



# BEE PROJECT

2015





**AFRICAN UNION  
INTERAFRICAN BUREAU FOR  
ANIMAL RESOURCES  
AU-IBAR**

**African reference laboratory (with satellite stations) for the management of  
pollinator bee diseases and pests for food security**

**DCI-FOOD-2013/330-416**

**Narrative and Financial Project Report**

**March 2015 - March 2016**



**EUROPEAN COMMISSION**

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## Acronyms

AAP	Africa Apiculture Platform
APU	Animal Production Unit
ARIS	Animal Resources Information System
AU	African Union
AUC	African Union Commission
AU-IAPSC	African Union Inter African Phytosanitary Council
AU-IBAR	African Union-Interafrican Bureau for Animal Resources
CAADP	Comprehensive Africa Agriculture Development Programme
CCD	Colony collapse disorder
DREA	Department of Rural Economy and Agriculture
EAC	East African Community
EC	European Commission
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FSTP	Food Security Thematic Programme
GPA	Global Plan of Action
<i>icip</i>	International Centre for Insect Physiology and Ecology
IGAD	Intergovernmental Authority for Development
M&E	Monitoring and Evaluation
MS	Member States
PBHM	Participatory bee health management
PSC	Programme Steering Committee
RECs	Regional Economic Communities
SNV	Netherland Development Services
USA	United States of America

## Executive Summary

The decline in honeybee colonies in Europe and the USA commonly referred to as the colony collapse disorder (CCD), has alarmed governments, conservationists and the private sector. The possibility and effects of a similar decline in Africa would seriously harm the livelihoods of millions of rural resource-poor farmers, as well as commercial farmers. It is against this background that the African Union-Interafrican Bureau for Animal Resources (AU-IBAR) on behalf of the African Union Commission (AUC) signed with the European Commission (EC) an agreement for the implementation of a project title "African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security" project. This project is implemented by AU-IBAR and icipe, and the AU-IBAR's components (results 3 and 4) are implemented within the strategic programme 2 on Animal Resource Production System and Ecosystem Management of the institutions 2014-2017 strategic plan.

This Interim Report summarizes the progress in the implementation of the activities, and achievements between March 2015 and March 2016.

During this period:

- A Continental platform named African Apiculture Platform (AAP) for honey production, bee health and pollination services was successfully established last year is fully operationalized with the 2<sup>nd</sup> MS general assembly; 2 EC and one working groups meetings held.
- Inventory and the assessments of policies and regulatory frameworks have been completed in 33 AU-MS. Policy gaps and priority issues identified & Regional Guidelines for the formulation of the beekeeping apiculture and pollination services policies & legislatives drafted.
- The report on the assessment of impacts of environmental threats and stressors on bees, honeybee products and pollination services in Africa is ready for validation.
- The 1<sup>st</sup> Continental Symposium on honeybee production, bee health and pollination services in Africa was organized to provide an opportunity for highlighting recent developments, exchanging knowledge and new ideas between MS representatives of the relevant ministries, CVOs, beekeepers, representatives of national beekeepers associations, scientific research community, legal experts on honeybee production, bee health and pollination services and 28 papers show cases innovation with African base solutions from this Symposium were published in the special bulletin of Animal Production and health in Africa.
- e-Training needs assessment for the development of tailored training modules for e-training was done and development of e-Training modules on bees are online <http://www.au-ibar.org/bee-resources/bee-trainings>.

- A strategic concept paper for the common position to ISSOs to strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products was developed.
- Study on identification of key market constraints and opportunities for honey and other beehive products, and investment opportunities for bee products and pollination services in Africa were launched.
- 11 over 28 proposals from 23 AU-MS were selected for funding to strengthen beekeepers producer organizations for input supply management and cooperative marketing. The Elimu na Asali (Education through Honey production) programme in Maoi Primary School in Baringo South (Kenya) was supported with 100 Langstroth beehives through Baringo Advocacy and Development Organization (BADO).
- A total of 128 ToTs Representatives from national beekeepers associations were trained on beekeeping technology, honey production & post-harvest handling of beehive products during 05 regional training sessions organized to enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations.
- A references database with three modules (Bee Health; Production, Marketing Technologies; Pollination Services & biodiversity conservation) was developed and now accessible on ARIS 2.
- A total of 74 Extension Workers & NARs ToTs were trained on beekeeping technology, honey production & post-harvest handling of beehive products during 05 regional training sessions organized to enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations.
- The AU-IBAR Social network on Bees " Bee-Net Africa" is functioning <http://www.au-ibar.org/net/> and the ongoing discussion on Bees-d-group are (Bee Apocalypse myth or reality? Are bees so important for our survival? Bees and world food security, your comment).

Approximately 80% of all Africans depend directly or indirectly on agriculture for their livelihoods. Agriculture provides 70% of Africa's full time employment, one third of total GDP, and 40% of total export earnings. Thus, Africa's overall economic performance is inextricably linked to the performance of its agricultural sector. Agriculture is therefore crucial for reducing hunger and poverty across the continent and agricultural growth is

achievable through the increase of agricultural productivity. Agricultural growth and crop productivity largely depend on bee pollination services that have ecological and agricultural values. The economic ecologic value of pollination is estimated at US\$ 120 billion annually while the economic agricultural value for pollination is estimated at US\$ 200 billion in global agriculture.

