ACTION FICHE FOR FOOD SECURITY THEMATIC PROGRAMME

STRATEGIC PRIORITY 1: RESEARCH, TECHNOLOGY TRANSFER AND INNOVATION TO ENHANCE FOOD SECURITY

1. IDENTIFICATION

Title/Number	**African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security.** CRIS No. 2011/023520		
Total cost	Total cost: € 22. 66 Million European Commission Contribution: € 13.12 Million.		
Aid method / Method of implementation	Project Approach / Direct Centralized Management – Direct Grant Award to *icipe (International Centre of Insect Physiology & Ecology)*. Joint management - Contribution Agreement with AU-IBAR		
DAC-code	31182	Sector	Agricultural Research

2. RATIONALE

2.1 Sector context

In recent years, the serious unexplained death and decline in honeybee populations, commonly referred to as 'Colony Collapse Disorder (CCD)', has alarmed many governments, conservationists and the private sector for the serious impact that this threat could have on biodiversity and forest cover, nutrition, agricultural practices and incomes. Moreover, the loss of pollinator bees not only directly impacts crop production, but it also indirectly impacts productivity and profitability of farmers. The most affected are usually rural and urban poor, small and large-scale commercial producers, subsistence farmers, livestock owners and entrepreneurs. Establishment of a bee health research centre and satellite stations in Africa is therefore of critical importance in order to preserve bee health and thereby increase agricultural productivity and small-scale farmers' income.

The need to increase agricultural productivity is reflected in the Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union's New Partnerships for Africa's Development (AU-NEPAD) that aims to achieve an annual growth in production of 6% by 2015. The NEPAD Planning and Coordinating Agency (NPCA) is mandated to stimulate, coordinate and monitor implementation of the CAADP agenda at both regional and country levels. NPCA interventions also assist the Regional Economic Commissions (RECs) in their functions to provide regional support to country initiatives on NEPAD-CAADP implementation. The African Union's Inter-African Bureau for Animal Resources (AU-IBAR) leads the NEPAD-CAADP programme for the livestock sector. As such, the AU-IBAR has developed a strategic plan for 2010–2014 to improve the animal resources sector. The International Centre of Insect Physiology & Ecology's (*icipe)* strategic plan is also fully aligned with the CAADP process.

The proposal is consistent with the CAADP's Pillar I (Sustainable Land Management), Pillar III (increasing food supply, reducing hunger, and improving responses to food emergency crises) and Pillar IV (agricultural research and technology development and dissemination). It is also aligned with the European Consensus on Development which articulates the EU development policy and focuses on the attainment of the MDGs, highlighting food security as an integral thrust in rural and agricultural development. It contributes to the goal of EU's

strategy on Advancing African Agriculture (AAA). The EU-AAA provides a long-term framework for assistance in Africa in line with NEPAD. The AAA has a continental scope with a focus on sub-Saharan Africa **(**SSA**)**. Furthermore, this proposal is also in line with the new EU Food Security Thematic Program (FSTP) priorities for 2011–2013, focusing on: (i) the importance of research, technology transfer and innovation to enhance food security, (ii) strengthened governance approaches for food security. This proposal is also consistent with the World Organization for Animal Health (OIE) efforts to strengthen veterinary governance and improve notification of animal diseases, including those affecting bees.

2.2 Lessons learned

Impact of research results can be improved by strengthening linkages, synergies and complementarities at continental and regional levels with concerned scientific research organizations (SROs) and regional economic development institutions (RECs), Farmers' Federations (the East African Farmers' Federation-EAFF, the West African Association of Smallholder Farmers-ROPPA and the South African Confederation of Agricultural Unions-SACAU) and the African Forum for Agricultural Advisory Services (AFAAS). *icipe* has a long history of partnership with national agricultural and forestry authorities in Africa which will be utilized during implementation of the present initiative as a key element for success. The proposal will draw lessons from European Commission's past cooperation that has helped to reinforce and facilitate livestock improvement and trade within Africa through technical cooperation provided by *icipe* and AU-IBAR. It will also build on lessons from the vast experience of AU-IBAR and *icipe* in disease control and compliance to standards.

