

**PUBLIC SERVICE
EXCELLENCE AWARD 2017**

ENTRY FORM

Theme:

*“Fostering creativity and innovation
to better respond to citizens’ needs”*

PUBLIC SERVICE EXCELLENCE AWARD 2017

INTRODUCTION

The Public Service Excellence Award (PSEA) is one of the many tools used to drive the public service towards becoming a more dynamic, customer-centric and highly performing institution. It encourages team work and a culture of excellence across the public service.

Its overall objective is to recognise and reward meritorious efforts of Ministries/ Departments and their respective Section/Division/Unit which have strived and travelled the extra mile to improve public service delivery and customer satisfaction in a noticeable manner. It is also a reliable instrument to foster innovative management practices in public sector organisations.

THE THEME

The theme chosen for the 2017 Edition of the PSEA is *“Fostering creativity and innovation to better respond to citizens’ needs”*. This theme is meant to give an added dimension to the ongoing effort of Government to enhance the quality of public service in line with Vision 2030 and the 3-Year Strategic Plan.

THE AWARD

The best three submissions will receive the Gold, Silver and Bronze Awards in order of merit. The Winners will also be offered cash prizes as follows:

Gold Award : Rs 100,000
Silver Award : Rs 60,000
Bronze Award : Rs 40,000

ELIGIBILITY

All Ministries/Departments or Divisions/Units are eligible to participate in the Award.

However, Grand Winners of the previous editions of the Award are not eligible for participation for the next two editions following the year of their award.

ADJUDICATION

A Panel of Jury will be set up to assess the submissions.

APPLICATION

Applications should be submitted on the appropriate Form which is available on the website of this Ministry at <http://civilservice.govmu.org>. Information provided by participants should be factually correct, comprehensive and concise.

A hard copy, duly signed by a member of Senior Management, and a soft copy of the submission should reach this Ministry by **31 July 2018**, at latest, at the following address:

Administrative Reforms Division

Ministry of Civil Service and Administrative Reforms

Level 10, SICOM Building 2, Corner Chevreau & Rev Jean Lebrun Streets, Port Louis

Tel: 405 4100 (PABX) - Extension: 10224 / 10225

Fax: 211 5047

Email: mcsa-ar@govmu.org

Website: <http://civilservice.govmu.org>

All submissions should be typewritten. **Handwritten or incomplete submissions will not be considered.**

NOTES FOR GUIDANCE

In their submission, organisations are required to bring forth their achievements for the past 12 months in terms of “**Best Practice**” (*as defined below*) and provide a substantive overview thereof so as to justify what qualifies them to be the potential winner of the Award. Organisations are encouraged to include written documentary evidence in support of their write-ups.

Definition of a Best Practice

A Best Practice is the implementation of a method/process/procedure/activity that has proven to work efficiently and effectively and produced remarkable results, and is, therefore, recommended as a model for other organisations to emulate.

For Office Use

Ref:

Date of receipt of Entry Document: / /

Date of acknowledgement: / /

ENTRY FORM

1. PROFILE OF ORGANISATION

Name of organisation : Entomology Division, Agricultural Services,
Ministry of Agro-Industry and Food
Security

Address : Reduit

Full name (*Block Letters*) of Contact Person : PREEADUTH SOOKAR

Post held by Contact Person : Principal Scientific Officer

E-mail Address : psookar@govmu.org

Telephone Number : 466 4983

Contact address, if different from above :
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.....

Name (*Block Letters*) and Signature of Senior Manager who validated the submission : Mrs REHANA BIBI KUREEMUN

(*SIGNATURE*).....

Telephone Number of the Senior Manager : 401 2800 Ext. 2805

Title of the Best Practice : Improved rearing of honey bees

Start date : Jan 2017

2. AREAS OF BEST PRACTICE

Organisations are requested to submit a well-defined Best Practice that has contributed to make substantial changes/improvements in management practices inspired by a combination of any of the ten pillars below. (*Pillars concerned by the practice must be selected from the list below*)