The serious decline of honeybee populations in Europe and the USA commonly referred to as the colony collapse disorder (CCD), has alarmed governments, conservationists and the private sector. The possibility and effects of a similar decline in Africa would seriously harm the livelihoods of millions of rural resource-poor farmers, as well as commercial farmers. Therefore, the proper conservation of honeybees in Africa must be ensured so that colony losses experienced in other parts of the world are not repeated in Africa.

On 23<sup>rd</sup> December 2013, the African Union-Interafrican Bureau for Animal Resources (AU-IBAR) on behalf of the African Union Commission (AUC) signed with the European Commission (EC) a € 4,808,000.00 agreement for a joint management project through the signature of a Contribution Agreement for the implementation of the "African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security" project. This project is implemented by AU-IBAR and icipe, and the AU-IBAR's components (results 3 and 4) are implemented within the strategic programme 2 on Animal Resource Production System and Ecosystem Management of the institutions 2014-2017 strategic plan.

The "African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security" project aims at strengthening the management of national beekeeping stations and the beekeepers through presenting technologies for controlling pollinators' diseases and pests, and developing tangible incentives through spillover benefits such as beehive products, to assure community collaboration in bee health management.

This project will strengthen capacity for and networking for honey bee production, bee diseases and pests in Africa and proposes a coordinated action along the bee health service chain. This initiative will also contribute to agricultural and rural growth and poverty reduction through research and dissemination, capacity building, and policy dialogue. The project overall strategy is focusing on developing linkages between

participatory bee health management (PBHM) and beekeeping technology, pollination services, market access and bee health policy and legislation at both national, regional and continental levels.

The project is implemented in the 54 AU-MS

The RECs: Arab Maghreb Union (UMA), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), Southern African Development Community (SADC) – will facilitate mainstreaming the apiculture development and related services like pollination into national and regional agricultural investment plans, harmonization of regional policies for better conservation of bees.

### Project summary

Project title	African reference laboratory (with satellite stations) for the management of pollinator bee diseases and pests for food security
Project number	DCI-FOOD-2013/330-416
Period	23 Dec 2013 – 23 Dec 2016
Objective	To enhance the contribution of bees and other pollinators to food security and improved livelihoods in Africa.
Purpose	To improve bee products and pollination services through reduced incidence of bee diseases and pests, enhanced markets access, and bee health institutional environment.
Partner(s)	AU-IBAR and icipe
Beneficiaries	Rural and urban poor, small and large-scale producers, farmers, livestock owners and entrepreneurs that demand effective solutions to technical and policy problems affecting honeybee health and, consequently, pollination services and human health.
Result 1 (icipe)	Bee health facilities for innovative technologies and provision of pests risk analysis baselines and benchmarks established
Result 2 (icipe)	Validated bee disease and pest management modules with efficient field based diagnostic tools developed
Result 3	Enhanced awareness on the honeybee health and conducive environment for enhanced bee disease control, access to markets, and consumer safety created
Main activities	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 tight connection with OIE and RECs. Activity 3.3. Carry out environmental impact study on bees and pollination

	<p>services.</p> <p>Activity 3.4. Enhance capacities for timely collection, analysis and sharing of accurate sanitary information; this activity will consist of strengthening the capacity of National veterinary services for early detection, timely notification/reporting, prevention and control of bee diseases</p> <p>Activity 3.5. Strengthen Africa's participation in standard setting organizations (OIE and <i>Codex Alimentarius</i>) on standards setting process for bees and bee products.</p> <p>Activity 3.6. Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services</p>
Result 4	Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened
Main activities	<p>Activity 4.1. Establish or strengthen producer organizations for input supply management and cooperative marketing</p> <p>Activity 4.2. Enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations.</p> <p>Activity 4.3. Develop a database on pollination services and bee health research and development outputs.</p> <p>Activity 4.4. Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive products</p> <p>Activity 4.5. Develop and promote bee health knowledge management systems</p>

## 2. Progress report

### 2.1 Project Inception phase

- **Recruitment of project Staffs**

The Project Officer in charge of the day to day management of the project has been recruited and has assumed duties since April 2014. The Project Officer is supported by an Account/Assistant. The recruitment process of a Project Officer in charge of the apiculture development was finalized and the Officer assumes duties on March 2016.

- **Communication and visibility plan**

A communication and visibility strategy for the project has been drafted based on the guidelines provided by the EU ([http://ec.europa.eu/europeaid/work/visibility/documents/communication\\_and\\_visibility\\_manual\\_en.pdf](http://ec.europa.eu/europeaid/work/visibility/documents/communication_and_visibility_manual_en.pdf)).

This strategy underscores the need for sharing the knowledge, experiences and information gained in the field to enhance participatory local management and planning for sustainable natural resources. Several steps are taken to ensure that the project experience and outputs are effectively and widely disseminated locally, regionally and globally.

The steps taken in the implementation of the strategy included:

- ✓ Development of a Communication and Visibility Strategy for the project. Production of Communiques and Press releases after every workshop. Those are posted and currently available on the project webpages on the AU-IBAR website;
- ✓ Development of the Project Webpages on which specific project activity outcomes are posted;

- **Monitoring, evaluation plan**

- The M&E plan has been prepared and includes a **Monitoring, Evaluation and Reporting Matrix**: the Results Matrix, the Framework and the key Performance Indicators are detailed. **M&E workplan matrix**: focusing on the Results monitoring, evaluation and where specific activities, data are describe.

- **Project exit strategy**

- The project is entering its third year of implementation and discussion is on the ways with our partner icipe to identify activities that need special attention at project completion and closure and those that transcend the project. Implementation of the exit strategy should enable the project to smoothly transition into a sustainable enterprise run by identified stakeholders who are the MS.