2.3 Complementary actions

Linkages with RECs and SROs as well as with FARA and AFAAS will improve complementarities with regional past and present programs financed by the European Commission, the World Bank, DfID and USAID. This will provide a unique opportunity to establish sustainable research–extension linkages at both continental and regional levels. In the bee sector, the EU has provided African companies with new business opportunities that have contributed towards overall growth in the region and market expansion (e.g. Apitrade in Africa). At bilateral level *icipe* is implementing some projects financed by IFAD, UNDP-GEF, Catholic Organisation for Relief and Development Aid (CORDAID), Biovision and the EU in several African countries. These projects, in synergies with the objectives of the present proposal, are mainly targeting rural women and youth groups. The present action will complement and synergize with the project on reinforcing veterinary governance in Africa implemented by AU-IBAR, FAO and OIE and funded by the EU that address issues of policy, legislative and capacity strengthening for pest and disease control, participation of farmers' associations in policy and strategy formulation and implementation, SPS setting and compliance, and evidence advocacy.

2.4 Donor coordination

The Global Donors Platform on Rural Development that includes the European Commission and many other development partners and donor countries is increasingly aligning its agriculture and rural development support through the CAADP. The establishment of the reference bee health laboratory and satellite stations in those countries where Development Partner Groups, RECs, SROs and Farmers' Federations are based will contribute to donors' coordination. The proposed action is further in line with *icipe*'s institutional commitment in pursuing a development agenda for the benefit of Africa's poor.

3 DESCRIPTION

3.1 Objectives

The overall objective of the proposed action is "To enhance the contribution of bees and other pollinators to food security and improved livelihoods in Africa".

The purpose of the action is "To improve bee products and pollination services through reduced incidence of bee diseases and pests, enhanced markets access, and bee health institutional environment".

3.2 Expected results and main activities

Result 1: Bee health facilities for innovative technologies and provision of pests risk analysis baselines and benchmarks established.

Activity 1.1: Refurbishment of one research and training reference laboratory in Kenya (at Bio-safety level-2).

Activity 1.2: Refurbishment of four research and development satellite stations with regional mandate in East (Ethiopia), Central (Cameroon) and West Africa (Senegal and Burkina Faso) (at Bio-safety level-1).

Activity 1.3: Equipping five research facilities with diagnostic tools for surveillance and detection of bee diseases in African colonies and facilitate bee health research.

Activity 1.4: Setting up model apiaries at NARS/national beekeeping stations and farmers' fields to demonstrate the application of the intervention logic and scaling up of hive products and pollination services at each project site.

Activity 1.5: Develop screen houses at NARS/national beekeeping stations for demonstrating and training FF in the use of various bee species for pollinating food crops.

Activity 1.6: Establish one marketplace for processing, packaging, and trading of honey and hive products in each participating country.

Result 2: Validated bee disease and pest management modules with efficient field based diagnostic tools developed.

Activity 2.1. Mapping of bee biodiversity and health factors using species distribution and dynamic vegetation model.

Activity 2.2. Mapping of bee diseases distribution and severity in improved and traditional hives and feral bee colonies, pollen source and spatial analysis of land use and other environmental factors.

Activity 2.3. Investigating behavioural mechanisms of African honeybees' contributing to tolerance against the invasion of *Varroa* mite and brood diseases.

Activity 2.4. Developing effective methods to detect pesticide hazards in beehive products.

Activity 2.5. Evaluating bee health hazards and risks through effective technology of morphometrics and DNA fingerprinting in collaboration with the BEE DOC partners in Halle[1] (Germany) and Avignon[2] (France).

Activity 2.6. Developing plant based bio-pesticides for management of bee diseases and pests and production of over 200,000 packaged pieces of bee pest and disease control products for Farmers' Federations/beekeepers in 5 countries in Africa.