■	<p>Growth and Development <i>Public Sector business, programme and service delivery solutions that facilitate the inclusion of social and economic growth, keeping pace with the way society is evolving and are reflective of the diverse Nation we serve.</i></p>
■	<p>Business Transformation <i>Anticipation and responsiveness to the evolving client needs through modernisation and business transformation including the efficient use of resources and effort in developing a new workplace, culture and ethos.</i></p>
■	<p>Innovation and Acceleration <i>Making use of science, research, technology, innovation, institutional knowledge, data analytics, smart practices, shared information and knowledge for ideas generation and concept mapping.</i></p>
■	<p>Digital Transformation <i>Making use of technology, E-platforms (such as e-procurement, etc), tools and applications as an accelerator for improved quality service, efficiency, productivity, performance and results.</i></p>
■	<p>Smart Process <i>Making use of objective-oriented systems to simplify and automate business processes to be forward-thinking, rapid, responsive and efficient.</i></p>
■	<p>Strong Governance and Institutional arrangements <i>Ensuring that the right oversight and guidance for good governance, compliance, ethics, integrity, transparency, accountability, legal, operational and performance frameworks are in place.</i></p>
■	<p>Performance <i>Ensuring greater coordination and clarity of objectives, goals, roles and responsibilities and performance outcomes and providing the right tools, resources equipment and physical environment to enhance efficiency, productivity and employee commitment and motivation.</i></p>
■	<p>Capacity Building and Capability Development <i>Developing capacity, capability and learning to ensure that employees are continuously adopting and developing new skills, capabilities and technical/behavioural competencies while giving high priority to digital skills.</i></p>
■	<p>Implementation <i>Planning, design and implementation of projects, programmes and priorities are integrated so that the right people, funding, resources, logistics, infrastructure are in place and there is a shared ownership of outcomes.</i></p>
■	<p>Customer Satisfaction: The Bottom line <i>Improvement in customer experience and making public services efficient, transparent and equitable based on consultation and feedback from clients. The public and clients are at the heart of policy development, programmes, services and actions.</i></p>

3. EXECUTIVE SUMMARY

3.1 Provide an executive summary of the Best Practice successfully implemented by your organisation. (Not more than 300 words)

Honey bees are our friends. They produce honey for us and they pollinate our crops so that we can get quality fruits and vegetables. The population of honey bees in Mauritius is decreasing because of several reasons namely due to (i) presence of new pests that attack honey bees, (ii) heavy use of pesticides that kill them, (iii) cutting and removal of trees/shrubs/bushes/grasses that were providing nectar and pollen to the bees, and (iv) poor knowledge of beekeepers on proper rearing of honey bees. Honey production was 25 tons in 2017 compared to 20 tons in 2016. Beekeepers were trained on the rearing of honey bees. The number of trained beekeepers increased from 118 in 2016 to 157 in 2017 with over 30% being ladies. The bee hive has been modified. There is now a metal grid and a drawer at the base. When bees clean themselves, the varroa mite falls down and get stuck in the basement where a glue is placed. In order to make the bee hive lighter for transportation, the size has been reduced from 12 frames to 10 frames. Organic wood is used for the construction of the beehive so that organic honey can later be produced. A model of the new beehive was given free to more that 100 beekeepers. For the control of the small hive beetle, a trap was evaluated and is now being used by beekeepers. To combat the decrease in area of melliferous plants, for the first time two bee reserve zones were created with the plantation of 17,000 melliferous plants including 3000 fruit trees. Honey bees have now a dedicated place for collecting nectar and pollen. A new legislation to control the use of pesticides was drafted. This law will minimise the use of pesticides which are toxic to honey bees.

4. MOTIVATION FOR THE ADOPTION OF THE BEST PRACTICE

4.1 What were the problem areas faced by the organisation and how were beneficiaries affected? (Not more than 300 words)

There was a drastic decrease in the population of honey bees resulting in a reduction in honey production and the production of quality fruits and vegetables. 30% of crops are dependent on pollination by honey bees. In other words, without honey bees crop production would decrease by at least 30%.

Two most devastating honey bee pests were accidentally introduced in Mauritius. The varroa mite was reported in 2014 while the small hive beetle was detected in 2015. Beekeepers lost many colonies. The bees were killed by the pests. Beekeepers produced significantly less honey. Hence, they suffered a lost in beekeeping. The honey production which was 35 tons in 2013, dropped to 15 tons in 2015. Honey production was 25 tons in 2017 compared to 20 tons in 2016.