## 2.2 Implementation progress

**Result 3: Enhanced awareness on the honeybee health and conducive 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*

Multi stakeholders platforms (MSPs) are defined as Decision-making platforms(voluntary or statutory) comprising different stakeholders who perceive the same resource management problem, realize their interdependence for solving it, and come together to agree on action strategies for solving the problem. Though individual MSPs can be very different, the generic objective of an MSP is to enable the empowered and active participation of stakeholders in the search for solutions to a common problem.

The absence of a clear policy for apiculture development in various AU-MS couple with many institutional challenges and non-involvement of beekeepers in the policy making is a great threat and constrain to honey bee production, bee health, crops pollination, and trade of bee hive products in Africa.

Many socio-economic developments and environmental changes which are taking place together with macro-economic policy reforms have increased concern on environmental conservation for sustainable development of the beekeeping industry and imposed the urgency and the necessity of the formulation of an *Beekeeping Policy at national,*

*regional and continental level, that will take into inter-sectorial cooperation and coordination which will enhance the sustainable management of bee and foraging plants resources in and around agricultural farms, forest and wildlife protected areas. The inclusive and participatory formulation of these Beekeeping Policies will be the entry point to improve the management of honey bee pollinator for a sustainable food security in Africa. This justifies the establishment of MSP that will serve as a platform for consultation, dialogue and inclusive and participatory decision making.*

The MSP is named **African Apiculture Platform (AAP)**

Its objective is to improve the performance of the apiculture sector and its specific objectives are to:

- Facilitate collaboration and partnerships within bee value chain stakeholders;
- Sharing of best practices and lessons learnt;
- Facilitate creation of an enabling policy framework on the continent;
- Facilitate increased public & private investment in apiculture;
- Facilitate capacity development in the sector;
- Promote partnership between crop and apicultural sectors and advocate for all issues affecting the apiculture sector (bee health, environment, investment).

The African Apiculture Platform who is constituted of a General Assembly composed of AU member states and with a governance structure that are the Executive Committee, the Working Groups and a Support team was fully operationalized this year with the below activities held:

### **The 2<sup>nd</sup> General Assembly**

The AAP had in Harare his 2<sup>nd</sup> General Assembly composed of AU member states, others organs organized around five constituencies or clusters: Public sector, Private sector; Civil society; Beekeeping Associations and Research/Training/ and Academia. The Meeting was attended by 140 participants from 49 member states with 5 states namely the Republic of South Africa, Ethiopia, Sao Tome, Mozambique and Mauritania not represented. MS at this function validated many documents (regional policy framework on honey production, bee health & pollination services for East, central and West Africa, follow by discussion on key policy issues from the 5 regions of Africa; report on the Impact of environmental stressors on honey production, pollination services and bee health, discussion on the common regulation and legislation for pesticides management in Africa). MS unanimously decided to increase to number of the EC member from 19 to 27 and to have one facilitator by region with role to animate the platform at regional level and requested MS to fast track the launching of the National Apiculture platform (NAP) and Regional Apiculture Platform (RAP).

### ***The Executive committee (EC)***

#### *i. Roles and functions of the EC*

The EC roles are to:

- Provide oversight and strategic direction of the AAP;
- Advocate for the development of the apiculture sector in MS.

The EC functions are to:

- Ensure that the platform functions and stays relevant;

- Set agenda and facilitate different forums;
- Advise on and establish the overall framework, procedures and activities of the platform;
- Build synergies within the sector;
- Lead advocacy and lobby work;
- Resource Mobilisation;
- Engage other sectors for the development of apiculture sector;
- Prepare & present progress reports to the AAP General Assembly on an annual basis.

**ii. EC Composition**

The EC is composed of 27 members who were elected by the 2<sup>nd</sup> General Assembly in Harare. This includes:

- Public sector (5) seats;
- Private sector (5) seats;
- National beekeeper associations (5) seats;
- **Regional association (2) seats;**
- National civil society (2) seats;
- Regional civil society (2) seats
- Research (2) seats;
- Training and academia (2) seats;
- Observers (2) seats;
- Regional facilitators (each region will nominated between his member one facilitator).

***The Working Groups***

Working group held his inaugural meeting in Yaoundé, Cameroon and the overall objective of the meeting was to establish the status of the knowledge on Honey Production, Bee Health and Pollination Services in Africa by clearly state: what do we know? What we don't know and who can address that and we are convince that will not only improve policy and institutional environment, enhance coordination, and advocacy for honeybee health and other pollinators but also boost the honey production on the continent. The four specific objectives of the workshop were to: validate the rules and procedures of the WGs; develop a roadmap and action for the implementations of priority activities in 2016; propose the ToRs for the formulation of the project exit strategy and review the draft proposal prepare by icipe and AU-IBAR for the next phase of the bee health project.