[1] The collaboration with the University of Halle, Germany will support this programme to gain knowledge of risks and threats underlying the pollinators' diseases and pests.
[2] Avignon laboratory (France) will help this programme to learn more on the Widespread Immune Deficiency ddiseases in bees.

Result 3: Enhanced awareness on honeybee health and enabling environment for enhanced bee disease control, access to markets, and consumer safety created.

Activity 3.1: Organize effective multi-stakeholder partnerships and mechanisms for the development of policy, institutional and market options for bee health and pollination services for food security.

Activity 3.2: Develop policy and regulatory frameworks for sustainable bee health, apiculture and pollination services at national, regional and continental levels in partnership with OIE and RECs.

Activity 3.3: Carry out studies on the impact of environmental degradation on bee populations and pollination services.

Activity 3.4: Enhance capacity for timely collection, analysis and sharing of accurate sanitary information.

Activity 3.5: Strengthen Africa's partnership with standard setting organizations (OIE and Codex Alimentarius) on setting standards for bees and bee products reflecting the reality of beekeeping in Africa.

Result 4: Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened.

Activity 4.1: Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services.

Activity 4.2: Establish or strengthen producer organizations for input supply management and cooperative marketing.

Activity 4.3: Enhance the capacity of beekeepers' associations to acquire information and utilize improved bee health technologies/innovations.

Activity 4.4: Develop a regional database on pollination services and bee health research and development outputs.

Activity 4.5: Strengthen the capacity of farmers' federations/beekeepers, NARS and RECs to analyse the value chain of pollination services and priority beehive products, and the commercial policies of the agricultural sector.

Activity 4.6: Develop and promote bee health knowledge management systems through value chain analysis.

3.3 Risks and assumptions

Risks:

A potential major risk is the *occurrence of severe climatic crisis due to drought or floods*. Unseasonal rain or coolness affects the ability of queens to mate successfully, ultimately compromising colony survival and favouring disease and pest occurrences. CC may also impact on absconding and migration patterns in unpredictable ways. Moreover, disruptive CC may interfere in the selection of appropriate habitat and floral zone for the placement of honeybee apiaries.

Other potential risks are *political disturbances and economic and social instability*. These risks could hamper effective sample collection process at field level, establishment of demonstration sites and development of effective methodologies for quantifying the metabolic responses of honeybees to develop disease diagnostic tools.

Mitigations:

- Training beekeepers in prediction and monitoring the climatic variations for the management of domesticated colonies to drastically reduce the absconding and migration of the colonies.
- Water storage for domestic stock and irrigation uses.
- Dynamic vegetation modelling to understand potential effects of climate change on the eco-system.
- Projections of the impact of climate change on populations, meta-population dynamics of pollinator species' dispersal ability and demography.
- The AU-IBAR's awareness campaigns will serve to sensitize target country governments to mitigate the potential risk of non-political support.

Assumptions:

- Conducive macroeconomic environment and incentives exist for enhancing agricultural growth and productivity;
- Adequate political, economic and social stability prevails;
- Governments of selected countries increase investments in agriculture and particularly in agricultural bee health services;
- Relevant regional and national policies are implemented effectively;
- Government, non-government, regional and national organizations operate effectively at appropriate levels;
- Minimal disruptions from biophysical and environmental catastrophes;
- Policy reforms in agricultural bee health services occur as planned.

3.4 Crosscutting Issues

Some of the major crosscutting issues (environmental sustainability, gender equality, good governance and human rights, HIV/AIDS and poverty concerns) are an integral part of both *icipe* and AU-IBAR strategic plans and relevant crosscutting issues will be mainstreamed into the implementation process.