Planters produced less seeds and vegetables as there were fewer bees for pollination.

4.2 Describe the plan or strategy adopted to address the problem areas using the ten pillars at Section 2. List down and describe the main elements of the plan or strategy, focusing especially, on their innovative feature(s) and the expected or intended effects. (Not more than 500 words)

SN	Pillar	Main elements	Expected/Intended
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			effects
1	Growth & Development	<ul style="list-style-type: none"> • To control the honey bee pests • To create bee reserve zones 	<ul style="list-style-type: none"> • To increase the number of bee colonies • To provide nectar and pollen to honey bees • Bees get access to sites that are free from pesticides
2	Business Transformation	<ul style="list-style-type: none"> • To set up the Apiculture Platform of Mauritius • To re-activate beekeepers' associations 	<ul style="list-style-type: none"> • To provide a platform where all stakeholders in apiculture (beekeepers, traders, research institutions, Ministry of Agro Industry, University of Mauritius) could meet to discuss and prepare a policy on apiculture • To enable beekeepers to meet so that they can share their experience, import materials at a cheaper price and sell their honey with a label
3	Innovation & Acceleration	<ul style="list-style-type: none"> • To test upgraded beehives for the management of the varroa mite • To assess traps for the control of the small hive beetle • To test the effect of decreasing the number of frames from 12 to 10 • To assess the effect of reducing the size of wax foundation in the bee frame 	<ul style="list-style-type: none"> • Varroa mite is properly managed with the upgraded beehive and the number of swarming is reduced. • The trap is able to significantly trapped the beetle • The hive is lighter for transportation • Honey bees will make the size of the cells in the honey comb according to their size. There is no space for the varroa mite to enter the cell and attack the developing larva.

4	Digital transformation	<ul style="list-style-type: none"> • To facilitate registration of beekeepers 	<ul style="list-style-type: none"> • Beekeepers can download the form for registration from the website of the Ministry instead of coming to the Division • Beekeepers can phone or send mail to apply for a training in apiculture • A database of registered beekeepers
5	Smart Process	<ul style="list-style-type: none"> • To find solutions to the problem within a prescribed period 	<ul style="list-style-type: none"> • To test and evaluate the upgraded organic beehive • To evaluate the bee trap • To assess the efficacy of supplementary feeding with bee feed and propolis mixed with syrup <p>So as to find quick solutions to the problem of swarming that beekeepers were facing.</p>
6	Strong Governance & Institutional Arrangements	<ul style="list-style-type: none"> • To minimise the use of pesticides by planters • To proclaim the bee reserve zones 	<ul style="list-style-type: none"> • The Use of Pesticides Bill was drafted with the support of the State Law Office, after consulting planters, planters' associations, importers of pesticides, importers of fresh agricultural produce, consumer associations so as to control the use of pesticides that are toxic to honey bees • The Animal Production was drafted so as to include the proclamation of the bee reserve zones.

7	Performance	<ul style="list-style-type: none"> • To collect feedback from beekeepers • To monitor honey production • To monitor the population of the varroa mite and the small hive beetle in the bee colonies of beekeepers • To monitor the population of bees in plantations 	<ul style="list-style-type: none"> • To obtain information on the efficacy of techniques for pest control and the adoption rate • To obtain information on the pollination rate • To estimate honey production
8	Capacity Building & Capability Development	<ul style="list-style-type: none"> • To train all officers in apiculture • To train beekeepers on new techniques of beekeeping while taking into consideration gender equality 	To train both men and women so as to respect gender equality
9	Implementation	<ul style="list-style-type: none"> • Use of the PDCA cycle to prepare a Mile Stone Chart 	<ul style="list-style-type: none"> • To be able to monitor project implementation and to take timely and appropriate actions to remedy any problem
10	Public/Customer Satisfaction: The Bottom Line	<ul style="list-style-type: none"> • To obtain feedback from beekeepers on the training and recommended techniques for pest control 	<ul style="list-style-type: none"> • To provide information for decision taking • The beekeepers are consulted before solutions are implemented.

