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## Report of the cross-visit in FRANCE - Guadeloupe

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# 1 Context

## 1.1 Origin of the RITA

RITA stands for « *Réseaux d'Innovation et de Transfert Agricole* » (agricultural innovation and dissemination networks).

The concept of RITA appeared in 2009, after a 1,5 month general strike in all the French outermost regions.

During the strike, importations of goods, including staple foodstuff, were completely stopped. People and political decision makers realized that, for all of these regions, a limited quantity of locally produced foodstuff was commercialized/available and in some regions these local foodstuffs were even contaminated with a pesticide: Chorldecone®, which had been banned in other areas of the world (USA and others) many years before.

% of market demand met by local production in Guadeloupe (agric census 2010)

- fruits and vegetables: 63%
- beef : 32%
- pig meat : 32%
- poultry : 1.5%

Decision was taken to enhance locally produced goods availability and safety (lesser use of chemical inputs)

Firstly, it was decided to consolidate and optimize the on-going innovation dynamics heading towards improvement of local agricultural production availability (quantity, quality and marketing).

In each of the 5 outermost regions, the main limiting factor of these on-going innovation processes was a poor cooperation among stakeholders of agricultural development (research institutes, technical institutes, extension services, farmers' organizations).

In 2011, a RITA is launched in each of the 5 French outermost regions (Guadeloupe, Martinique, Guyane, la Réunion, Mayotte). The administrative, financial and scientific coordination of the RITAs was given jointly to ACTA and CIRAD.

### **Agriculture in the outmost regions has specific constraints and assets**

- in a tropical environment, without winter break, the production is permanently under a high level of pest pressure
- after several public health problems linked to overuse of pesticides, there is a strong expectation of the local population for safe goods
- the 5 regions are far from mainland France but must comply with EU rules on agricultural production.

## 1.2 How do the RITAs work?

RITA gathers the stakeholders of agricultural development (regional council, regional branch of the ministry of agriculture, farmers' organizations, research or technical institutes, and agricultural education).

These stakeholders constitute the regional RITA network. They jointly:

- Identify technical and/or organizational key issues for agricultural development
- Take stock of already available knowledge to address these key issues and what new knowledge or know-how need to be developed.
- Design, implement and monitor development oriented projects (to bridge the gap between identified needs and available references)
- Share locally available references with the RITA stakeholders of the other French outermost regions.

The governance of RITA encompasses two levels:

- national level
  - a national steering committee made of the ministry of agriculture, the ministry of overseas territories, the overseas regional councils, Agricultural chamber's standing committee, ACTA, CIRAD, INRA
  - a national coordination hosted by ACTA and CIRAD
- regional level
  - a regional steering committee made of the regional branch of the ministry of agriculture, the regional council, the regional chamber of agriculture. Co-chairs: the regional branch of the ministry of agriculture and the regional council.
  - a regional coordination (1 coordinator /region) and representatives of the national coordination.

### **1.2.1 RITA Guadeloupe: path and governance**

In 2011, the RITA Guadeloupe was created to:

- Organize and boost collaborative work of the stakeholders of agricultural development.
- Identify and prioritize key actions to be undertaken for agricultural development, and especially to improve local market supply with locally produced goods.
- Support implementation of research programs, extension activities, technicians and farmer training.
- Share technical references and extension methods with RITAs of the other outermost regions.
- Facilitate the access of the stakeholders to European, national or regional funding.

#### **Some key figures of Guadeloupe Agriculture (2010 agricultural census)**

7804 farms but only 13% full-time producers.

Average farm size: 4 ha

Average farmers age: 51 years

Small size farms (4ha average), mostly specialized

- 54% of farms produce sugar cane
- 10% produce bananas (export or not)
- 36% produce no cane or banana (target group of RITA)

57% of the farms sell their products through short marketing chains.

Public aid to agriculture: 143 million € over the period 2007-2013, equally shared among the 4 main production sectors (sugar cane, banana, animal production, food crops/vegetables/fruits)

Governance of RITA Guadeloupe is built upon the general RITA governance setup described above (point 1.2), with a regional steering committee.

The main functions of the committee are to:

- Ensure that all projects supported by the RITA take into account the principles of RITA (multi-actors projects, including research institutes, extension services and farmers' organizations, and improvement of local market supply),
- Monitor the implementation of the activities.

The implementation of decisions of the regional steering committee is followed up by a regional coordinator.

He organizes exchanges among RITA participants, coordinates projects monitoring and proposes improvements for RITA organization and functioning.

### **1.2.2 The RITA Guadeloupe: an overall action plan**

RITA Guadeloupe implements two main projects:

1. **EvaTransfert** (crops) with 2 main topics: a) varietal screening; b) on farm trial of sustainable cropping practices.  
Two of the innovations processes, which were characterized during the cross-visit, are part of EVA transfer (Yam and citrus greening)
2. **TRANS'Elevage** (animal productions) with 4 main topics: a) feed; b) animal health; c) animal products labelling; d) environment.  
One of the innovations processes, which were characterized during the cross-visit, is part of TRANS'Elevage (Beekeeping / honey characterization)

## **2 The selected innovation cases**

The AgriSPIN team agreed upon a series of four innovative items to be characterized under the AgriSPIN process:

### **2.1 The implementation of the RITA scheme in itself**

The RITA scheme is considered as a multi-partnership organizational innovation, in so far as:

- It gathers all stakeholders of agricultural development so as to mutualize and combine their approaches;
- It acts as an incubator of operational groups under the EIP:
  - Identification of farmers' needs based upon a consultation of their organisations;
  - Collective prioritization of the needs by the RITA members, in line with the objectives of the agricultural policy of the territory (Regional Rural Development Program, National Agricultural Development Plans);
  - Identification of on-going development and research activities likely to contribute to the fulfilment of the selected priorities;
  - Identification of the gaps in the R&D continuum, that prevent the selected priorities from being dealt with; definition and launching of corresponding R&D activities to be undertaken;
  - Ensure that each concerned R&D stakeholder will intervene in its core activities;

### **2.2 The “yam platform”**

The yam platform is considered innovative for two main reasons:

- There is a wish amongst consumers to get locally produced yam, which is better adapted to the local taste, instead of yam imported from Costa-Rica. Therefore, there is a strong potential for local production.
- In Guadeloupe, yam is currently affected by antracnosis (a fungus borne disease), for which research activities were undertaken, and eventually carried out in collaboration between research institutes and technical institutes.

### **2.3 The endeavours to fight citrus greening (the yellow dragon disease)**

Citrus greening broke out in Guadeloupe as the RITA activities were already launched. Citrus greening affects citrus in wide areas, including the major citrus-producing region (e.g. Florida, USA).

The “RITA Guadeloupe” was able to cope with this issue, at constant costs, through reallocation of idle funds (some activities of the overall action plan of RITA were delayed, thus leaving some funds idle).

Therefore, the “citrus greening” activity is considered an innovation since:

- It was introduced as an emergency response to an unexpected situation, thus showing the ability of the RITA scheme to deal with crucial issues in a flexible manner;
- It has triggered joint research activities between organisations who were acting separately since then, in order to speed up the upcoming of solutions to address the citrus greening issue.

## **2.4 The association-borne initiative to characterize locally produced honey (“Apiloc” project) and to select queen bees**

This case study differs from the others, since it involves more limited scientific inputs: there is no R&D project specific to the actions, except some links with the University of Corsica.

The approach is considered innovative because it is driven by the professionals themselves, who mobilize expertise and funds as far as they need it / can do it. Apigua, a beekeepers association gathering most beekeepers of the territory, is the driving force.

### **2.4.1 Selection of queen bees**

The selection programme undertaken by Apigua aims at supplying well-selected queen bees to apiarists. A fecundated queen bee is sold at 25 €/pc. The demand currently exceeds the supply. The process of spreading queen bees with high genetic potential is of paramount importance to increase honey production.

### **2.4.2 Pollens characterization**

This activity was initially undertaken through the acquisition of needed methods and know-how at the University of Corsica. It is now on-going, with the scope to establish a pollen databank.

Organoleptic tests and chemical analysis are also carried out with the support of the neighbouring island of *La Martinique*, which is equipped with an adequate laboratory.

The ultimate goal is to get a PDO (protected designation of origin), or a PGI (protected geographical indication), which are crucial in order to differentiate locally produced honey from imported honey.

Generally speaking, the development of signs of quality like PDO and PGI is a top ranking priority of the national agricultural policy, especially in the overseas territories.

## Background

- Social events against the high costs of living in 2009 - 1.5 months of blockade in Guadeloupe!
- Discussions during the overseas national General Committee to improve the Guadeloupian society
- Need for agricultural diversification (animals and plants), keeping in place the pillars of local agriculture: cane and banana
- Shared willingness to consolidate research, development and training, particularly in the field of transfer
- 2011: launching of the agricultural innovation and transfer networks (RITA) to promote the diversification of agriculture in the overseas territories (DOM) and to contribute to the development of a local production of quality foodstuffs.