Other achievement for this meeting was census of ideas of priority issues for beekeeping in Africa:

**Bee Health**

*Better understanding and control of bee diseases and pests in Africa*

- Mapping of bee diseases and pests, their prevalence and risk of occurrence across the continent
- Information on control bee diseases, pests and predators (including biological control methods), and of treatment options
- Continental study of the inherent capacity of different African honeybee races to resist different

- bee diseases and their adaption to climate change
- The relation between varroosis and viral infections in African honey bees
- How to address the emerging colony diseases in Africa
- Procedures for hive surveillance taking into account local/ indigenous practices

*Agro-chemical toxicity*

- Strengthen the understanding of the toxicity of commonly used agro-chemicals on African honeybees
- Analysis of pesticide residues in bee products
- Establish a regulatory framework on use of pesticides
- Regulation and control of phytosanitary materials detrimental to bee health

*Laboratories*

- Creation of regional reference laboratories for diagnosis and control of honey bee diseases
- Equip and operationalize existing labs for diagnosis and control of honey bee diseases

*Training and capacity building*

- Training and capacity of actors and stakeholders including beekeepers to address epidemiological issues in the sector

**Honey Production, Marketing and Technologies**

*Improved production and productivity*

- Modification of hives on the basis of different ecological zones and challenges with pests in the different regions through adapting existing hives or developing new models
- Use of honey bee friendly materials for the construction of hives
- Address the high cost of hives and facilitate access to other modern equipment
- Document and disseminate procedures for better colony management including low hive occupation
- Standard procedures for harvesting and processing bee products

*Organization and capacity building of beekeepers*

- Strengthen organization of bee farmers
- Develop models for building the capacity of bee farmers: demonstration apiaries, farmer field schools etc

*Sustained honeybee colonies*

- Procedures for hive management
- Standard procedures for stocking of beehives
- Create centers to rear queen bees and to disseminate colonies

*Value chain development*

- Diversification and development of beehive products and value addition
- Capacity development of actors along the whole value chain

Quality control and assurance

- Set up labs for quality control

*Improved access and utilization of technologies*

- Reduce the difficulty of using modern tools and technologies
- Support innovation to adapt existing technologies/ develop new ones to improve production and productivity
- Balance the technology levels of countries/ regions
- Evaluation and socio-economic analysis of improved beekeeping technologies in the African context

*Marketing*

- Organization of African market to increase inter and intra-regional and reduce importation of bee products
- Development of appropriate marketing infrastructure including collection and bulking centers
- Development a market information system
- Improvement of post-harvest, storage, processing and packaging to meet the requirements of domestic, regional and international markets i.e., capacity to meet quality standards of the different markets

**Pollination and Biodiversity**

*Pollination*

- (i) Research on pollination: cataloguing the existing information on pollination; bee behavior and pollination efficiency in Africa; economics of pollination including quantification of the value added by bees in agricultural production to provide an evidence base for support for commercialization of bee pollination; species and diversity of pollinators; pollination requirement of specific crops/plants; bees for livelihood: bee pollination and crop yields; disappearance of pollinators, and constraints of pollination
- (ii) Encourage greenhouse agriculture
- (iii) Projects for propagation, monitoring and maintenance of natural pollinators

*Maintaining biodiversity for foraging of honeybees*

- (iv) Mapping of melliferous plants
- (v) Creation of protected conservation areas
- (vi) Culture of melliferous plants for pollination
- (vii) Regulations and mechanisms to reduce encroachment and interference from human

*Genetic improvement*

- (viii) Reduction of the African honeybee defensive sting instinct through selection of desirable traits by harnessing biotechnologies and artificial insemination of queen bees
- (ix) A study to understand the impact of bee crossbreeding in Africa: is it a threat or beneficial?
- (x) The maintenance of national stocks of bee colonies
- (xi) Improving the quality and quantity of national bee stocks

As reminder, WG is constituted of technical people specialized for a specific domain of work link to the development of the apiculture section. The principle to have permanent working groups and ad hoc working group who could be establish by the Executive Committee as the need arises was retain. As permanent Working Groups, These are (Bee Health; Production, Marketing and Technologies and Pollination Services & biodiversity). Each working group is headed by a Coordinator and a rapporteur elected by the General Assembly and will be composed of at least 7 to 11 members appointed by the EC in consultation with the Coordinator and AU-IBAR. The working groups are answerable to the EC.

***The Support Team***

AU-IBAR coordinates the support functions to the **Africa Apiculture Platform (AAP)**. This is a preferred model for a conventional Secretariat that would require substantial human resources and funding to establish, run and maintain itself. A Support Team would allow the AAP to utilise energies and resources among members and to build sustainability beyond the AU-IBAR funded project.

**Election of members of the Executive Committee (EC) of the MSP and of the Coordinators of the Working Groups**

Below are the constitution got by election from the five constituencies or clusters: Public sector, Private sector; Civil society; Beekeeping Associations and Research/Training/ and Academia.

*i. Executive Committee Members*

Below is the list of the 27 members elected during the 2<sup>nd</sup> GA of the AAP in Harare for three years mandate.

Sector	Central Africa	East Africa	North Africa	Southern Africa	West Africa
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<b>Public sector</b>	Ministère de l'Agriculture (Gabon)	Ministry of Agriculture, Animal Industry & Fisheries (Uganda)	Federal Ministry of Livestock, Fisheries and rangelands (Sudan)	Ministry of Agriculture (Botswana)	Ministère de l'Élevage et des Productions Animales (Sénégal)
<b>Private sector</b>	Association GAEL des Apiculteurs Chad (Chad)	Kenya Honey Council (Kenya)	Fédération Algérienne des Apiculteurs (Algérie)	Forest Fruit Limited Zambia (Zambia)	A & Shine International Ltd (Nigeria)
<b>National Beekeeper Associations</b>	Association des Apiculteurs de RCA (RCA)	Fédération Rwandaise des Apiculteurs (Rwanda)	Tripoli Beekeeping Cooperative (Libya)	Beekeepers Association of Zimbabwe (Zimbabwe)	Union National des Apiculteurs du Burkina Faso (UNABF) (Burkina Faso)
<b>Regional association 2</b>		Apitrade	Arab beekeepers union		
<b>Civil Society 2 national</b>			Ethiopian Honey Council (Ethiopia)		Guinea
<b>Civil Society 2 regional</b>	SOCOOAPIACAM		UMAP		
<b>Research 2</b>		Icipe		University of Pretoria (Social insect Group)	
<b>Training and Academia 2</b>	Université des Montagnes				EISMV
<b>Observers</b>	GIC LUMICAM	Ministry of Natural Resources and Tourism (Tanzania)			
<b>Facilitators</b>	SOCOOAPIACAM	Apitrade	Arab beekeepers union	Botswana	Senegal