5. METHODOLOGY

5.1 What were the quantitative and/or qualitative targets or key performance indicators that were set for the implementation of the Best Practice? (Not more than 300 words)

- To provide capacity building: To train all officers and at least 50% beekeepers on new techniques of beekeeping
- To manage honey bee pests so as to reduce swarming by 75%
- To promote pollination of crops so as to increase production of quality fruits and vegetables by 5%
- To increase honey production annually by 5 %
- To create two bee reserve zones

5.2 (i) Describe in details the involvement of employees and, if any, other stakeholders in the identification of the problem areas. (Not more than 300 words)

The team of seven officers met to carry out a brainstorming session. Some 35 problems were identified. These problems were rated depending whether they could be solved (a) within the Division, (b) with the support of other Departments, or (c) with the support of Top Management. The 35 problems were further rated based on probability of success, implementation cost, acceptability by beekeepers, probability of occurrence and impact on the environment. Problems that had a rating above 30/50 were considered. We also used the 5 Whys Analysis and the Fish Bone. The latter was adopted as it was with details, more explicit and easier to follow. We also had meetings with beekeepers, members of beekeepers' associations, importers of honey, importers of beekeeping equipment and planters to discuss the problems. We end up with six problems that should be solved in order to promote beekeeping.

(ii) How far were employees and, if any, other stakeholders involved in problem solving and decision making? (Not more than 300 words)

The seven employees involved in the project were fully involved in problem solving and decision making. There were both in-official and official meetings organised at the levels of the Division, Director and Permanent Secretary to monitor the project implementation. The notes of meetings were circulated. Several meetings were organised with beekeepers either individually or in groups to discuss the efficacy and adoption rate of the newly recommended techniques for pest control. There were meetings with the importers of environment friendly honey pest control products so that they could explore other avenues to solve the problem. Private carpenters were trained on the construction of the upgraded organic beehive. A soft copy of the beehive plan prepared by the Engineering Division was shared with them.

5.3 How was team work and team spirit fostered to achieve objectives? (Not more than 300 words)

Everybody in our team was agreeable since the very beginning that the problem of honey bees could not be solved by only one officer. We should work as a team so as to be more effective in terms of quality of the task carried out, time and cost. We immediately realised that working as a team increased our individual productivity and workplace satisfaction. Being on the team was itself a source of motivation, status and pride for having been selected to participate. Our output as a team was higher in quality and quantity than individual performance. The credit goes to the team leader who always ensured that there was good communication and participation, clear identification and ownership of the team goal, and clear acceptance of each other's strengths and limitations in a manner that encourages positive working relationships. There were regular meetings over a cup of tea and some stacks.

5.4 What were the measures taken to ensure that resources were used optimally? (Not more than 300 words)

We prioritised the different activities to be implemented depending on the specific objectives to be achieved. They were implemented in order of importance as follows:

- (i) Capacity building of officers and beekeepers,
- (ii) Management of honey bee pests
- (iii) Promotion of pollination by honey bees,
- (iv) Honey production, and
- (v) Creation of bee reserve zones.

We ensured that that the Engineering Division provided us with the right beehive plan with regards to the size of the different compartments/frames and materials to be used. We double checked to make sure that the right specifications were sent to the Procurement Division for the purchase of traps, bee feed, smoker, hat & veil, hive tool and feeder to be used in the project. We monitor the progress of the different activities vis-à-vis the Mile Stone Chart and recorded the action taken.

Weekly plans and weekly reports were prepared by officers responsible for the different activities namely: training of beekeepers, advisory field visits following request and complaints from beekeepers, survey of honey production, bee pests and diseases and trials in private apiaries. The reports were discussed in monthly meetings or earlier if the need arose.

With regards to manual workers, a labour distribution book is kept, verified and signed by the supervisor. A transport distribution book is kept so as to monitor the movement of the vehicles. An occurrence book is used to monitor staff movement. The records which were regularly verified by external auditors, helped to ensure that all resources were used optimally.

6. IMPLEMENTATION OF THE BEST PRACTICE

6.1 Explain how the Best Practice was implemented. *(Not more than 300 words)*

The Best Practices derived from the project were as follows:

- (i) Use of the upgraded organic beehive for the management of the small hive beetle,
- (ii) Use of trap to control the small hive beetle,
- (iii) Feeding of bees during winter period with bee feed and propolis mixed with syrup or honey
- (iv) To fill the frame partly with wax foundation sheet and to allow the bees to construct the cells of honey comb according to the size of the bees. The black bee is small in size. A smaller cell is constructed leaving no space for the varroa mite to enter and kill the developing larva.