## Objective

- To have the stakeholders of agricultural development, working in a coordinated manner, so as to :
  - identification and ranking of the needs of the professionals
  - co-construction and achievement of experiments, demos, and dissemination actions in order to address the needs expressed by the professionals
  - exchanges between overseas territories

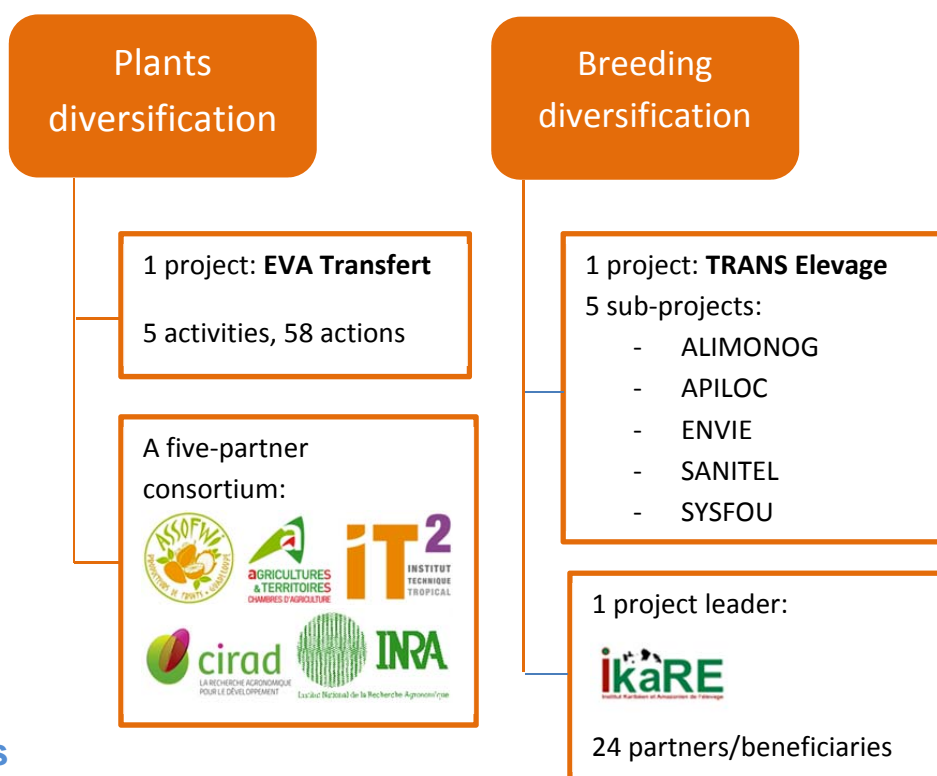
## Core principles

- Mobilize agricultural structures to form a network of actors who work in a concerted, coordinated and non-redundant manner
- Implement multi-partnership projects
- Respond to the farmers' needs
- Use the outputs of research and value the previous works
- Transfer and disseminate the results of projects at farm level
- Innovate and promote the transition towards agro-ecological practices.

## Organization and operation

- Regional Steering Committee (CPR), chaired by the Director of Agriculture (State), up to 2014, and co-chaired by the Regional Council since 2015, to:
  - validate projects and their funding
  - ensure the consistence of all the actions carried out at the local level
- A regional coordinator who facilitates the operation of the network (information between stakeholders, the life of the network, organization and facilitation of transfer actions, etc.)





## Landmarks

- Creation: 2011
- Launching of projects: 2012
- Projects in Guadeloupe:
  - TRANS'Elevage (diversification in breeding)
  - EVA Transfert (diversification in plants)
- Partners bearing projects:
  - CIRAD and INRA (research institutes)
  - IT<sup>2</sup> and IKARE (agricultural technical institutes)
  - Agriculture Chamber of Guadeloupe
  - ASSOFWI (christophines and fruit producers association)
- Associated partners:
  - APIGUA (Guadeloupe beekeepers association)
  - EPLEFPA (agricultural high school, esp. the high school's farm)
  - Professional agricultural organizations
- Requested funding for 2012 – 2015:
  - CIOM (French State) ≈ 2,5 Mio €
  - FEADER (European funds) ≈ 2,5 Mio €



## From RITA1 to RITA2: a transitional period

- Projects under RITA1:
  - CIOM-FEADER funding up to 2014
  - Mobilisation of State funds in 2015
  - Some projects come to an end, some others are pursued
- RITA 2:
  - Needs identification achieved in 2015
  - Change in governance: Regional Steering Committee co-chaired by the State and the Region
  - Waiting for funds from State-Region-FEADER



# YAM

## Breeding, evaluation and diffusion of anthracnose-resistant varieties

### Brief description of the innovation process

Following the outbreak of anthracnose disease in the 70s, two independent yam breeding programs were launched by INRA and CIRAD to create anthracnose-resistant varieties.

Since 2011, RITA supports the innovation dynamics, especially through facilitating and supporting the creation of a multi-stakeholder varietal breeding program and evaluation platform.

### Context and challenges

- Strong competition with imported Yam (Central America / Costa Rica), and the desire of local authorities to preserve local yam production.
- Difficulty to maintain anthracnose-resistant yam varieties since the fungus mutates very rapidly.
- Long runs breeding process (initiated in the 90s by INRA) revitalized and strengthened by the support of RITA-Guadeloupe in 2011.
- No farmer's organization in the yam sector.

### Innovative Points

- The existence of a multi-stakeholder varietal evaluation platform.
- Local network with collective decision-making and complementary activities.
- Complementary breeding programs (INRA + CIRAD).

### Activities and results

- Collective strategic thinking and planning.
- New anthracnose-resistant yam varieties, adapted to farmers' needs.
- Implementation and monitoring of a collective breeding program.
- Extension flyers describing varieties for farmers as well as yearly technical meetings to display the results of the program.

## The yam sector in Guadeloupe

With a traditional value, the yam is a local product characterized by a wide varietal diversity. In Guadeloupe, 40 yam varieties are currently grown and each farmer cultivates usually several varieties.

It has become a common practice for farmers to use vegetative multiplication (replanting of bits of yam tuber) for replantation. This practice fosters a high level of anthracnose pressure (and other diseases).

## Anthracnose on yam

Anthracnose is a disease of yam leaves caused by a fungus (*Colletotrichum* spp). It causes spots on the leaves. The spots grow and leaves fall when the petiole is attacked. The plant completely loses its photosynthesis capacity, stops growing (as well as the tubers) and then dies.

## Yam and Chlordecone

Chlordecone is an organochlorine pesticide. It is a non-biodegradable persistent organic pollutant (POP). Until 1993 it was used for the treatment of banana plantations. Chlordecone is absorbed by yam tubers. Soils polluted by chlordecone are unfit for yam cultivation.

## INRA

Agricultural Research Centre. In Guadeloupe a 2 staff research team is involved in the yam research program: *Dalila PETRO (breeder) and Régis TOURNEBIZE (agronomist)*

## CIRAD:

Agricultural Research Centre. In Guadeloupe a 3 staff research team is involved in the yam research program: *Gemma ARNEAU (breeder); Denis CORNET (plant pathologist) ; Eric MALEDON (technician)*

## IT2 tropical Technical Institute

Exist since 2008. Involved in the RITA 1.

IT2 was initially established by banana producers of Guadeloupe and Martinique. It is supported by fifteen producers' organizations involved in banana production and diversified crops.

The IT2 has two missions: a) to provide effective and sustainable technical solutions for priority topic identified by local farmers, b) to implement large scale extension of research results.

**Staff:** *Patrice CHAMPOISEAU (head of the diversification department, coordinator of the yam project); Lévy LAURENT (technician)*

## SICAPAG

SICAPAG is a Producers' Organization with focus on marketing fresh (daily harvest) fruits and vegetables, herbs and flowers. SICAPAG sells local fruits and vegetables to wholesalers and retailers. It ensures product traceability and represents many yam producers.

**Staff:** *Fabien BURGER technician*

## UPROFIG:

It used to be, from 2000 until 2008, a farmers' organization specialized in yam production.

## Chambre d'Agriculture de Guadeloupe

The Chamber of Agriculture is a privileged public authority's partner. It has a dual mission:

- Representation of all economic actors of agriculture.
- Farmer assistance for their development.

The Chamber of Agriculture is a public institution led by elected representative farmers and run by specialized agricultural technicians.

It has long experience in supporting the yam breeding program through management of on-farm trials.

**Staff:** *OSSEUX Julian; head of plant diversification service; SOUPRAYEN Franck, farmer, member of the chambre d'agriculture board.*

# CITRUS

## Boosting citrus production in Guadeloupe

### Brief description of the innovation process

Development and implementation by all stakeholders of the citrus production sector of an innovative method of disease management, at two time scales:

- short-term: a) establishment of a healthy seedling plant; b) extension of new plantation practices in order to reduce the pressure of the disease vector and to initiate a biological control of this vector.

- medium term: a) selection and dissemination of varieties tolerant to citrus greening; b) design and dissemination of cropping systems, reducing the pressure of the disease vector.

Change from a “*Managing citrus greening*” plan to a “*Boosting citrus production*” plan.

The planned activities should be accompanied by sanitation of the entire island via uprooting of all infected citrus plants.

### Context and challenges

- Outbreak of Citrus Greening in 2012 in Guadeloupe; rapid infestations throughout the island, the death of most trees producing limes, oranges, tangerines and other citrus fruits.
- Patrimonial value of citrus in Guadeloupe (for the local “Tipunch”).
- Highly controlled introduction of plant material in the area.
- Wish to maintain local production of citrus.
- Difficulty to completely eradicate the disease, need to develop new cultural practices to maintain production coping with the disease.

### Innovative points

- Implementation of a production chain for healthy seedlings.
- Selection of citrus varieties tolerant to citrus greening.
- New cultural practices to reduce pest pressure.
- Coordination of all stakeholders in the citrus production sector.

### Activities and results

- Implementation of a citrus sector coordination group, involving all stakeholders of the sector and including specific technical committees for action.
- Launching a healthy/certified citrus seedling industry, including large scale rootstock production, and large scale healthy graft production.
- Finalization and dissemination of a specification regarding healthy seedling production (for nurseries) and a “replanting guide” for citrus producers.
- Identification and conservation of specific local citrus varieties.
- Information leaflets about the disease for producers and local authorities.
- Implementation of a “*citrus greening monitoring network*” throughout Guadeloupe.

### The citrus sector in Guadeloupe

In Guadeloupe, citrus production (350ha) is considered as a diversified production, mainly commercialized on local markets. The import of citrus is important and oranges, limes and small citrus fruits are produced with a very limited number of varieties.

### The citrus greening disease

Citrus greening is one of the most harmful diseases for citrus. It affects all the plants of the *Rutaceae* family, including all commercial citrus species. The disease is caused by the bacterium *Candidatus Liberibacter spp.*, which is transmitted by two species of insect belonging to the *psyllids family*.

## Large scale healthy seedlings production

Healthy seedling production involves private plant nurseries to set up the rootstock garden with a diversity of rootstock species (to meet the diversity of production areas) and a grafts amplification unit to multiply the tolerant varieties selected by research.

### Assofwi

It was created by fruit growers. Its first objective is the development of fruit diversification in Guadeloupe. It provides technical advices and training to its members. It also tests new cultural practices in collaboration with research centers. The majority of fruit producers are ASSOFWI members.

