BEE PROJECT

2014

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

December 2013 - February 2015

icipe
African Insect Science for Food and Health

EUROPEAN COMMISSION

Contents

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
icipe	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 December 2013 and February 2015.

During this period:

- A Continental platform named Africa Apiculture Platform (AAP) for honey production, bee health and pollination services has been successfully established.
- Inventory and the assessments of policies and regulatory frameworks have been completed in 10 AU-MS and are ongoing in the rest of the countries.
- Two Continental training sessions (English and French) on bee diseases were organized for all the AU-MS.
- Honey value chains have been assessed in 8 AU-MS and key market constraints identified and documented.
- 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.

1. Project description

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 23rd 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 services. 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 Activity 3.5. Strengthen Africa's participation in standard setting organizations

	(OIE and *Codex Alimentarius*) on standards setting process for bees and bee products. Activity 3.6. Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services
Result 4	Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened
Main activities	Activity 4.1. Establish or strengthen producer organizations for input supply management and cooperative marketing Activity 4.2. Enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations. Activity 4.3. Develop a database on pollination services and bee health research and development outputs. Activity 4.4. Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive products Activity 4.5. Develop and promote bee health knowledge management systems

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 in April 2014. The Project Officer is supported by an Account Assistant. The recruitment process of a Project Officer in charge of the apiculture development is ongoing following the approval from the EU.

- **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*).
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.

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 process of establishment of an effective bee multi-stakeholder partnerships and mechanisms for the development of policy, institutional and market options for bee health and pollination services for food security started in Naivasha in September 2014 and the meeting was attended by 41 Participants from 20 African Union Member States Participants were officers from the Ministry in charge of honey bee production, beekeepers associations, private sectors, NGOs, Scientists. MS agreed during that meeting not only to establish the Apiculture MSP but also on it structure and various

governance organs and a preparatory committee was put in place and a secretariat for the follow up.

The launch of the Africa Apiculture Platform (AAP) on Honey Production, Bee Health and Pollination Services took place in Kampala, Uganda in December, 2014 and was attended by 91 participants from the public sector, private sector, civil society, beekeepers associations, and research & training institutions as well as some experts in apiculture.

These participants included 30 Member States, four RECs and international organizations.

The MSP is named **Africa 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).

Structure of the Africa Apiculture Platform (AAP)

The AAP is constituted of a General Assembly composed of AU member states and with a governance structure that will consist of the Executive Committee, the Working Groups and a Support team.

The General Assembly

The AAP has a General Assembly organized around five constituencies or clusters: Public sector, Private sector; Civil society; Beekeeping Associations and Research/Training/ and Academia.

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 19 members elected by the General Assembly. This includes:

- public sector
- Private sector,
- beekeeper associations all the above with five seats each representing the five regions of the continent;
- Civil society and research, training and academia with two seats each;
- Observers: institutions that are designated observers will take part in the debates and discussions within the EC but with no voting rights.

The Working Groups

Working group 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 elected by the General Assembly and will be composed of at least 7 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

Sector	Central Africa	Eastern Africa	Northern Africa	Southern Africa	Western Africa
Public sector	Ministry of livestock, Fisheries & Animal Industries Cameroon	Ministry of National Resources & Tourism Tanzania	Ministry of Livestock Mauritania	Ministry of Agriculture Botswana	Ministry of Agriculture, Livestock & Fisheries Benin
Private sector	Association GAEL des Apiculteurs Chad	Kenya Honey Council	Union Tunisienne de l'agriculture & des Peches	Forest Fruit Limited Zambia	A & Shine International Ltd Nigeria
Beekeeper Associations	Central Africa Republic -BADAG Association de	The Uganda National Apiculture	Tripoli Beekeeping Cooperative	Beekeepers Association of Zimbabwe	Union National des Apiculteurs du Burkina Faso

	Bokaranga	Development Organization			(UNABF)
Civil Society	Societe Cooperative Apicole Agricole Elevage du Cameroun (SOCOO APIAECAM)	Ethiopian Apicultural Board (EAB	-	-	-
Research, Training and Academia	-	-	-	SABIO – South Africa Beekeeping Industry Organization South Africa	Ecole Inter-états des Sciences et Médicine Vétérinaires (EISMV) de Dakar

ii. EC Office Bearers

Name	**Position**
Chairperson	A & Shine International Ltd Nigeria
Deputy Chairperson	The Uganda National Apiculture Development Organization
Secretary	AU-IBAR

iii. Working Group Coordinators

Working Group	**Result**
Production, Marketing and Technologies	Ethiopia Apiculture Board, Ethiopia (EAB)
Bee Health	South Eastern Kenya University, Kenya
Pollination Services & biodiversity conservation	SABIO – South Africa Beekeeping Industry Organization, Republic of South Africa

A number of institutions observer status on the Executive Committee: These included institutions of the African Union and United Nations, Regional Economic Communities, international NGOs and civil society, and technical institutions. Observer institutions that were identified include: AU-IAPSC, ECOWAS, COMESA, IGAD, EAC, ECCAS, UMA, SADC, SNV, FAO, ICIPE, OIE, CEBEVIRHA (CEMAC), Bees for Development, CropLife Africa and Middle East, Apitrade and Centre Suisse de Recherche Scientifiques (CSRS).

