspectives of the production chain (economics, agri-food sector) and the life sciences (human and animal health,

environmental impact, animal welfare, sustainable production).

Ethical and policy concerns will be refined through application of combined ethical matrix and policy workshops involving EU and non-EU stakeholders.

The case studies will be used to demonstrate best practice in public engagement in the policy process.

The activities will provide European policy support regarding GM animals and the foods derived from them, taking into account public perceptions, the competitiveness of EU animal production, and risk/benefit assessments linked with human and animal health, environmental impact, and sustainable production.

A final stakeholder dissemination workshop will disseminate the results to the EU policy community.

PROJECT COORDINATOR

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PROJECT NUMBER 226465

UNDER NEGOTIATION

EC CONTRIBUTION

- 978,592,00 EURO
- FUNDING SCHEME
- CSA-SA





EUROPEAN COMMISSION

European Research Area

Creating a Circle by extending the BIO-National Contact Points network to Third Countries

Indian partner:

- **Jawaharlal Nehru University (IN)**

Project Co-ordinator:

Agenzia per la Promozione Della Ricerca Europea (IT)

Call: FP7-KBBE-2008-2B

Food, **A**griculture and **F**isheries, and **B**iotecnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding

Projects with India in FP7-KBBE : **BIOCIRCLE**

Food, Agriculture and Fisheries, and Biotechnology

BIOCIRCLE
Creating a CIRCLE by extending the BIO NCP network to Third Country NIPs

BIOCIRCLE will extend the network of National Contact Points for the FP7 theme 'Food, Agriculture and Fisheries and Biotechnology' (BIO NCP) to National Information Points (NIP) from Third Countries over a two-year period. The European Commission needs to implement the bilateral Scientific & Technological Agreements signed with Third Countries (TC), for increasing their participation in FAFB FP7 and strengthening the collaboration between European and TC researchers. The main focus of the project will be on identifying, sharing and implementing good practices between NCPs and NIPs. The expected results of BIOCIRCLE are: 1. Capacities built for Third Country BIO NIPs (through SWOT analysis, training

of NIPs and twinning); 2. Strengthened consortium building in FAFB international cooperation projects through mapping of Third Country research potential and the organisation of 2 International Brokerage Events; 3. Capacities built for Third Country Researchers to participate in FP7 (through preparation of specific training materials, training and networking with EU researchers); 4. Strengthened identification, development and sharing of Good Practices to enhance cooperation between the NCP and NIP networks (through 5 Regional Benchmarking Workshops, a Common Benchmarking Workshop and the design of a Good Practices Guide). The 6% of budget is foreseen to grant researchers from TCs to attend the 2 International Brokerage Events.

The 5 BIO NCP partners of BIOCIRCLE led by APRE will assure the successful implementation of the project. The 18 NIPs partners of BIOCIRCLE will be embraced in this circle of activities aimed at ensuring quality and dynamism in implementing the Scientific & Technological Agreements between the EU and Third Countries. BIOCIRCLE will work in synergy with and be closely linked to the BIO-NET project, the complete NCP-FAFB network.

PROJECT COORDINATOR

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• PROJECT NO. 2277204
• EC CONTRIBUTION 7,412,680 EURO
• FUNDING SCHEME CSA-SA





EU - INDIA Co-ordinated Call in Food research

**by the European Commission and the Department of Biotechnology (DBT),
Ministry of Science and Technology, Government of India**

under the Call FP7 KBBE-2009-3

Under each of the following two topics:

- ***Development of functional foods and ingredients***
- ***Valorisation of by-products in food processing***

Two FP7 projects have been selected for funding by the EC

Two complementary India projects have been selected for funding by DBT

The projects are being negotiated and will start soon



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European
Research Area

EU – INDIA coordinated projects

FP7-KBBE-2009-3

Project Acronym	Project Title	EU Co-ordinator
FUNCFOOD	Impact of agents with potential use in functional foods on biomarkers for induction of age related diseases	Stockholms Universitet, Sweden + IT, DE, SE, RS
	New Advances in the integrated Management of food processing waste in India and Europe: use of Sustainable Technologies for the Exploitation of byproducts into new foods and feeds	Alma Mater Studiorum - University of Bologna, Italy + UK, ES, HU, NL, DE

Each of these FP7 projects is co-ordinated with
an equivalent and complementary **INDIA project**,

supported by **DBT - India**

Food,
Agriculture and **F**isheries,
and **B**iotecnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding





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International co-operation in FP7

Food, **A**griculture and **F**isheries and **B**iotechnology

➤ FP7 Food, Agriculture, Fisheries and Biotechnology

➤ International co-operation in FAFB:
Principles, Objectives, Strategy and Modalities