**Staff:** *Frederic BOURSEAU, President and farmer; Jean-Marc PETIT vice president and farmer; Youri UNEAU; technician in charge of ASSOFWI activities in RITA*

### CIRAD:

Agricultural Research Centre. In Guadeloupe a 3 researchers team is involved in the citrus greening program: *2 breeders (Patrick ALLITRAULT and Daniele ROQUES); and a plant physiologist (Raphael MORILLON)*

### SICA des Alizés

Producers' organization. It gathers vegetable and fruit producers for marketing their products. The 4 largest citrus producers are members of SICA des Alizés. This organization doesn't represent producers not willing to sell in supermarkets.

**Staff:** *David MAGNIN, technician*

### The Chambre d'Agriculture de Guadeloupe

The Chamber of Agriculture is a privileged public authority's partner. It has a dual mission:

- Representation of all the economic agricultural stakeholders.
- Farmer assistance and support in their development.

The Chamber of Agriculture is a public institution led by elected farmers' representatives and run by specialized agricultural technicians. It has long been supporting fruit production.

**Staff:** *Gilda MONERVILLE technician in charge of fruit production*

### IT2 tropical Technical Institute

Existing since 2008. IT2 was initially established by banana producers of Guadeloupe and Martinique.

The IT2 has for missions: a) to provide effective and sustainable technical solutions for priority topics identified by farmers, b) to implement large scale transfer of research results.

**Staff:** *Patrice CHAMPOISEAU head of diversification project; Liliane PHANTHARANGSI technician in charge of the healthy seedlings production program*

### FREDON

The Regional Federation of Protection against Harmful Organisms is a professional organization in charge of coordinating collective actions against crop pest and diseases. In this context, it conducts epidemiological survey activities.

**Staff:** *Christina JACOBY KOALY head of FREDON 971; Thomas MERLE in charge of citrus greening disease.*

# BEEKEEPING

## An association at the center of innovative actions

### Brief description of the innovation process

- A queen bees breeding and screening program to improve prolificacy in order to maintain the bee herd at an economically interesting size in the area.
- A program of honey characterization to get certified geographic origin labelling for Guadeloupe honeys and to improve livestock management (management of transhumance).

### Context and challenges

- Strong competition with imported honeys.
- No beekeeping research in Guadeloupe.
- Wish to maintain and improve beekeepers income: a) stabilizing and increasing production, b) better marketing.
- Pest pressure (Varroa mite) causing high mortality among hives.
- Poor organization of the honey sector: need for better representation of beekeepers, more technical and marketing support.

### Innovative points

- Breeding/screening and supply of new prolific queen bees to beekeepers.
- Introduction of a quality/origin label for Guadeloupe honey.
- Linking beekeeping research/technical networks in France and other DOM to get exchanges and support from other outermost regions.

### Activities and results

- Establishment of a queen bee breeding station.
- Supply to beekeepers of improved: queen bee cells, queen bees and swarms.
- Publication of a flyer on “honey plants” of Guadeloupe.
- Implementation of a pollen databank.
- First characterization of Guadeloupe honeys.
- Initiation of interDOM collaboration (through RITAs programs): interDOM queen bees selection program; common database on honey plants; bee health (e.g. efficient authorized drugs); common training programs.

### Beekeeping in Guadeloupe

- About 5500 beehives nowadays and 200 beekeepers (including 35 full-time professionals).
- Honey quality recognized locally (very good image with consumers) and nationally (prizes at the Concours Général de Paris; the award of “best French beekeeper 2016” went to a Guadeloupean beekeeper, who is also the technician of Apigua, see next point).
- Honey production under pest constraint: Varroa mite outbreak since 1995, pest pressure depending on weather and environmental conditions (pollution, droughts and other)
- High influence of imported honey: 60% of the consumption.

### **Apigua (Guadeloupe beekeepers association)**

Apigua was created in 1983. For the last 20 years its activity has been weak.

Apigua missions are: structuring the honey sector; supplying technical support to beekeepers, and advertising on Guadeloupe honey.

**Staff:** *Jacques PASSAVE, President and beekeeper; Benoit FOUCAN technician and Beekeeper*

### **Ikare (Caribbean and Amazonian Institute of Livestock)**

Ikare is the local technical institute on livestock. It gathers several organizations specialized on animal species (pig, cow, sheep or bee).

IKARE has two missions: a) to provide effective and sustainable technical solutions in the topics identified as priorities by professionals, b) to conduct a large scale transfer of research results.

**Staff:** *Xavier XANDE, Director*

### **SICA Myèl péyi Gwadeloup**

Beekeepers organization with a marketing objective (supply of equipment to beekeepers and marketing of honey).

**Staff:** *César-Auguste OLIVIER, President*

### **Natural products chemistry laboratory; Corte University - France**

Scientific aboard support to APIGUA.

### **Abroad**

Frequent contacts with the Cuban beekeeping sector, currently dwindling since Guadeloupe is perceived as a potential competitor in the Caribbean area.

### 3 Key Questions

How did the environment influence the 3 innovation processes?  
What are the key points of success in the 3 innovation processes?  
What could be improved in the innovation processes?  
How did the 3 innovation processes benefit from RITA-Guadeloupe?

#### innovation

What is new?  
For whom is it new?

What problem does it solve?  
What is the benefit?  
Who benefits?  
Does it affect the interests of other actors?  
Are there any side effects (positive / negative)?

#### innovation process

What was the first spark?  
Who took initiative?

What stages can be recognised in this process?  
How far is it now?  
What are the current obstacles?  
What do key actors expect from the near future?

#### innovation support

What is the contribution from the host partner?

What would not have happened without this support?  
What is the potential for the near future?  
Do the key actors have wishes regarding the support they can obtain?

#### actors and networks

Which actors play a key role in this innovation process?  
Who are the main drivers?  
Are there any actors who actively resist the changes?

Which networks are important for this innovation process?  
What is their importance?  
Who keeps these networks healthy?

#### environment

Which external factors play a role here?

Which changes in the environment influenced the actors to take initiative?  
What external factors were helpful?  
What external factors were obstacles?

#### critical incidents

Have there been any crisis in this process?  
What was the cause?  
Who did what to overcome this crisis?

Have there been big surprises in this process?  
What have been the consequences?

Has there been a turning point in this process?  
How did it change the course of the process?

#### dissemination

What is the influence of this innovation on the environment?

Do others show interest in what is happening here?  
Do others change their practices because of what they see here?  
Is dissemination being actively promoted? By whom?

#### future perspectives

Suppose all their dreams come true, what will be the situation after a few years?

What will be the main challenges to overcome, for realising this dream?

What will be their strategy to do so?



## 4 Methodological process during cross-visit

At the beginning of the cross visit the participants were split into 4 groups corresponding to the 4 innovation dimensions investigated during the visit:

1. **Innovation process:** *What was the first spark? When did it get momentum? What difficulties had to be overcome? What was helpful? How does it continue now?*
2. **Actors and networks:** *Which actors have been involved over time? What was their role? What networks were they part of? How important are these networks?*
3. **Environment** (Physical landscape, cultural, economic, political...): *What external influences have been important? Were they helpful or negative in the process?*
4. **Main characteristics of the innovation:** *What is innovative about the new practice? What kind of innovation is this? How applicable is it?*

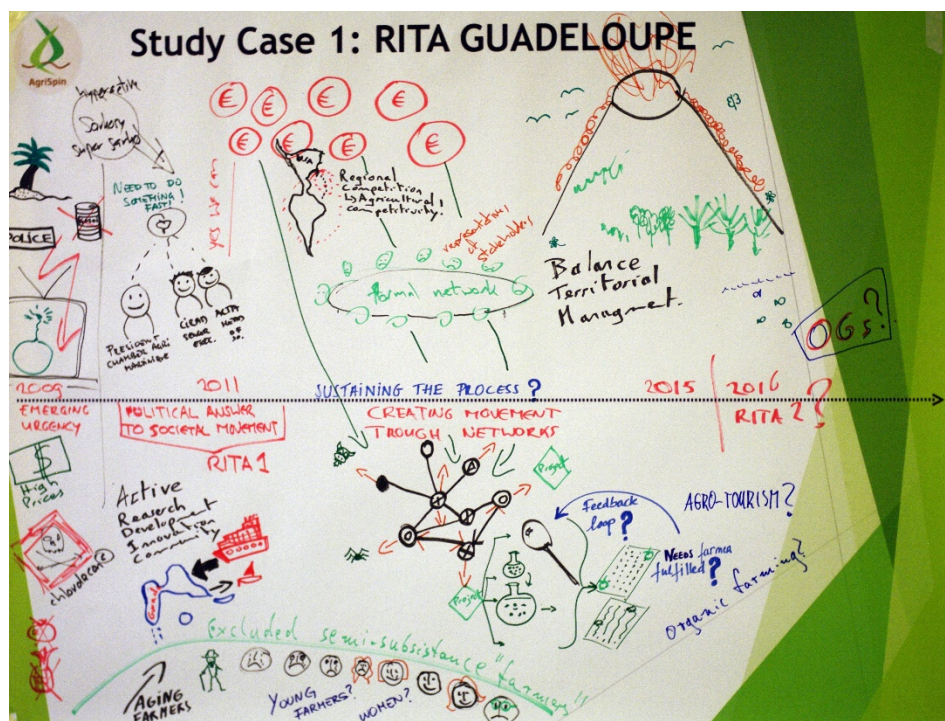
Every evening after the visits, the participants drew the timeline/rich picture of the innovation process visited during the day. Each of the 4 group contributes on its own dimension. Collective exchanges took place to reach an agreement on the main steps (milestones) and characteristics of the innovation process (when and what). The group collectively draws a rich picture of the innovation.

After the 4<sup>th</sup> visit, an internal meeting was organized to capitalize and compare the key information which have been gathered for each of the 4 innovation processes. Exchanges were focused on the 4 dimensions of the analysis, then summarized and grouped in pearls and puzzles. The outcome of this analysis/characterization will be presented and discussed with RITA stakeholders at the final symposium.

At the symposium, after the presentation of the key outcome of the 4 visits, symposium participants were split into 4 groups of 10/12 peoples each. The objective of the group sessions was to contribute and to enrich the pearls and puzzles. Those contributions were then shared with all participants during a plenary session.