3.5 Stakeholders

The major stakeholders are:

- Agricultural research and extension systems and organizations (NARS), veterinary/forestry services and national beekeeping stations in all participating countries.
- International and continental systems and organisations including NEPAD, FARA, AFAAS and CILSS, amongst others as advisory partners.
- Regional farming federations/organisations (FF) such as EAFF, SACAU and ROPPA. Both regional and national farmers' organizations will be involved in formulating and implementing bee health policies and strategies. FF will be in the steering committee of the satellite stations.
- Sub-regional scientific research organizations (SROs) and extension organisations such as ASARECA and CORAF-WECARD.

- Regional Economic Commissions (RECs) such as ECOWAS, ECCAS, EAC, IGAD and COMESA.
- Universities and other tertiary agricultural colleges and institutions including RUFORUM.
- Private sector actors including agribusiness interests and intermediary organisations such as NGOs, community-based organisations (CBOs), and other non-state actors involved in agriculture.

Stakeholder engagement and partnership approaches are exemplified by the studies relating to use of commercial insects for forest conservation in several parts of Africa. Subsequent to the identification of the present action there have been consultations between *icipe*, AU-IBAR, farmers' federations, representatives of selected sub-Saharan African countries (16 countries), and other stakeholders and a consensus has emerged during the first Africa-wide bee health training workshop (10–19 October 2011) organised by *icipe* in Nairobi, Kenya.

4. IMPLEMENTATION ISSUES

4.1 Method of implementation

Direct centralized management through a direct grant award to *icipe* in accordance with Article 54(2)(c) of the Financial Regulation**.** A grant contract will be signed between the European Commission and *icipe*. *icipe* has *a de facto monopoly* to implement the proposed action for the following reasons: i) unique continental mandate as an advanced research organization in insect sciences and bee health in sub-Saharan Africa; ii) unique African-based insect science research centre with worldwide linkages in bee health disease and pollination services, iii) institutional affiliation with AU-IBAR and other RECs and SROs in livestock and plant health, iv) hosting in the same compound specialized laboratories and scientists (over 50 PhD) in molecular biology, pathology, chemical ecology, bee health/eco-system services, climate change, remote sensing; v) hosting the sole virology/arbovirus laboratory in sub-Saharan Africa.

Joint management through a Contribution Agreement with AU-IBAR in accordance with Article 53d of the Financial Regulation**.** AU-IBAR successfully underwent a 4 pillars institutional assessment in 2010 and is now eligible for joint management with the European Union. A contribution agreement (CA) will be signed between AU-IBAR and the European Commission. The international organisation complies with the criteria provided for in the applicable Financial Regulation.

The approach for the implementation has been designed on the principles of subsidiary and is based on the mandates and the relationships of the two institutions involved. *icipe* will be in charge of the overall coordination of the programme and will implement research activities including the establishment of the bee health facilities; AU-IBAR will be responsible of policy related activities as well as disease control and access to markets. AU-IBAR will support and coordinate the *icipe* implementation process.

An Advisory/steering Committee (AC) and Technical Committee (TC) will be created at the beginning of project implementation. The TC will be responsible for guiding the design and implementation of programme activities.

An appropriate exit strategy, both institutional and financial, will be drafted during the inception phase with the main stakeholders' participation at regional level. This will be mainly based on the following principles: i) partnership and networking, ii) NARS governance (satellite stations) and AU-IBAR/*icipe* management (reference laboratory). All laboratories will provide services (e.g. training, honey analysis, pollination services, queen rearing and bee

colony nukes, beehives and beehive products) to potential users such as government institutions, non state actors including universities, NGOs and the private sector, beekeepers.

4.2 Procurement and grant award procedures

For the **direct centralized management** the following will apply:

1) Contracts

All contracts implementing the action must be awarded and implemented in accordance with the procedures and standard documents laid down and published by the Commission for the implementation of external operations, in force at the time of the launch of the procedure in question.

Participation in the award of contracts for the present action shall be open to all natural and legal persons covered by DCI Regulations. Further extensions of this participation to other natural or legal persons by the concerned authorising officer shall be subject to the conditions provided for in articles 31(7) and (8) DCI, 21(7).