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 Ethiopia, Tanzania, Madagascar, Rwanda, Zimbabwe, Egypt, Cameroon, Zambia, Sudan and Algeria. The work is currently is ongoing in the rest of the countries.

Results show that, countries like Ethiopia, Tanzania, Rwanda and Zimbabwe have policies and regulatory frameworks on apiculture or bees, while Madagascar, Egypt, Cameroon Zambia, Sudan and Algeria only have draft policies and draft regulatory frameworks that are at diverse stages of discussion with various stakeholders.

Activity 3.3: *Carry out environmental impact study on bees and pollination services*.
As achievement of this activity that is planned for the 2nd year of the project is the finalization of the CN ToRs and commission of this assessment.

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*
Two training sessions on bee diseases were organize (one in English and one in French). In total 47 out of 54AU Member State participated represented by two officers each.
The training in English was held in April 2014 at icipe campus in Nairobi, Kenya. The training in English was attended by 39 participants from 24 AU Members State whereas the French training was held in June 2014 in Ouagadougou, Burkina Faso and was attended by 45 participants from 25 AU Members State. Each country was represented by the head of the epidemiology unit and a veterinarian based at a bee station.
The objective of the training was to build capacity of officers in the directorate of veterinary services in AU-Members State for identification and diagnostic of bee diseases, for early detection and timely reporting of bee disease outbreaks as part of the disease reporting assignment of the directorate of veterinary services. The trainings were organized around three thematic areas:
Thematic I: Create awareness and enhance knowledge on bee biology, research methods and certification. Under this theme the following were addressed:

- Honeybee biology and queen breeding: this subject covers taxonomy and identification of bees, the life cycle of honey bee and it internal anatomy follow by the reproduction mode.
- Mapping flowering plants and landscape structure;.
- Crop pollination services through bees and rearing techniques of stingless and carpenter bees;.
- Statistical methods for surveillance planning and data analysis;
- Certification of honey and hive products as per EU and OIE specifications
- Socio- economic impact analysis and bee health;

THEMATIC II: Surveillance, early detection and timely reporting of honeybee diseases and pests. Under this theme we had:

- Evaluation of distribution and impacts of parasites, pathogens and pesticides on honeybee (Apis mellifera) populations Africa;.
- Disease reporting using ARIS 2
- Assessment of bee diseases status using participatory epidemiology (PE) or participatory research appraisal (PRA) methods;.

THEMATIC III: Prevention and control of bee diseases and pests

- Chemistry and honeybee behavior;
- Pesticide hazards on bee colony and in hive products;
- Bee diseases and pest control measures: Development of plant-based bio pesticides;

Practical sessions on surveillance, early detection and timely reporting of honeybee diseases and pests

- Sampling techniques and specimen preservation;
- Surveillance of honeybee diseases; .
- Practical assessment of bee diseases status using participatory epidemiology (PE) or participatory research appraisal (PRA) methods;
- Laboratory (Chemical Ecology lab, Molecular Biology lab, Biopesticides lab, Commercial Insects bee health lab):

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 assessments of Honey bee value chains. The value chains have been 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 in this activity planned for the 2nd year of the project is the finalization of the CN and ToRs for the inventory of producers associations in the 54 AU-MS.

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

As achievement under this activity planned for the 2nd year of the project is the finalization of the CN.

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

This activity is planned for the 2nd year of the project.

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, stakeholders consultations

3. Challenges Way forward, and Recommendations

3.1 Challenges in project implementation

- 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 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 assessment of policies and institutional frameworks;
- Fast track the assessment on environmental assessment;
- Delay in signing memorandum of understanding with one of the key implementing partner Cameroon. It is therefore recommended to put in place a more speedy process in light of this;
- 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.

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 MSP that will serve as a platform for consultation, dialogue and inclusive and participatory decision making.