## 5 Analysis of the innovation processes

### 5.1 Innovation process 1: RITA Guadeloupe

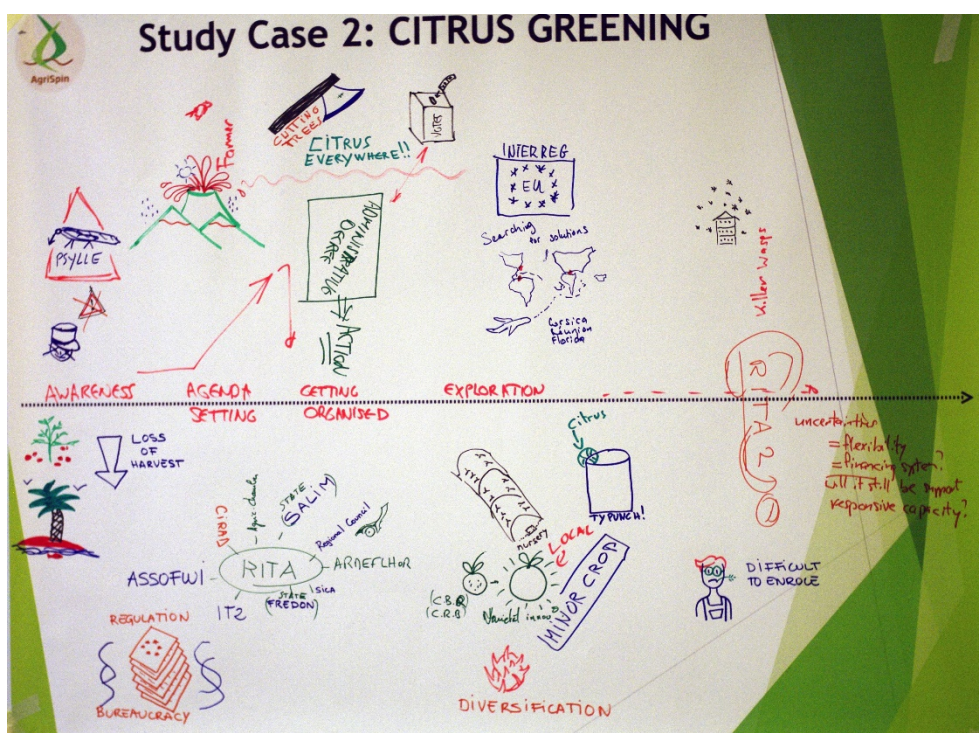
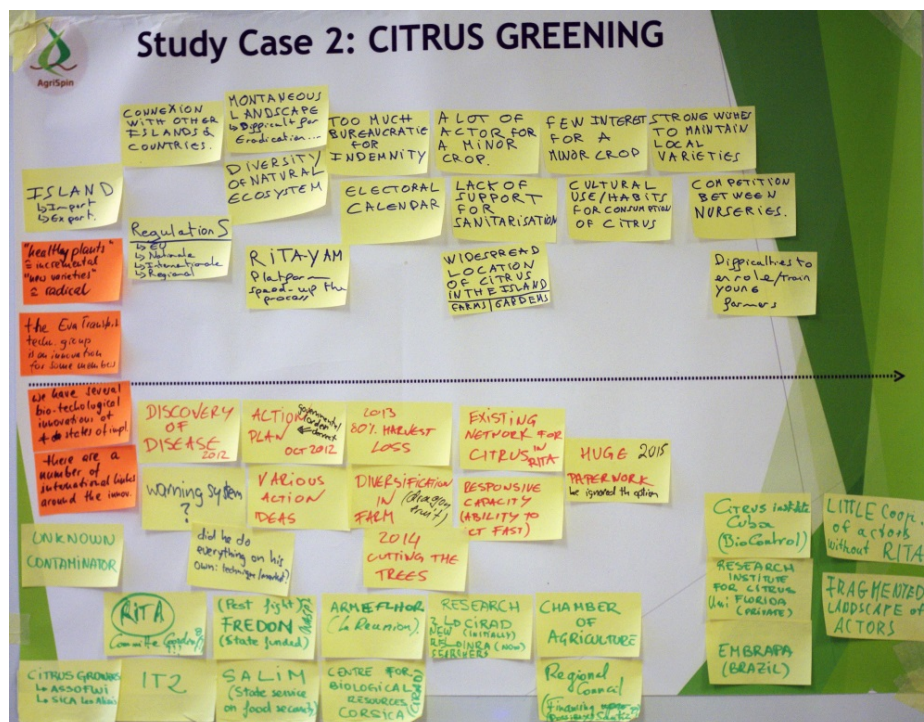


	BEFORE	THE AHA MOMENT	THE PROCESS	NOW	FUTURE
<b>DATES &amp; MILE-STONES</b>		<ul style="list-style-type: none"> <li>• 2009 social and economic crisis</li> <li>• general strike against the high cost of living</li> </ul>	<ul style="list-style-type: none"> <li>• 2011 Inter-ministerial decision to launch a RITA in Each outermost region</li> <li>• ACTA and CIRAD mandate to implement RITA</li> <li>• Forming and mobilizing a network to create changes</li> </ul>	<ul style="list-style-type: none"> <li>• 2016 RITA2</li> <li>• Regional council Guidance</li> <li>• Co-construction phase</li> </ul>	<ul style="list-style-type: none"> <li>• Operational group of EIP</li> </ul>
<b>INSPIRING &amp; STRICKING POINTS</b>	<ul style="list-style-type: none"> <li>• High reliance on import for foodstuff</li> <li>• High prices of foodstuff</li> <li>• Environmental pollution (chlordecone crisis) especially on foodstuff like Yam</li> <li>• High level of subsidies</li> <li>• Very active Research and development community, but poor cooperation among institutions.</li> <li>• High demand for food safety/security</li> <li>• Specific production conditions (island, tropical,)</li> </ul>	<ul style="list-style-type: none"> <li>• Population affected by the scarcity of food</li> </ul>	<ul style="list-style-type: none"> <li>• Political answer to social movement → top down approach</li> <li>• Locally DAAF guidance</li> <li>• Flexibility of funds</li> <li>• Have needs of the farmers been fulfilled?</li> <li>• Which feedback from farmers?</li> </ul>	<ul style="list-style-type: none"> <li>• Real dynamics in network?</li> <li>• Sustainability of the process?</li> </ul>	





## 5.2 Innovation process 2: Citrus Greening

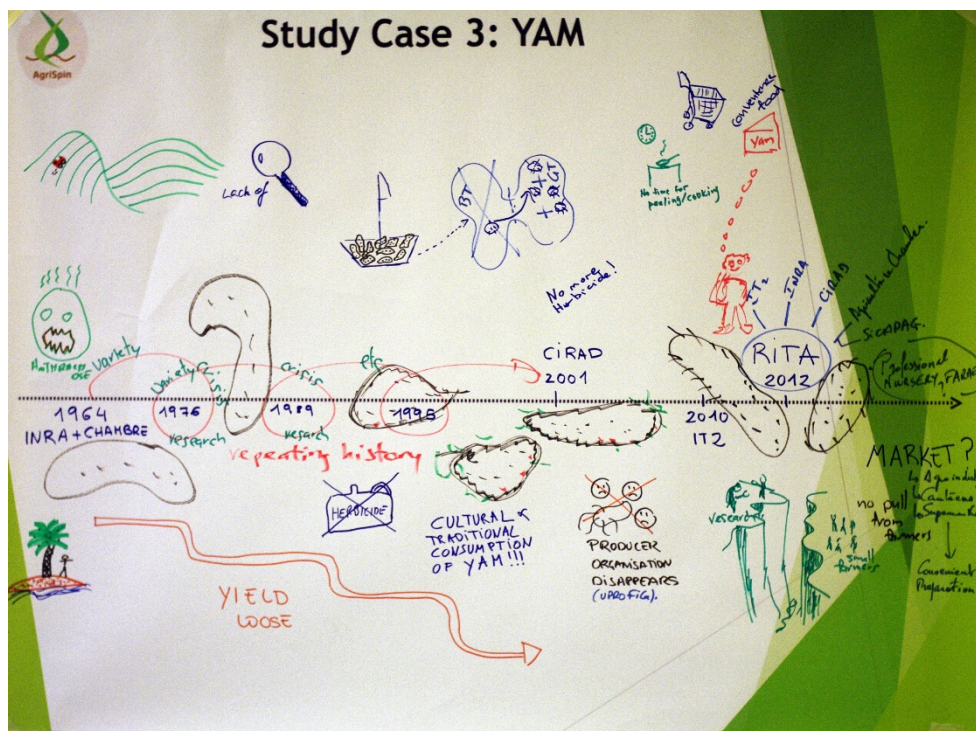
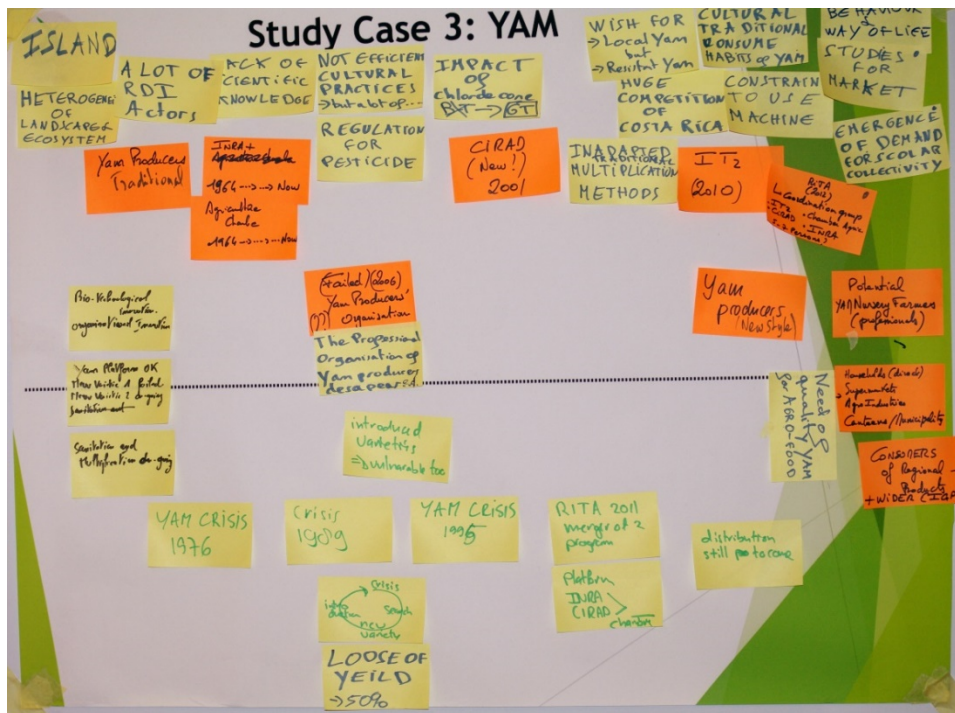