For the **Joint management**, all contracts implementing this part of the action carried out by AU-IBAR are awarded and implemented in accordance with the procedures and standard documents laid down and published by the relevant International Organisation

4.3 Budget and calendar

The total European Commission budget for this action is EUR 13,120,000 divided as follows:

Items	EU Contribution icipe	EU Contribution IBAR	Co-finance icipe	Co-finance IBAR	Co-finance NARS/FF	Total Cost (Euro '000)
Inception	**300**					**300**
Results 1. Innovative technologies development	**4,166**		**1,900**		**1,000**	**7,066**
Results 2. Development of management modules	**1,540**		**2,180**			**3,720**
Results 3. Enhanced awareness and conducive environment for enhanced bee disease control, access to markets, and consumer safety		**2,500**		**1235**		**3,735**
Results 4. Training in bee health management systems and policy		**1,500**		**1273**	**500**	**3,273**
Results sub total	**6,006**	**4,000**	**4,080**	**2,508**	**1,500**	**18,094**
Salaries, M&E and missions	**1,200**	**500**	**652**	**300**	**500**	**3,152**
Audits and evaluations	**250**					**250**
Total Direct Costs	**7,456**	**4,500**	**4,732**	**2,808**	**2,000**	**21,496**
Administrative costs	**505**	**308**				**813**
Contingency	**351**					**351**
TOTAL	**8,312**	**4,808**	**4,732**	**2,808**	**2,000**	**22,660**

Donors and partners' contribution	**Total (€)**	**%**
EC	13,120	57.90
AU-IBAR	2,808	12.39
icipe/IFAD/BIOVISION/GEF/CORDAID	4,732	20.88

5 African Govts. & Farmers Federations	2,000	8.83

The foreseen implementation period will be 36 months as from the date of signature of the relevant agreements.

4.4 Performance monitoring

To ensure that project activities are aligned for impact, results based management (RBM) tools will be adopted for M&E. SMART indicators will be selected to measure the level of involvement of stakeholders and the performance of the actions undertaken to achieve the project objectives. The M&E plan for data collection and analysis will involve continuous data collection and compilation into an MIS database that will be designed. This will also contain the baseline information that will be collected and the degree of achievement of the targets for each output. Feedback from partners and stakeholders will include participation of national, regional and continental stakeholders. Feedback will be on a continuous basis via various channels such as e-mail, Skype, website, reports and meetings. Content-based monitoring will be done for learning and primarily using participatory approaches. This will contribute to the capacity strengthening through interactive learning between the different stakeholders. Reports will be prepared to document and share lessons learned from the different countries and from the implementation process.

4.5 Evaluation and audit

icipe with two sister international organizations in Nairobi, ILRI and ICRAF, has organized the development of several inter-centre joint services, maximizing delivery of quality service at minimum cost to each Centre. *icipe*'s Director of Finance and Administration (DFA) is responsible for the design and development of internal controls for all areas of operation at the Centre. *icipe* adheres to the International Financial Reporting Standards (IFRS), as established and maintained by the International Accounting Standards Board. The audits are conducted by one of the main international audit firms, providing qualified independent external public auditors with extensive experience in donor and research related audits. Internal evaluations, performance based monitoring, and supervisory visits will be done by the project coordinator for improving performance and accountability. Independent reviewers appointed by the donors will evaluate the project through midterm and final evaluations.

With regards to the Contribution Agreement, audits will be carried out by AU-IBAR following the provisions of the relevant agreements with this International Organisation. In addition, verifications may be carried out by the European Commission.

4.6 Communication and visibility

These actions will follow the rules applicable to the visibility of external actions as defined and published by the EU.

The Beneficiaries will take all necessary steps to publicize the fact that the European Union has financed the Action. Such measures will comply with the relevant rules on the visibility of external actions laid down and published by the Commission. In particular, the Beneficiary will mention the Action and the European Union's financial contribution in information given to the final recipients of the Action, in its internal and annual reports, and in any dealings with the media displaying the EU logo wherever appropriate.