*ii. EC Office Bearers*

<b>Name</b>	<b>Position</b>
<b>Chairperson</b>	Ecole Inter-états des Sciences et Médecine Vétérinaires (EISMV) de Dakar
<b>Secretary</b>	AU-IBAR

*iii. Working Group Coordinators & Rapporteurs*

<b>Working Group</b>	<b>Chair</b>	<b>Rapporteur</b>
Production, Marketing and Technologies	Desalegn Begna (Ethiopia)	Biryomumaisho Dickson (Uganda)
Bee Health	Prosper Kabambi (ig) DRC	Amro Taha (Egypt)
Pollination Services & biodiversity conservation	Mustafa El Fituri (Libya)	Mandeng Jean-Marcel (Cameroon)

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

Work in the current reporting period has focused on taking stock and assessing policies and regulatory frameworks in MS. The stock taking exercise and the assessments of policies and regulatory frameworks have been completed in 33/54 AU MS: 4/9 for Central Africa (Central Africa Republic, Cameroon, Burundi & Chad); 9/14 for East Africa (Djibouti, Eritrea, Kenya, Madagascar, Maurice, Rwanda, Seychelles, South Sudan & Uganda); 4/5 for Northern Africa (Algeria, Libya, Mauritania & Tunisia); 5/10 for Southern Africa (Botswana , Lesotho, Malawi, Swaziland & Zimbabwe); and lastly 11/15 for West Africa (Benin, Cap Verde, Cote d'Ivoire, Gambia, Guinee, Niger, Nigeria, Senegal, Sierra Leone & Togo).

Results show that, only 6 (six) AU-MS: Tanzania, Rwanda, Kenya, Ethiopia, South Africa and Zimbabwe has policies and regulatory frameworks on apiculture or bees, while some only have draft policies and draft regulatory frameworks that are at diverse stages of discussion with various stakeholders and many others are still on thinking stage.

Three (03) regional policy framework (Central Africa, East Africa and West Africa) have been developed and validated during this period, gaps and priority policy intervention entry points/options to enhance honey bee production, trade of honey and bee hives products, and pollination services were identify with key issues to be considered in a regional policy framework, policy options and strategy; best practices and lessons learnt discuss for all the regions.

**Activity 3.3:** *Carry out environmental impact study on bees and pollination services.*

As achievement of this activity, the document on the impact of environmental threats and stressors on honeybee, beehive products, bee health and pollination services in Africa that discussed the adaptability of bees on the continent, changes in the ecosystem arising from deforestation, climate change, use of fertilizers and pesticides and their effects on disease incidences and the biological cycle was discuss and validated. Five (05) policy briefs on all those issues are ready to be printed.

**Activity 3.4:** *Enhance capacities for timely collection, analysis and sharing of accurate sanitary information; this activity will consist of strengthening the capacity of National veterinary services for early detection, timely notification/reporting, prevention and control of bee diseases*

The 1<sup>st</sup> Continental Symposium on honey production, bee health and pollination services in Africa was held in Cairo in September 2016. This symposium provided an opportunity for highlighting recent developments, exchanging knowledge and new ideas between MS representatives of the relevant ministries, CVOs, beekeepers, representatives of national beekeepers associations, scientific research community, legal experts on honeybee production, bee health and pollination services. This was a good

opportunity for: knowledge enhancing and awareness creation in AU-MS on honey bee breeding, genetics & physiology, honey bee disease and pests current state of knowledge and future research priorities; impacts of environmental stressors on bees, conservation, ecosystems services, and bee policy. Also, capacity on honey bee breeding, genetics & physiology, honey bee disease and pests current state of knowledge and future research priorities; impacts of environmental stressors on bees, conservation, ecosystems services, and bee policy enhanced. Another achievement from this 1<sup>st</sup> symposium is 28 papers show cases innovation with African base solutions from were published in the special bulletin of Animal Production and health in Africa.

The last achievement for this activity is the e-Training needs assessment for the development of tailored training modules for e-training who was done and the e-Training modules (Bee diseases and pests control, Bee health, Honey production & safe handling of beehive products, Pollination services and Honey bee technology) are on the website: <http://www.au-ibar.org/bee-resources/bee-trainings>.