	BEFORE	THE AHA MOMENT	THE PROCESS	NOW	FUTURE
<b>DATES &amp; MILE-STONES</b>	<ul style="list-style-type: none"> <li>• 2011 launch of RITA</li> <li>• Already an innovation process for citrus</li> </ul>	<ul style="list-style-type: none"> <li>• 2012 Discovery of the disease</li> </ul>	<ul style="list-style-type: none"> <li>• Oct 2012 Action plan</li> <li>• 2014 cutting of trees</li> <li>• Launching of healthy plant production (nurseries, rootstock, grafts)</li> <li>• Varietal research program on tolerant varieties</li> <li>• Links with other territories to look for solutions (Caribbean, American, La Réunion, Corsica)</li> </ul>	<ul style="list-style-type: none"> <li>• A lot of Citrus farms disappeared Diversification of remaining farms</li> <li>• No sanitation program (no budget/technically difficult to implement)</li> </ul>	
<b>INSPIRING &amp; STRICKING POINTS</b>	<ul style="list-style-type: none"> <li>• Cultural habits of consumption of citrus</li> <li>• Widespread location of citrus in the island (farms and private gardens)</li> <li>• 2011 Launch of Yam platform with the same institutional stakeholders IT2/CIRAD/INRA</li> <li>• Exiting network for citrus in RITA</li> </ul>	<ul style="list-style-type: none"> <li>• 2013 80% harvest loss</li> <li>• Strong wishes to maintain local varieties</li> <li>• Order from local authorities to cut infected citrus trees</li> </ul>	<ul style="list-style-type: none"> <li>• High responsive capacity (ability to act quickly)</li> <li>• little interest of the local authorities to financially support citrus producers fir replanting</li> </ul>		





### 5.3 Innovation process 3 Yam

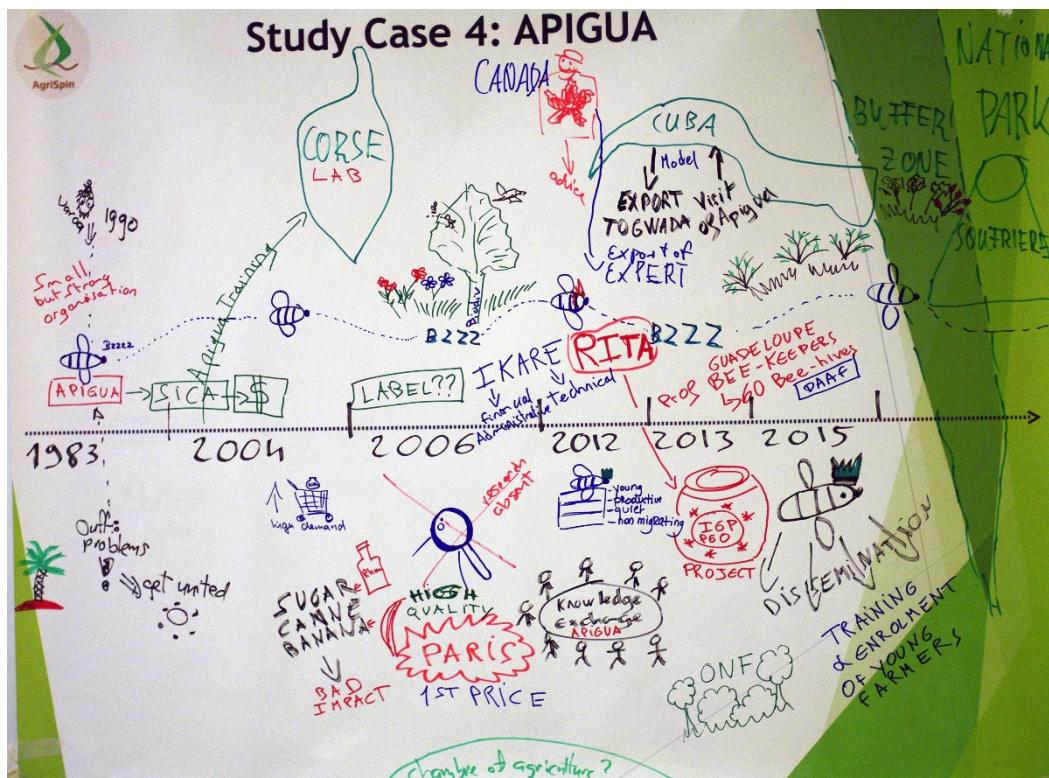


	BEFORE	THE AHA MOMENT	THE PROCESS	NOW	FUTURE
<b>DATES &amp; MILE-STONES</b>	<ul style="list-style-type: none"> <li>• 1976, 1989 and 1995 Yam Crisis (anthracnose) yield losses</li> <li>• 1993 Chloredecone polluted soils banned for Yam production</li> <li>• Since 2006 no more yam producers organization</li> <li>• 2010 IT2 developed a diversification department</li> </ul>	<ul style="list-style-type: none"> <li>• 2011 launching of RITA</li> <li>• Launching of a Yam Platform coordinating all stakeholders of the Yam sector</li> </ul>	<ul style="list-style-type: none"> <li>• Collective definition of a strategy</li> <li>• Coordination of varietal breeding and screening program of CIRAD and INRA.</li> <li>• Coordination of on-farm trials together with agriculture chamber.</li> </ul>	<ul style="list-style-type: none"> <li>• No production yet of healthy seedlings of new tolerant varieties</li> <li>• Still strong competition of yam imported from Costa Rica</li> </ul>	<ul style="list-style-type: none"> <li>• Emergence of demand form local quality yam from households, supermarkets, catering operators</li> <li>• Interest of commercial nurseries for healthy yam seedlings production</li> </ul>
<b>INSPIRING &amp; STRICKING POINTS</b>	<ul style="list-style-type: none"> <li>• Cultural and traditional consume habits of Yam</li> <li>• Long runs breeding process, but difficulties to maintain resistant yam varieties</li> <li>• Separate research programs of INRA and CIRAD</li> </ul>		<ul style="list-style-type: none"> <li>• Coordination of research and extension activities of all stakeholders</li> </ul>		





## 5.4 Innovation process 4 Beekeeping





	BEFORE	THE AHA MOMENT(s)	THE PROCESS	NOW	FUTURE
<b>DATES &amp; MILE-STONES</b>	<ul style="list-style-type: none"> <li>• 1986 launching of APIGUA</li> <li>• Varroa introduced in Guadeloupe causing mortality among hives</li> <li>• 2004 Network outside Guadeloupe (Corsica, Canada, Cuba)</li> </ul>	<ul style="list-style-type: none"> <li>• 2006 awareness: to rely more on indigenous breeds and to go for local quality honey (labeling)</li> <li>• to valorize local biodiversity (natural honey)</li> </ul>	<ul style="list-style-type: none"> <li>• 2012 several Trip to CUBA</li> <li>• 2012 design of the honey Characterization project</li> <li>• 2012 Canadian expert for queens breeding</li> </ul>	<ul style="list-style-type: none"> <li>• Bee queens production farm</li> <li>• Supply to beekeepers of improved queen bee and queen bees cells</li> <li>• Ongoing characterization study</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthening of relations with National park and ONF for installation of beehives in and around the forest reserve.</li> <li>• Official labeling of Honey</li> </ul>
<b>INSPIRING &amp; STRICKING POINTS</b>	<ul style="list-style-type: none"> <li>• Competition with imported honey (Cuba) but high local demand</li> <li>• No research on beekeeping in Guadeloupe</li> <li>• APIGUA very dynamic</li> <li>• Passionate members exchange monthly their experience</li> </ul>			<ul style="list-style-type: none"> <li>• Support from RITA for characterization study</li> </ul>	

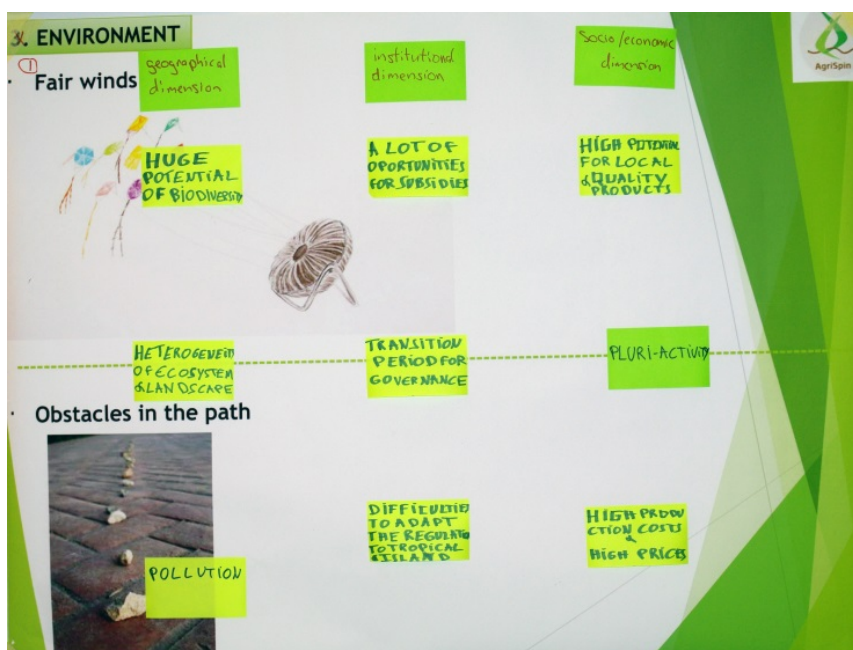


## 6 Elements of synthesis

### 6.1 Environment

The macroeconomic and institutional environment of the innovation processes in Guadeloupe is differentiated in three main dimensions:

- A dimension that refers to the geographical framework, including biophysical, climatic, agronomic components
- An institutional dimension that refers to norms, rules, governance frameworks that shape the conditions of access to resources and markets.
- An economic and social dimension that refers to market trends, production costs and prices.