➤ Results from 2007-2009: EU-India co-operation

➤ **Prospects for 2010**

Food,
Agriculture and **F**isheries,
and **B**iotechnology

Knowledge-Based Bio-Economy (KBBE)

Not legally binding





European
Research Area

EUROPEAN
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Food, Agriculture and Fisheries and Biotechnology

KBBE Workprogramme and Calls 2010

KBBE 2010, general call for proposals : **FP7-KBBE-2010-4**

deadline: **14 Jan 2010** (47 topics 190 m€)

Africa : **FP7-AFRICA -2010**

coordinated call with the Themes Environment and Health

deadline: **14 Jan 2010** (tot 63M€ ; 4 KBBE topics, 6.5m€)

The Ocean of tomorrow : **FP7-OCEAN-2010**

joint call with the Themes Environment, Transport, Energy, Socio-economic Sciences & Humanities

deadline: **14 Jan 2010** (tot 34 M€ ; 3 topics)

Influenza : **FP7-INFLUENZA-2010**

coordinated call with the Theme Health

deadline: **29 Oct 2009** (tot 18 M€ ; 2 KBBE topics, 6 m€)

See: www.cordis.europa.eu/fp7/kbbe/home_en.htm

International Cooperation



EUROPEAN
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European
Research Area

Food, Agriculture and Fisheries, and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

International Cooperation in KBBE Work Programme / Calls 2010



- **Opening of all activities / topics**
to participation by Third Countries
- **Specific International Co-operation Actions (SICA) (5)**
and other topics **(10)** with **mandatory ICPC participation**
- **Targeted topics (4)**
particularly suited for international co-operation
- **Dedicated call for AFRICA (4 topics)**
- **Twinning** with programmes in Third Countries

New !

Global Initiatives and Partnership initiatives

See: www.cordis.europa.eu/fp7/kbbe/home_en.htm



FP7-KBBE-2010:

a wide range of opportunities for International co-operation

Specific International Co-operation Actions

5 topics

and other topics with mandatory TC

10 topics

OBLIGATORY participation of some ICPC Countries, including IN

Targeted Topics

5 topics

ENCOURAGED participation of Third Countries (including IN)

All other Topics

OPEN to participation by Third Countries (including IN)

Co-ordination with programmes from Third countries

Global initiatives (2 topics, all)

Partnership initiatives (2 topics, RU, CN)

TWINNING of projects (e.g. CA, AR...)



European
Research Area

EUROPEAN
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GLOBAL INITIATIVES in

Food, Agriculture and Fisheries and Biotechnology

A large number of research issues under this Theme are of global interest

Need to address these global challenges via:



- multilateral international effort
- coordination at programmes level (beyond project level)

The GLOBAL INITIATIVE are actions to co-ordinate similar R&D programmes from the EU and world-wide in order to tackle together global challenges via broad international efforts

Activities:

Establishment of an international forum of R&D programme managers from EU (FP + national programmes from MS/AC), Third countries and International organisation to co-ordinate current and future activities from all respective programmes:

- exchange of information, share objectives and create links between programmes
- organise multilateral networking and partnership initiatives among on-going projects from each programme
- formulate joint research agendas, jointly plan and implement new co-ordinated activities



EUROPEAN COMMISSION

European Research Area

GLOBAL INITIATIVES in

Food, Agriculture and Fisheries and Biotechnology

FP7-KBBE-2010-4

Full title	Funding Scheme	Third Countries/Region (Mandatory / Encouraged)
<p>Promoting coordination and cooperation at international level of research programmes in the area of animal health, in particular infectious diseases including zoonoses</p>	<p>CSA-CA</p>	<p><u>Mandatory:</u> Latin America and Asia</p> <p><u>Encouraged:</u> all countries with bilateral agreements (incl INDIA), international organisations</p>
<p>Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants</p>	<p>CSA-CA</p>	<p><u>Mandatory:</u> Latin America and/or Asia and/or Eastern Europe and Central Asia and/or ACP and/or the Mediterranean Partner Countries</p> <p><u>Encouraged:</u> all countries with bilateral agreements (incl INDIA), international</p>

INDICATIVE BUDGET: 1.000.000 € each from FP7
(mirroring actions by third countries partners could be foreseen)



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PARTNERSHIP INITIATIVES in Food, Agriculture and Fisheries and Biotechnology

Definition:

Bilateral action of **systematic co-ordination** between **R&D programmes** from the EU (FP7 and national programmes) + another region / Third country, both operating in a given area of shared interest.

Scope:

Reinforcing synergies between the two counterparts programmes (EU and third country), for mutual benefit and optimised efficacy and advancement of R&D in a given area

Actions: building systematic links between large sets of research projects /consortia from the two counterparts programmes (networking meetings, short term visits, exchange of information, data, materials & methods...) for increased synergy and collaboration.