**Activity 3.5:** *Strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products.*

Work in the current reporting period has focused on identification of three groups of experts (Bee products residue, Bee health, Pesticides) and the production of a strategic concept paper for the common position to ISSOs to strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products was developed

**Activity 3.6:** *Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services*

Work in the current reporting period has focused on identification and documentation of market constraints and opportunities for honey and other beehive products, and investment opportunities for bee products and pollination services in Africa from the five regions are being finalized by regional consultants. Discussion on key market constraints and opportunities for honey and others beehive products, and investment opportunities for bee products and pollination services in Africa was also conducted and the value chains have been pre-assessed in Ethiopia, Madagascar, Tanzania, Algeria, Cameroon, Zambia, Sudan and Egypt. From the assessment of the honey value chain, market constraints faced by producer groups often include problems arising caused by the remoteness of producers from suppliers, traders and technical advisers, the often-small volumes of products, and difficulties of obtaining pre-finance for honey purchase, packaging and marketing. It was also observed in many regions that the marketing system of honey faces various constraints. Most of the local markets are far from the beekeepers and are presenting difficulties in accessibilities. Another constraint includes the need for candidate exporting countries to provide Honey Residue Monitoring Plan who can only be done by an International Accredited Laboratory at prohibited costs.

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

**Activity 4.1:** *Establish or strengthen producer organizations for input supply management and cooperative marketing.*

As achievement for this activity, criteria to support producer organization was developed and agree with various stakeholders and 11 over 28 proposals from 23 AU-MS were selected for funding to strengthen beekeepers producer organizations for input supply management and cooperative marketing. Also, The Elimu na Asali (Education through Honey production) programme in Maoi Primary School in Baringo South (Kenya) was supported with 100 Langstroth beehives through Baringo Advocacy and Development Organization (BADO) who is a non-governmental organization working within the communities in Baringo County. All those support aims:- (i) Enhance provision of pollination services, (ii) Increase the production of Honey, (iii) Increase income from beekeeping activities, (iv) Protect the environment by reducing deforestation and regeneration of forests/vegetation, (v) Enhance access to education by the children, (vi) Promote a culture of economic empowerment through productive assets especially for the youth (vii) Promote technology transfer and skill development, (viii) Create jobs for the youth and (ix) Promote environmental education and generation of knowledge on the local floral calendar.

The list of supported actions by region is below:

<b>Region</b>	<b>Country</b>	<b>Applicants</b>	<b>Title</b>	<b>Budget USD</b>
East Africa	Tanzania	Tanzania Forest Services & Iringa District Council	Provision of alternative source of income for the improvement of livelihood and biodiversity conservation in Kitapilimwa forest reserves through beekeeping	15,000
East Africa	Uganda	Uganda National Apiculture Development organization Ltd (TUNADO)	Review and develop a national apiculture profile for Uganda	15,000
East Africa	Ethiopia	Southern Region Farmers' Cooperative Federation (SRFCF)	A sustainable Pan-African approach to developing the capacity of national beekeepers' umbrella organizations and promoting trade in African bee products and services	15,000

East Africa	Kenya	Baringo Advocacy and Development Organisation (BADO)	Bee hive for Elimu na Asali project (Education through Honey production) programme in Maoi Primary School in Baringo	10,000
Central Africa	Central Africa Rep. & Cameroon	Association Bagdad/Guiding Hope/SOCOOAPIAEC AM	Fabrication of honey derived products	15,000
Central Africa	Cameroon	GIC Lumière du Cameroun (GIC LIMICAM)	Projet de vulgarisation des techniques apicoles dans le Littoral et à l'Ouest du Cameroun	15,000
West Africa	Ghana	Ghana beekeepers Association	Equip the Ghanaian farmer/beekeeper with modern day beekeeping skills, supplying standard equipment's and opening local and international market	14,984
West Africa	Gambia	National Beekeepers association the Gambia, Colony of bees services centre & Kombo Foni Forest Association	Beekeeping for income generation, food security and livelihood improvement	14,950
Northern Africa	Tunisia	Union Tunisienne de l'Agriculture et de la pêche	Renforcement des capacités de la société civile Tunisienne sur les systèmes de gestion de la sante des abeilles et les politiques apicoles	15,000
Southern Africa	Zimbabwe	Beekeepers Association of Zimbabwe	Beekeeping for sustainable development	15,000
Southern Africa	Zimbabwe	National Apiculture Organization	Provision of knowledge and modern equipment for farmers	15,000

**Activity 4.2:** *Enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations.*

As achievement under this activity Work in the current reporting period has focused on 5 regional training on beekeeping technology, honey production & post-harvest handling of beehive products. During those training 128 ToTs representatives for national beekeepers associations were trained and their repartition by region is as

follow: East Africa: 19 (8 Women & 11 Men); Central Africa: 45 (14 Women & 31 Men); Northern Africa: 18 (7 Women & 11 Men); Southern Africa: 22 (8 Women & 14 Men) and Western Africa: 24 (9 Women & 15 Men).

All those training had fifth thematic areas namely: Beekeeping technology, Improved beekeeping techniques, Beekeeping-crops innovative techniques, Popularization of Bee data base and Field practical's.

**Activity 4.3:** *Develop a database on pollination services and bee health research and development outputs,*

Work in the current reporting period has focused on data and information needs assessment that was done and the creation of three (03) Bee modules that developed in ARIS2. The three modules are: Bee Health, Production, Marketing Technologies and Pollination Services & biodiversity conservation. Also a references database on bee health and pollination services is now accessible on ARIS 2. Some improvement on bee diseases reporting has been observed from MS.