	Geographical dimension	Institutional dimension	Socio economic dimension
Fair winds	Huge potential of biodiversity	A lot of opportunities for subsidies	High potential for local and quality products
Obstacles in the path	<i>Heterogeneity of ecosystems and landscape</i>	<i>Transition period for governance of agricultural development</i>	<i>Pluri-activity of producers</i>
	Pollution	Difficult to adapt regulations to a tropical island	High production costs and high prices

The upper part of the table show key opportunities identified during the visit, the lower the main constraints. Are positioned between the two "elements" that can be constraints and / or opportunities depending on the specificity of the innovation process or of the stakeholder system.

#### 6.1.1 The geographic, biophysics, climate and agricultural dimension

In terms of opportunities:

The richness of plant and animal biodiversity is a universally recognized potential resource. This has to be simultaneously valorised, both economically and socially, and protected.

The Valorisation can be achieved through the development of quality products with high added value; designed either from existing products (e.g. honey), or in creating new products or services (e.g. in phytopharmacy).

In terms of constraints.

The major constraint is pollutions caused by unreasoned intensive use of pesticides (e.g. Chloredecone crisis). This constraint creates two types of consequences for ongoing innovation process:

- Constraints on land use as crops are banned from certain areas and the need for spatial relocation of productions like yams and pumpkin.
- A societal requirement to stop using certain pesticides, or drastically reduce their use, in a context of strong social and political pressure on the issue.

At the constraints/opportunities interface is the high heterogeneity and spatial fragmentation of natural ecosystems.

This diversity can be seen as a constraint as standard technical solutions (varieties, crop management, or use of inputs) do not take it into account. The best adaptation strategy of the technological offer to that diversity is to strengthen the innovation capacity of farmers as they are the final users of inventions or knowledge proposed by agricultural research.

This diversity can be seen as an opportunity for research because it allows a variety of experimental conditions to validate research results and the range of their generalization.

#### **6.1.2 The institutional dimension.**

In terms of opportunities

The insularity creates conditions for access to European subsidies that support investment and enable to take risks.

In terms of major constraints.

The need to adapt the standards developed in the context of Europe or mainland France to the island situation of Guadeloupe. These adaptations must include:

- conditions of use of agricultural inputs (aerial spraying for example ...)
- products marketing conditions
- review of the status of farmer and therefore the conditions of access to subsidies.

Between constraints and opportunities is the current transition period in the political governance that has two major impacts:

- The transfer of the EAFRD management authority from DAAF to the Guadeloupe region
- The change in policy of the regional council.

The pre-election period has blocked urgent decisions needed to mobilize European funds.

#### **6.1.3 Social and economic dimensions**

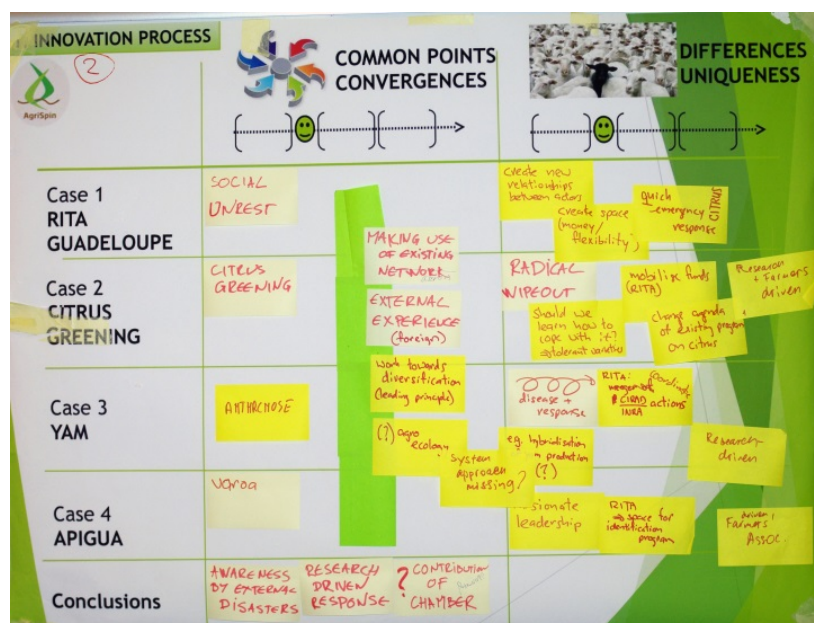
In terms of constraints : High cost of imported agricultural inputs (related to insularity), of labour, of agricultural and food products create unfavourable competitive conditions for local production or on export markets (fruits, flowers, rum ...).

In terms of opportunities: Strong consumer demand for local produce is related to cultural eating habits. The quality of demand for health products is linked to the awareness caused by previous to health crises. Both demands create favourable conditions for local innovation processes.

In terms of the intermediate variables, the group identified involvement of some producers in diversified activities systems

- Diversified activities systems is a constraint as it creates instability of agricultural production and difficulty to stabilize farmer's organizations. The participation of these organizations to innovation processes is required to mobilize European funds.
- Diversified activities systems however create opportunities for innovation. It builds bridges between knowledge networks and therefore accelerates innovation process (e.g. honey).

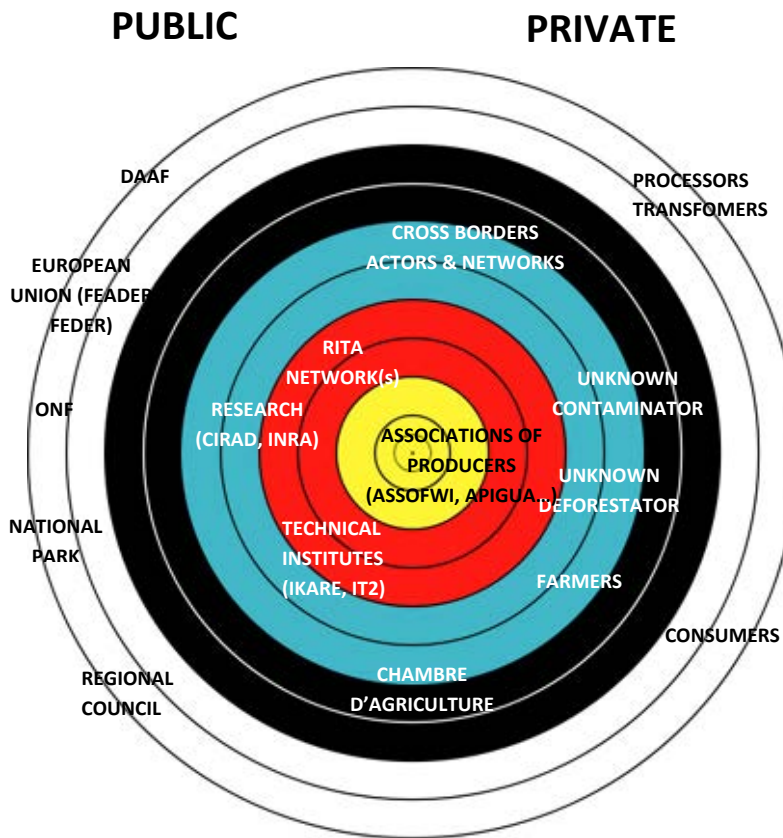
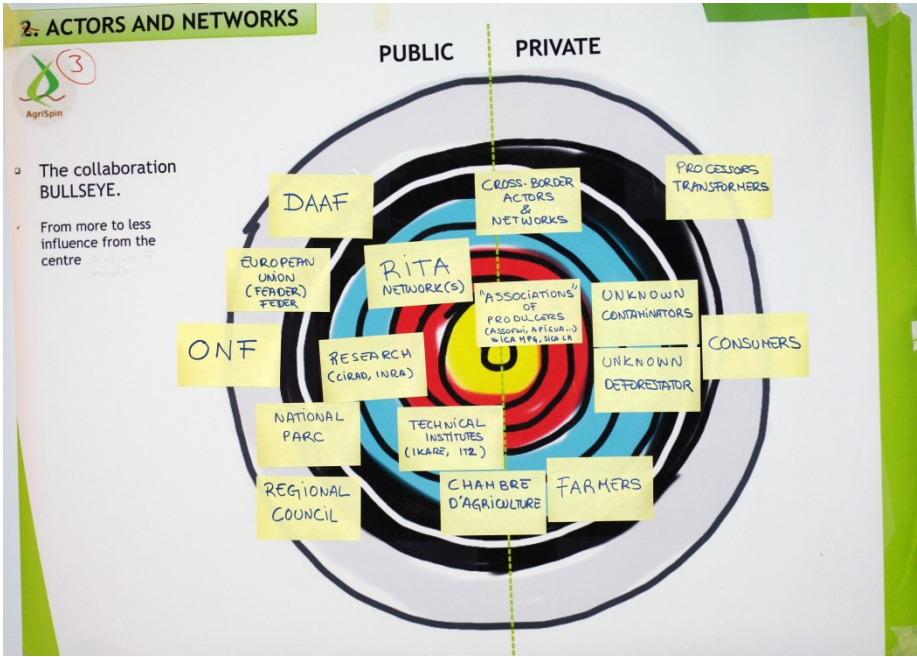
## 6.2 Innovation processes