Appendix

2015 Milestones

	Output	Q1	Q2	Q3	Q4
Exit strategy and project closeout					
Drafting of the Exit strategy	Exit strategy report		Consultant Recruited	Exist strategy drafted	Exit strategy Validated by the PSCM
Closeout workshop					
Result 3 Enhanced awareness and create conducive environment for enhanced bee disease control, access to markets, and consumer safety.					
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.					
3.1.1 Conduct a stakeholders analysis is the 5 regions		Consultants recruited	Stakeholder analysis completed		
3.1.2 Meeting of the WG		Members of the WG appointed	1st Annual Meeting WG organized		2nd Annual Meeting WG organized
3.1.3 Annual Meeting of the MSP				Status of honey production & beehive products established	GA of MSP organized
Activity 3.2. Develop policy frameworks for sustainable bee health, apiculture and pollination services.					
3.2.1 assessment and analysis of existing national and regional policies on beekeeping , apiculture and pollination services		Inventory of National & regional policy on		Policy gaps and priority issues identified	

		beekeeping completed			
3.2.3 Drafting of guidelines and regional and continental frameworks				Guidelines for the formulation of the beekeeping apiculture and pollination services policies & legislatives drafted	Draft Guidelines submitted to the GA for comments and inputs (Tink-Tank)
Activity 3.3. Carry out environmental impact study on bees and pollination services					
3.3.1 workshop on the matrix and data to be collected and used for the analysis			Matrix and the metrics drafted	Assessment piloted in 5 countries	Matrix and the metrics Validated during the GA
Activity 3.4. Enhance capacities for timely collection, analysis and sharing of accurate sanitary information					
3.4.1 TOT on bee diseases		First announcement of the symposium of bee disease published	Abstracts selected and papers commissioned	Symposium organized	
3.4.2 training of national experts					
Activity 3.5. Strengthen Africa's participation in standard setting organizations (OIE and Codex Alimentarius) on standards setting process for bees and bee products.					
3.5.1 Compilation of science based arguments for bee and bee products standards		Identification of experts	Expert meeting on science based arguments		
3.5.2. support meeting of technical committee			Support expert		

			meetings		
3.5.3 Support the participations of some delegates to Regional, Continental meetings and ISSOs meetings			Support participation of some delegates		
Activity 3.6. Identify market constraints and opportunities for honey and hive products and investment opportunities of bee products and pollination services					
3.6.1 consultancy for identification and markets constraints and opportunities	Markets constraints and opportunities report	Consultancy commissioned	Regional consultation completed and drafted	Input from stakeholders integrated and drafts finalized	
3.6.2 Organize two policy dialogue on markets constraints, opportunities, investments and PP in honey production and pollination services					Policy dialogue on markets constraints, opportunities, 20nvestment and PP in honey production and pollination services organized
Result4:Capacity of beekeepers/farmers' federations, RECs and NARS on bee health management systems and policy options strengthened					
Activity 4.1. Establish/strengthen producer organizations for input supply management and cooperative marketing					
4.1.1 Support operations of national beekeepers associations			Assessment of beekeeping associations in MS completed	Criteria for providing support validated	Subventions transferred to Associations
4.1.2 establishment and operationalization of regional beekeepers associations				Framework for the establishment of Regional beekeepers Association	

				developed	
Activity 4.2. Enhance the capacity of beekeepers associations to acquire information and utilize improved bee health technologies/innovations;					
4.2.1 regional Training of representatives of national beekeepers associations				5 Regional Training of representatives of national beekeepers associations organized	
4.2.2 Training beekeepers on Honey production and safe handling of bee products				With 4.2.1	
4.2.3 Exchange visits	2016				
Activity 4.3. Develop a database on pollination services and bee health research and development outputs;					
4.3.1 compiling and synthezing research information on bee health and pollination services		Information need assessment completed		References database on bee health and pollination services compiled and accessible on ARIS 2	
4.3.2 creating a module on ARIS for information bee and pollinators		Bee and pollination services module created			
Activity 4.4. Strengthen the capacities of NARS and RECs to analyze the value chain of pollination services and priority beehive products, and the commercial policies of the agricultural sector;					
4.4.1 Training needs assessments at regional level			Regional training need		

			assessment and Gaps identification completed		
4.4.2 Development of various training modules for extensions workers and scientists				Framework to improve the quality of training manual developed	
4.4.3 Regional TOT for extensions workers				Regional TOT for extensions workers	
4.4.4 Publication of training manuals					
Activity 4.5. Develop and promote bee health knowledge management systems through bee health value chain analysis					
4.5.1Document best practices	2016				
4.5.2 Publication of Monograph	2016				
4.5.3 create d-group		d-group on honey production, bee health & pollination services created			
4.5.4 organize dissemination workshops	2016				
M & E activities		M & E framework developed Baseline data collected	Quarterly M & E report provided	Quarterly M & E report provided	Quarterly M & E report provided