Rationale and conditions:

- A strong critical mass exist from both sides in a given R&D area of shared interest, but links between the programmes from each side are weak, insufficient or not systematic.
- Reinforcing links would provide synergetic effects, beneficial for both sides.
- The need and will of systematic bilateral co-ordination is recognised from both sides - at programme management level - and actions are supported from both parties.



EUROPEAN
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European
Research Area

PARTNERSHIP INITIATIVES in Food, Agriculture and Fisheries and Biotechnology

FP7-KBBE-2010-4

Full title	Funding Scheme	Third Countries (Mandatory)
EU-Russia Partnership initiative in Microbes – Plants Biodiversities	CSA-CA	Russia
EU-China Partnership initiative in Plant Breeding	CSA-CA	China

INDICATIVE BUDGET: 500.000 € each from FP7
(mirroring actions by Third countries partners could be foreseen)

Food,
Agriculture and **F**isheries,
and **B**io**t**echnology
Knowledge-Based Bio-Economy (KBBE)

Not legally binding





EUROPEAN
COMMISSION

European
Research Area

Calls FP7-KBBE-2010- 4 and OCEAN

Targeted topics –

ENCOURAGING TC participation

Full Title	Funding Scheme	Third Countries (encouraged)
Strategies for <u>personalised nutrition</u>	CP - IP	Industrialised countries
Sustainable culture of <u>marine microorganisms, algae and/or invertebrates</u> for high added value products	CP - FP	ICPC
<u>Microbial diversity and metagenomic mining</u> for biotechnological innovation	CP - IP	US
Sub-seabed carbon storage and the marine environment	CP- IP Ocean	Australia, Japan, US

Food,
Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

Not legally binding





FP7- KBBE ERANETS

CALL	KBBE-TOPIC TITLE	PROJECT TITLE	ACRONYM	INSTR	THIRD COUNTRY
FP7-ERANET-2007-RTD	Coordination of Agricultural Research in the Mediterranean	Coordination of Agricultural Research in the Mediterranean	ARIMNET	CSA, Targeted topic for MED	Algeria, Egypt, Morocco, Tunisia
FP7-ERANET-2007-RTD	Coordination of European research in the area of animal health , including emerging threats, infectious diseases and surveillance	Coordination of European Research on Emerging and Major Infectious Diseases of Livestock	EMIDA	CSA	
FP7-ERANET-2008-RTD	Agriculture and sustainable development in a rural development context	Facing sustainability: new relationships between rural areas and agriculture in Europe	RURAGRI	CSA	
FP7-ERANET-2009-RTD	Organic agriculture	Coordination of European Transnational Research in Organic Food and Farming Systems	CORE_Organic II	CSA	
FP7-ERANET-2009-RTD	Agricultural Research for Development	The Agricultural Research for Development Dimension of the European Research Area	ERA-ARD II	CSA	
FP7-ERANET-2010-RTD	Deepened and enlarged European cooperation in the area of Molecular Plant Sciences			CSA	



EUROPEAN COMMISSION

European Research Area

ERA-NETs in KBBE

Industrial Biotechnology

ARIMNET (MED)

EMIDA (Animal Health)

SAFEFOODERA



Plant Genomics

MARIFISH

Bioenergy

EUPHRESKO (Plant Health)

ERASysBio

CORE-Organic

ERA Trans-Bio (biotech SMEs)

ARD: Agricultural Research for Development

BiodivERsA

Food, Agriculture and Fisheries, and Biotechnology

WoodWisdomNet

Knowledge-Based Bio-Economy (KBBE)

Not legally binding





EUROPEAN COMMISSION

European Research Area

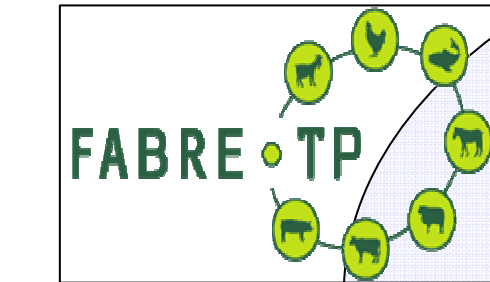


<http://etp.ciaa.be>

www.suschem.org



Industrial biotechnology



Farm Animal Breeding
www.fabretp.org

European Technology Platforms in KBBE

European Biofuels TP



ETP

Global Animal Health

Food

A

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www.ifah.be/Europe/EUPlatform/Platform.htm



ETP

Plants for the Future

www.epsoweb.org

Not legally binding



www.forestplatform.org

+ EATP; EUFETEC





EUROPEAN
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European
Research Area

Thank you for your attention!

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Food,
Agriculture and **F**isheries,
and **B**iotchnology

Knowledge-Based Bio-Economy (KBBE)



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