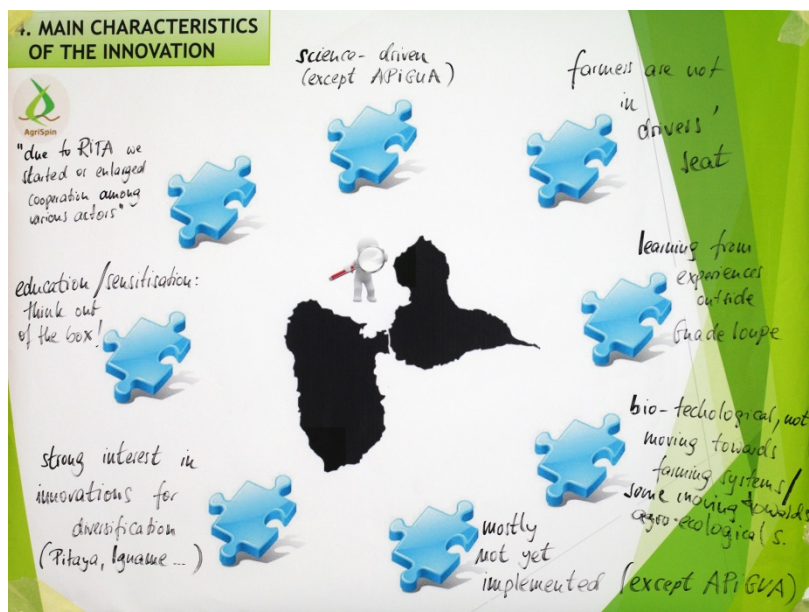
	Common points Convergences		Differences Uniqueness
<b>Innovation process 1</b> <b>RITA</b> <b>Guadeloupe</b>	Social unrest		<ul style="list-style-type: none"> <li>• Create new relationships between stakeholders</li> <li>• Create space for flexibility (quick emergency response for citrus)</li> </ul>
<b>Innovation process 2</b> <b>Citrus</b> <b>Greening</b>	Psyle/citrus greening	<ul style="list-style-type: none"> <li>• Making use of existing networks</li> <li>• Mobilizing external experience/knowledge/ know-how</li> </ul>	<ul style="list-style-type: none"> <li>• Radical wipe-out</li> <li>• Should we learn how to cope with it? → tolerant varieties</li> <li>• Research + farmers driven</li> <li>• Change agenda of existing programs on citrus</li> <li>• Mobilize funds (RITA)</li> </ul>
<b>Innovation process 3</b> <b>Yam</b>	Anthrachnose	<ul style="list-style-type: none"> <li>• Work towards diversification (leading principle)</li> <li>• Agroecology and systemic approaches missing?</li> </ul>	<ul style="list-style-type: none"> <li>• Research couldn't bring a durable solution (new resistant variety → mutation of the fungus)</li> <li>• Yam platform (RITA) to coordinate research activities of CIRAD and INRA</li> <li>• Research driven</li> </ul>
<b>Innovation process 4</b> <b>Beekeeping</b>	Varroa		<ul style="list-style-type: none"> <li>• Passionate leadership</li> <li>• RITA → space for identification program</li> <li>• Driven by beekeepers association</li> </ul>
<b>Conclusions</b>	Awareness by external disasters Research driven response Contribution of Chamber of agriculture?		



### 6.3 Actors and networks



## 6.4 Main characteristics of the innovation

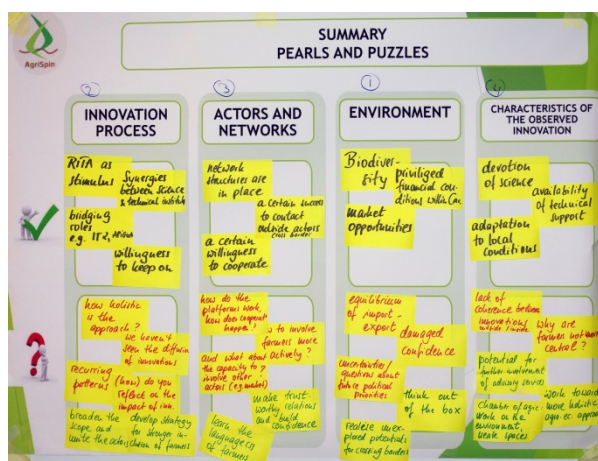




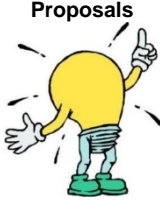
### Main characteristics of the Innovation:

- Science driven (except APIGUA)
- Farmers are not in the driver's seat
- Learning from experiences outside Guadeloupe
- Bio-technical, not moving towards farming system/ some moving towards agro ecological
- Mostly not yet implemented (except APIGUA)
- Strong interest in innovation for plant diversification (Pitaya, Yam...)
- Education/ sensitization of the actors: "think out of the box"!
- "Due to RITA we started or enlarged cooperation among various actors"



## 6.5 Summary pearls and puzzles



	Environment	Innovation process	Actors and networks	Characteristics of the observed innovation
<b>Pearls</b> 	<ul style="list-style-type: none"> <li>Biodiversity</li> <li>Market opportunities</li> <li>Privileged financial conditions</li> </ul>	<ul style="list-style-type: none"> <li>RITA as stimulus</li> <li>Synergy between scientific and technical institutes</li> <li>Bridging roles (IT2, APIGUA)</li> <li>Willingness to keep on</li> </ul>	<ul style="list-style-type: none"> <li>Networks structures are in place</li> <li>A certain success to contact outside actors (cross border)</li> <li>A certain willingness to cooperate</li> </ul>	<ul style="list-style-type: none"> <li>Devotion of science</li> <li>Availability of technical support</li> <li>Adaptation to local conditions</li> </ul>
<b>Puzzles</b> 	<ul style="list-style-type: none"> <li>Equilibrium of import-export</li> <li>Damaged confidence</li> <li>Uncertainties questions about political priorities</li> </ul>	<ul style="list-style-type: none"> <li>How holistic is the approach?</li> <li>We haven't seen the diffusion of innovation</li> <li>Recurring patterns</li> <li>How do stakeholders reflect on the impact of innovation?</li> </ul>	<ul style="list-style-type: none"> <li>How do the platforms work?</li> <li>How does cooperation happen?</li> <li>How to involve farmers more actively?</li> <li>What about the capacity to involve other actors (e.g. market)?</li> </ul>	<ul style="list-style-type: none"> <li>Lack of coherences between innovations outside/inside</li> <li>Why are farmers not more central?</li> </ul>
<b>Proposals</b> 	<ul style="list-style-type: none"> <li>Think out of the box!</li> <li>Release the unexplored potential for crossing border cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Broaden the scope and unite the actors</li> <li>Develop strategy for stronger inclusion of farmers</li> </ul>	<ul style="list-style-type: none"> <li>Make truth-worthy relations and build confidence</li> <li>Learn the languages of farmers</li> </ul>	<ul style="list-style-type: none"> <li>Potential for further involvement of advisory services</li> <li>Chamber of agriculture work on environment, create space</li> <li>Work towards more holistic agro-eco approach</li> </ul>

## 7 Discussion

The final symposium held on January 19<sup>th</sup>, gathered about 40 persons (including 12 AGRISPIN members and more than 25 stakeholders) in the facilities of the Chamber of Agriculture of Guadeloupe.

The results and analysis of the AGRISPIN team described above were presented to the participants.

Then the stakeholders were split in three groups for the parallel sessions. The main comments coming out the groups are synthetized bellow.

### 7.1 Results of the group discussion in the symposium

The favorable funding conditions identified by the AGRISPIN team need to be relativized. Indeed, the RITA scheme helps the small actors, sectors and organizations but **most of the subsidies available in Guadeloupe are captured by the main sectors** (Banana – Sugar Cane), outside the RITA scheme.

Moreover, the access conditions to RITA funding and to most of the available funds evolves quite a lot and is **more and more competitive and seems more and more complex** for the stakeholders (from a RITA state lead management to a RITA region lead management: this transition period is key and need a lot of investment and effort to become effective).

It might be useful to involve associations promoting agroecology into Rita network. Conditionality for access to subsidies, closely linked to major corps, is not adapted to the organization of a diversified agriculture, dominant in Guadeloupe. How to take this into account in supporting innovation processes for diversification crops?

Stakeholders of the diversification sectors should take into account the fact that access to subsidies will also be linked to their ability to demonstrate their impact.

The RITA stakeholders should also investigate **how it's managed in other EU regions** (through ERIAFF) and mostly in federated states such as Germany in order to learn from other organizations and various experiences.

The Guadeloupian agriculture should benefit and take advantage from its own isolated environment and **better organize short supply chains** (school canteens, etc...). This would require a better coordination with local collectivities and also the national organization for social aids (CAF).

It is necessary to nuance the demand for organic products by local consumers. Due to limited purchasing power, a growing part of the population is looking for the cheapest products. Also supply the institutional market involves selling local production at low prices.

There are a lot of opportunities outside Guadeloupe to harvest new knowledge and know-how that the stakeholders should develop **but also within Guadeloupe in other innovations sectors**.

Last, the Agricultural sector should also better **consider the bioeconomy and the biodiversity potential** of the island that represent and outstanding wealth.

On the ecosystem diagnostic, the geographic and biophysical components seem to have been somehow forgotten. For the characterization of the "institutional ecosystem" it would be needed to ensure that stakeholders were taken into account in the analysis.

The majority of participants at the workshop found that the innovations presented are very "technological". Thus it was suggested to extend RITA support to other types of innovation processes. For example on the case study "citrus" the need to innovate in new modes of coordination between stakeholders was emphasized.

The various innovation processes identified often have a "cyclical" pattern, based on seeking solutions to technical problem that generates new questions....

It is necessary to escape this cycle through more radical innovation paths.

The workshop participants emphasized the strong influence of scientific research in the governance of the innovation process. Yet successful case studies (beekeeping) indicate that

innovation processes that mobilize existing knowledge and expertise also allow achieving economic success.

The question is whether these innovation processes, with high potential, does not deserve to be more strongly supported in the second phase of RITA.

The workshop participants noted a lack of coherence between "exogenous innovations" brought by scientific research knowledge, and "endogenous" innovations.

The participants were wondering why farmers don't have a more central role in the innovation process. A condition of successful innovation is often related to 'commitment' of farmers in the innovation process. For example, in Flanders, many innovations come from farmers' initiatives.