**Activity 4.4:** *Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive products.*

Work in the current reporting period has focused on 5 regional training on beekeeping technology, honey production & post-harvest handling of beehive products. During those training 74 Extension Workers & NARs ToTs were trained and their repartition by region is as follow: East Africa: 11 (4 Women & 7 Men), Central Africa: 26 (6 Women & 20 Men), Northern Africa: 10 (3 Women & 7 Men), Southern Africa: 12 (3 Women & 9 Men) and Western Africa: 15 (6 Women & 9 Men)

**Activity 4.5:** *Develop and promote bee health knowledge management systems through bee health value chain analysis*

Creation of African Bees-d-group named " Bee-Net Africa" and the ongoing work on the production of a document on the Status of Apiculture in Africa. This d-group will support information sharing and dissemination, stakeholder's consultations Bee project website is <http://www.au-ibar.org/bee-project> was regularly up-dated during this period with the AU-IBAR social network Bee Net Africa <http://www.au-ibar.org/net/> and discussions are ongoing on the d-group on honey production, bee health & pollination services. The current Discussion Topics are ongoing on the forum: Bee Apocalypse myth or reality? Are bees so important for our survival? Bees and world food security, your comment?

### **3. Challenges Way forward, and Recommendations**

#### **3.1 Challenges in project implementation**

- Cameroon who is with one of the key implementing partner just sign the memorandum of understanding that really delay implementation of some activities link to regional lab was delay.
- Need to harmonize/align interventions with icipe who started implementation of its components in June 2013.
- Ebola outbreaks in West Africa that has prevented the assessment of bee value chain in West Africa especially in Liberia and Burkina Faso that host satellite laboratories
- The apiculture development Officer assumes duties on March 2016.
- The project staff was recruited 4 months after the contract signing date which marked the start of the project. This could consequently result to a delay in the delivery of the project outcomes.

### 3.2 Next Steps:

- Fast track the rolling out of the training on beekeeping technology, bee health and pollination services by organizing National training for beekeepers and extension workers;
- Fast track the functioning of the African Apiculture Platform (AAP) by establishing/ launching the National Apiculture Platform (NAP) and the Regional Apiculture Platform (RAP);
- Fast track the process on regional policies and institutional frameworks for honey production, bee health and pollination services;
- Fast track document on harmonization of pesticides regulations in Africa;
- Fast track Guidelines on the use of pesticides who are bee friendly in Africa;
- Fast track the support to beekeepers associations;
- Mainstream honey bee production and pollination services in the food security agenda of the AU through the CAADP;
- Difficulties to get the involvement of some RECs in the project: so far only EAC, SADC and IGAD have managed to attend project activities such as PSC meeting. It is therefore, recommended that there is increased effort to engage the remaining RECs through dialogue and interactions;
- Africa needs to tap on the urge potential they have by extending the honey production and pollination services to regions of the countries;
- Strengthening the extension activity in bee keeping to exploit this potential of each MS;
- Conduct study on the existing apiculture input supply system to develop innovative methods of input supply system in study in African country;
- Find a long term solution to the problem of increased use of pesticides and insecticides necessary to increase crop productivity;
- Fast track new ideas for the second phase of the bee project.

### Conclusion

The project so far is on a good track in term of achievement but we need to put more emphasis on Beekeeping Policy at national, regional and continental level, because only

that will take into inter-sectorial cooperation and coordination which will enhance the sustainable management of bee and foraging plants resources in and around agricultural farms, forest and wildlife protected areas. The inclusive and participatory formulation of these Beekeeping Policies will be the entry point to improve the management of honey bee pollinator for a sustainable food security in Africa. This justifies the establishment of National Apiculture Platform (NAP) and the Regional Apiculture Platform (RAP) that will serve as a platform for consultation, dialogue and inclusive and participatory decision making.

## Appendix

### Bee Project Output per quarter for 2016

	Output	Q1	Q2	Q3	Q4	Comments
<b>Exit strategy and project closeout</b>						
Drafting of the Exit strategy	Exit strategy report		Consultant Recruited	Exist strategy drafted	Exit strategy Validated by the PSCM	
<b>Result 3 Enhanced awareness and create conducive environment for enhanced bee disease control, access to markets, and consumer safety.</b>						
<b>Activity 3.1.</b> 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.						
3.1.1 Guideline for NAP	Draft guideline		Draft Ready			
3.1.2 Launch/Establishing NAP			Launch/Establishing NAP	Launch/Establishing NAP	Launch/Establishing NAP	
3.1.3 Meeting of the WG			1 <sup>st</sup> Annual Meeting WG organized		2 <sup>nd</sup> Annual Meeting WG organized	
3,1.4 Meeting EC			Meeting EC organized		Meeting EC organized	

3.1.5 Annual Meeting of the MSP				Status of honey production & beehive products & pollination established	GA of MSP (AAP organized)	Engage the communication Unit for the Continental MSP
<b>Activity 3.2.</b> Develop policy frameworks for sustainable bee health, apiculture and pollination services.						
<b>3,2.1</b> Harmonization of Pesticides Regulations in Africa			Harmonization of Pesticides Regulations in Africa			
3.2.2 Policy guidelines on bee health in Africa			Guidelines on bee health in Africa			
3,2.3 Consolidation policy issues from regional PF			Consolidation policy issues from regional PF			
3.2.4 Evidence base policy paper on the importance of pollination services (icipe & pollination WGs)			Evidence base policy paper on the importance of pollination services (icipe & pollination WGs)	Evidence base policy paper on the importance of pollination services (icipe & pollination WGs)		
3.2.5 In collaboration with icipe identified policy			In collaboration with icipe	In collaboration with icipe	In collaboration with icipe	

issues on the trial of apiculture			identified policy issues on the field trial of apiculture	identified policy issues on the trial of apiculture	identified policy issues on the trial of apiculture	
3.2.6 Continental policy dialogue PF on honey production, bee health & pollination services					Regional policy dialogue PF honey production, bee health & pollination services	
<b>Activity 3.3.</b> Carry out environmental impact study on bees and pollination services						
3.3.1 Strengthening or establishing regulations to mitigate those environmental stressors			Strengthening or establishing regulations to mitigate those environmental stressors (WGs)	Strengthening or establishing regulations to mitigate those environmental stressors		
3.3.2 Dissemination of the results of the study through AAP structures					Strengthening or establishing regulations to mitigate those environmental stressors	
<b>Activity 3.4.</b> Enhance capacities for timely collection, analysis and sharing of accurate sanitary information						