Several recommendations were made to identify endogenous innovations. It has been proposed to rely on "mediators" trust by farmers or on passionate producers; to have a comprehensive approach of farm management.

It was emphasized that the studied innovations process are not at farmers appropriation phase. This is puzzling as some innovation processes are ongoing since a long time.

It also appears useful to break down barriers between research teams' so that innovations processes that strengthen integration of agriculture and livestock can be taken into account.

It was recalled that RITA Guadeloupe first phase of was launched in an emergency. The preparation of the second phase was done with consultation / participation of all stakeholders, but it is always necessary to look for ways to change the initial patterns of operation and organization set up in the emergency.

The first phase of RITA has strengthened the capacity of institutions, organizations and individuals to cooperate and thus increase the number of stakeholders who cooperate.

It also enabled sharing of results and development of partnerships between research and technical institutes. The second phase must improve the integration of producers and their organizations.

All participants noted the willingness of individuals to cooperate, but are questioning the willingness of institutions to collaborate. So if the current networks are working well; they are missing platforms for "open innovation"



## 8 Workshop Suggestions for RITA strengthening

AGRISPIN team underlines the margin for improvement to better commit farmers and small producers association at the heart of the project that would significantly improve the uptake of innovations in the farming sector.

Indeed, this uptake but also the technical upgrade of skills by farmers and producers would complement the huge research potential that characterize Guadeloupe.

In the current system many endogenous innovation process are not listed and therefore not supported.

There was a consensus on the necessity to expand the network of stakeholders in the second phase of RITA with a greater involvement of producers.

This expansion should also include stakeholders outside of agriculture, as innovation networks in other sectors could be useful. It would be worth identifying their connection with agriculture and their usefulness for agricultural innovation in Guadeloupe.

In that way, the facilitating role (Already active through Manuel GERARD position as RITA Coordinator) should be strengthen as it is a way to generate trust with farmers and to better understand them and commit them, seeking for passionate and front-runners farmers who have this multiplier potential.

The RITA should also commit new actors to “think out the box” (criticism on the pattern between problems and solutions) and open-up its mind on the processes, but so far it has been difficult because the RITA 1 projects have been set-up in emergency, based on the existing dynamics, networks and relationships among actors.

There’s obviously margin for improvement in this way for the RITA 2 scheme and its governance and mainly the way to commit stakeholders as actors of the projects.

However, the RITA allowed to defragment actors, networks and activities and to resolutely bring cross-cutting and multi-actor approaches in the daily works. The actors should continue these efforts through more holistic approaches and also agro ecological and mixed-farming systems approaches.

Regarding the transfer and the impact of the RITA activities, there’s a need to mutualize the results and still to commit more farmers in the actions for a better and faster adoption and to maximize the dissemination potential.

A “proximity dissemination”, not only towards the stakeholders in direct contact with the RITA actors but towards the whole Guadeloupian should be the main objectives of RITA2.

As everywhere in the world, it’s also difficult to measure the impacts of the projects regarding the maturity level of the outputs ...but involving farmers as implementer of the results would help to improve these expected impacts.

Working on the economic impact would help to fulfil RITA’s missions and attract and commit more and more producers.

In many situations of low "adoption or dissemination" of innovations has been noted. It would be important to support "innovative producers" to reaches the farmers who are not in direct links with research. The RITA-Guadeloupe does not yet have all the tools that could support this extension process.

It is also necessary to look at other experiments to adapt the economic model of the RITA funding to include extension activities.

Uncertainty and reduction of available budget discourage RITA to integrate new stakeholders.

The question is raised as to which governance arrangements should be put in place to allow these enlargements.

Finally, the participants noted that the diagnostic method generates interesting results, in a short time, but two interrogations were raised:

- How this method could better reference innovation process based on endogenous knowledge, know-how?
- How to develop easily implementable tools to assess adoption and impact of innovations?



## 9 Lessons learned

The Cross-Visit in Guadeloupe allowed highlighting several striking points in the organization of the RITA scheme and the related innovation processes:

- The main added-value of the RITA lies in its **reactivity potential to face challenges and pop-up crises** (i.e. sanitary crises such as Citrus Greening). The flexible management and funding scheme that characterize the RITA allows to quickly gather the relevant actors and stakeholders and to set-up projects in response to a specific and emerging challenge.
- Moreover, the second added-value lies on **the multi-actor and multi-stakeholder consultation and organization to address the challenges**. The fact that each kind of actor (researcher, engineer, advisor, farmers etc...) works at his dedicated place and does what it does best in a synergistic and complementary way between actors is valuable for the projects and the innovation processes. **RITA allowed shifting from a “fragmented cooperation model” to a “coherent and dynamic path”**.
- The third added-value that came out of this visit is the **strong willingness of the Guadeloupian actors to learn from outside the island** (i.e. Cuba, Corsica, etc...) and to foster knowledge and know-how exchanges between RITA actors and abroad...even if there's still margin for improvement.
- A weakness of the RITA scheme identified during the visit is that when there's a **lack of organization of the producers** (i.e. in active associations) and more generally of a certain farming sector and when the **activities are not sufficiently steered by the farmers** themselves, there's a clear **lack of impact and innovation uptake by the farmers** (i.e. APIGUA strong impact VS YAM weak impact).
- Particular effort should and will be given to the **consultation process of the farmer's professional organization to help them to formulate their needs** in the perspective of the RITA 2 phase to enhance effectiveness of the future actions.

## 10 Annex 1: participants to Agrispin Guadeloupe Cross visit

Organisation	Country	Name	Photo
University of Hohenheim	Germany	Andrea Knierim	
HAZI	Spain	Damiana Maiz	
Region Tuscany	Italy	Alessandra Gemitti	
LLKC	Latvia	Anita Diebele	
VLK	Germany	Michael Kuegler	
ZLTO	The Netherlands	Eelke Welinga	
Innovatiesteunpunt	Belgium	Ilse Geyskens	
IFOAM EU Group	Belgium	Yulia Barabanova	
CIRAD	France	Pierre Rebuffel	
CIRAD	France	Ludovic Temple	
ACTA	France	Philippe Prigent	
ACTA	France	Adrien Guichaoua	

## 11 Annex 2: detailed program

Tuesday 12th of January			
16h – 18h <b>Airport Point à Pitre</b>	· Participant pick –up and transfer to the Hotel “Paradis Tropical”(2 waves)	20 h <b>BASSE - TERRE</b>	Dinner · <b>Presentation of the methodology</b>

Wednesday 13th of January - Study Case 1 : RITA GUADELOUPE			
9h – 13h <b>Regional Council</b>	<ul style="list-style-type: none"> <li>- Welcome meeting and presentation of Guadeloupe and of its agriculture</li> <li>- Presentation of AgriSpin project and methodology</li> <li>- <b>STUDY CASE 1 : « RITA Guadeloupe »</b></li> </ul>	15h – 16h30 <b>Banana farm of M. Charles Henri ADOLPHE in La Digue, Capesterre-Belle-Eau</b>	· Visit of a banana farm in agro-ecological transition and successful in facing the challenge of quality production

Thursday 14th of January - Study Case 2 : CITRUS GREENING			
8h – 9h30 <b>Farm of M. Jean-Marc PETIT in Saint-Claude</b>	Visit of a farm affected by the Citrus Greening	9h30 – 13h <b>ASSOFWI at Bouchu in Vieux-Habitants</b>	Presentation by RITA’s partners on the action plan implemented to face the “Citrus Greening” 15h – 16h30 <b>CIRAD at Roujol in Petit-Bourg</b>
		15h-16h30 <b>Nursery of M. Louis PETIT</b>	Visit of experimental plots (group 1) Visit and exchanges on the multiplication of healthy plants (group2)

Friday 15th of January : Case Study 3 : YAM			
9h-10h <b>Farm of M. Franck BUFFON in Saint-François</b>	Technical and public visit organized by a farmer: harvest of resistant yam varieties	10h-13h <b>Farm of M. Franck BUFFON in Saint-François</b>	Presentation by RITA’s partners of the implementation of the yam platform 15h – 16h30 <b>INRA centre à Duclos à Petit-Bourg</b>
			Visit of experimental plots and RITA 2 perspectives

Saturday 16th of January : Social Day in Marie-Galante - <i>Small scale family farming</i>			
9h30 – 10h30 <b>Visit of the Rum distillery “Le Bielle”</b>	10h30 – 11h30 <b>Visit of the Manioc farm of Ms. Darin</b>	11h30 – 12h30 <b>Meeting with beef breeders of the <i>galets</i> zone and of an autonomous solar water pump</b>	14h30 – 15h15 <b>Visit of the syrup plant farm of M. Maurin</b>
18h30 – 22h <b>Social dinner and Caribbean night with <i>the RITA’s partners</i></b>			



Tuesday 19th of January : SYMPOSIUM	
9h-13h <b>Chamber of Agriculture at <i>Convenance in Baie-Mahaut</i></b>	<ul style="list-style-type: none"> <li>- Feedback and exchanges on the study cases of RITA Guadeloupe</li> <li>- Presentation of AGRISPIN Cross-visits of Belgium and the Basque Country</li> </ul>

Monday 18th of January : Study case 4 : APIGUA				
08h– 09h30 <b>Reproduction center of Queens bees in Saint-Anne</b>	Visit of the reproduction center of Queens bees	10h – 12h30 <b>APIGUA association former agricultural high school in Baie-Mahaut</b>	Exchanges with farmers and the responsible of APIGUA association	15h – 18h <b>Preparation of the final symposium</b>

## 12 Annex 3: Map of the visits

<b>Day 1:</b>
<ul style="list-style-type: none"> <li>• Welcome Meeting</li> <li>• Case study 1: RITA Guadeloupe</li> <li>• Visit of a banana farm</li> </ul>
<b>Day 2 :</b> Case study 2 : Citrus Greening
<b>Day 3 :</b> Case study 3 : Yam
<b>Day 4:</b>
<ul style="list-style-type: none"> <li>• Trip to Marie-Galante</li> <li>• Caribbean dinner</li> </ul>
<b>Day 5:</b>
<ul style="list-style-type: none"> <li>• Case study 4 : APIGUA</li> <li>• Preparation of the symposium</li> </ul>
<b>Day 6:</b> Symposium