3.4.1 National training on honey, bee health & pollinations services for 25 MS			National training on bee health	National training on bee health	National training on bee health	
3.4.2 Symposium on honey, bee health & pollinations services			First announcement of the symposium of bee disease published	Abstracts selected and papers commissioned	Symposium organized along site the MS GA	Communication activities and Animal Health Unit involve
3.4.3 training of national experts for 25 MS			National training on honey, & pollinations services	National training on honey, & pollinations services	National training on honey, & pollinations services	
3.4.4 Vast Apiculture validation field trial			Vast Apiculture validation field trial	Vast Apiculture validation field trial	Vast Apiculture validation field trial	
3.4.5 Enrolling MS to the e-Training modules on beekeeping				Enrolling MS to the e-Training modules on beekeeping	Enrolling MS to the e-Training modules on beekeeping	
<b>Activity 3.5.</b> Strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products.						<b>Milestones link to PANSPSO</b>
3.5.1 Experts to choose one priority areas and to push it for the common			Experts to choose one priority areas and to push it for	Draft common position ready for validation		

position			the common position			
3.5.2 Validation of the common position				Drafted common position Validated during the annual DVS		
3.5.3. support meeting of technical committee			Meeting of technical committee		Meeting of technical committee	
3.5.4 Support the participations of some delegates to Regional, Continental meetings and ISSOs meetings				Support the participations of some delegates	Support the participations of some delegates	
<b>Activity 3.6.</b> Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services						
3.6.1 Working with RECs & AAP to provide framework and guideline to MS			Working with RECs & AAP to provide framework and guideline			
3.6.2 Dissemination of the results through policy dialogue on markets constraints				Dissemination of the results through policy dialogue on markets constraints		

3.6.3 Organize two policy dialogue on markets constraints, opportunities, investments and PP in honey production and pollination services					Policy dialogue on markets constraints, opportunities, investments and PP in honey production and pollination services organized	
<b>Result4:Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened</b>						
<b>Activity 4.1. Establish/strengthen producer organizations for input supply management and cooperative marketing</b>						
4.1.1 Support operations of national beekeepers associations			Selection and subvention transferred to Associations			
4.1.2 Support to MS if any request			Support to MS if any	Support to MS if any	Support to MS if any	
4.1.3 Monitoring implementation selected Associations or MS			Monitoring implementation selected Associations	Monitoring implementation selected Associations	Monitoring implementation selected Associations	
<b>Activity 4.2. Enhance the capacity of beekeepers associations to acquire information and utilize</b>						

<b>improved bee health technologies/innovations;</b>						
4.2.1 25 National Training of representatives of national beekeepers associations			National Training of representatives of national beekeepers associations organized	National Training of representatives of national beekeepers associations organized	National Training of representatives of national beekeepers associations organized	
4.2.2 Exchange visits 25 MS			Exchange visits	Exchange visits	Exchange visits	
<b>Activity 4.3. Develop a database on pollination services and bee health research and development outputs;</b>						
<b>4.3.1</b> Synthetize information from the 33 MS report to feed Bee modules on ARIS			Synthetize information from the 33 MS report to feed Bee modules on ARIS			
4.3.2 Approach AAP & WGs to have the remaining countries report on inventory			Approach AAP & WGs to have the remaining countries report on inventory	Status of honey production & beehive products & pollination established		
<b>Activity 4.4. Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive</b>						

<b>products, and the commercial policies of the agricultural sector;</b>						
4.4.1 Policy brief on pollination services (Pollination WG)						
4.4.2 Policy brief on pollination services dissemination				Policy brief on pollination services dissemination		
4.4.3 Exchange visits-training workshop to be organized for Director of Agricultural production and some member of parliament of the head of the committee of Agriculture to see and have some explanations on the importance of pollination services for food security				Exchange visits-training workshop to be organized for Director of Agricultural production and some member of		
<b>Activity 4.5. Develop and promote bee health knowledge management systems through bee health value chain analysis</b>						
4.5.1 Generate information on bee health knowledge &			Generate information on bee health knowledge &			

pollination services (WGs +icipe)			pollination services (WGs +icipe)			
4.5.2 Up-dated our website			Up-dated our website	Up-dated our website	Up-dated our website	
4.5.3 up-dated Bee Net d-group with new topics & information			up-dated Bee Net d-group with new topics & information	up-dated Bee Net d-group with new topics & information	up-dated Bee Net d-group with new topics & information	
4.5.4 Bi-annual bulletin for AAP			Bi-annual bulletin for AAP		Bi-annual bulletin for AAP	
4.5.5 Organize dissemination workshops					Bi-annual bulletin for AAP	
<b>M &amp; E activities</b>		M & E framework developed  Baseline data collected	Quarterly M & E report provided	Quarterly M & E report provided	Quarterly M & E report provided	
<b>Sub Total Activities</b>						