The above techniques were first evaluated with our bee colonies. Data were collected and analysed as per the table below.

Table 1. Data collected during the evaluation of the practices

	Old beehive model with conventional practices	Upgraded beehive with new practices
No. of beehives assessed	46	15
% bee colonies swarming (leaving their hives)	96	5
No. of varroa mite per 100 bees	>75	<25

The above data were shared with beekeepers and they were given free an upgraded organic beehive to be used as a model for assessment with their own bee colonies. As an incentive, registered beekeepers were also provided with a hat & veil, smoker and hive tool.

The training provided to beekeepers covered the new practices. There were both theory and practical sessions.

In this way the beekeepers were encouraged to adopt the new practices.

6.2 How were obstacles/bottlenecks resolved? (Not more than 300 words)

Bottleneck could be caused when key team members are absent or are on vacation. To solve this problem, team members have to indicate the period they intend to take vacation leave at the beginning of the year and a planning is done so that the vacation leaves of two officers do not coincide. All team members were equally trained so that they could handle the duties of the colleague who was on vacation.

Procurement process is sometimes lengthy and requested items are most of the times received after at least three months. Taking this time delay into consideration, all requests for procurement were prepared at the beginning of the calendar year.

Approvals of the Permanent Secretary to utilise the allocated funds for project implementation was requested after submission of the project implementation plan. Approval was obtained at the beginning of the calendar year so as not to delay any activity.

6.3 State specifically how the health and safety issues and environment-friendly concepts were taken on board while implementing the Best Practice. (Not more than 300 words)

Only environment friendly techniques were evaluated and recommended to beekeepers.

These techniques include:

- (i) the use of an upgraded organic beehive treated by soaking in melted bees wax for at least 10 minutes instead of one constructed with treated pine and painted on the outside
- (ii) The modification of the beehive to include a galvanised metal grid in the basement for the control of the varroa mite instead of the use of pesticides to kill the pest. When honey bees clean themselves, the varroa mites found on their body falls down, pass through the metal grid and get stuck on the bottom board which is smeared with cooking oil.
- (iii) A trap baited with cooking oil placed in the hive, is recommended for the effective control of the small hive beetle.
- (iv) By not filling the frame with wax foundation, the honey bees construct the cells of the comb according to their size. Small bees will construct honey comb with small cells. Hence, the risk of varroa mite entering the cell to attack the developing larva is significantly reduced. If the frame is completely covered with wax foundation sheet, the bees will construct the cells as per the size in the sheet. Thus, small bees will construct big cells while leaving space for the varroa mite to kill the developing larvae.

- (v) The Use of Pesticides Bill that was drafted, control the use of pesticides by planters. Pesticides are toxic to honey bees. With less pesticides in the environment, honey bees have a higher chance to survive.

6.4 Explain the monitoring and feedback process during the implementation of the Best Practice. *(Not more than 300 words)*

We regularly obtained feedback from the beekeepers during advisory field visits and meetings. Field reports are prepared and discussed in monthly meetings at the Division. If the issues are important, in-official meetings are held to thrash out the problems. We also obtained feedback from beekeepers on the phone and by mail.

Data for the assessment of the best practices were recorded, analysed and reports prepared. The information was used for decision taking.

A feedback form was designed for the training that was offered. The form includes questions on the topics covered during the training, whether the training was useful to them and whether the training materials were adequate. The data from the feedback forms were recorded and analysed and necessary actions were taken.

6.5 Name at least two risk factors that arose in implementing the Best Practice and explain those factors and/or risks briefly. *(Not more than 200 words)*

The first risk factor was whether beekeepers will find it affordable to buy the upgraded organic beehive. Owing to a high number of beekeepers requesting the purchase of the new model beehive, carpenters were able to sell the hive at more or less the same price as compared to the older model.

The second risk was whether there will be enough importers of bee keeping equipment so that the cost of the small hive beetle trap could be kept as low as possible. Owing to the increase in demand for the trap, there were several importers for the traps. The cost of one trap remained around Rs 50 which was affordable by beekeepers.

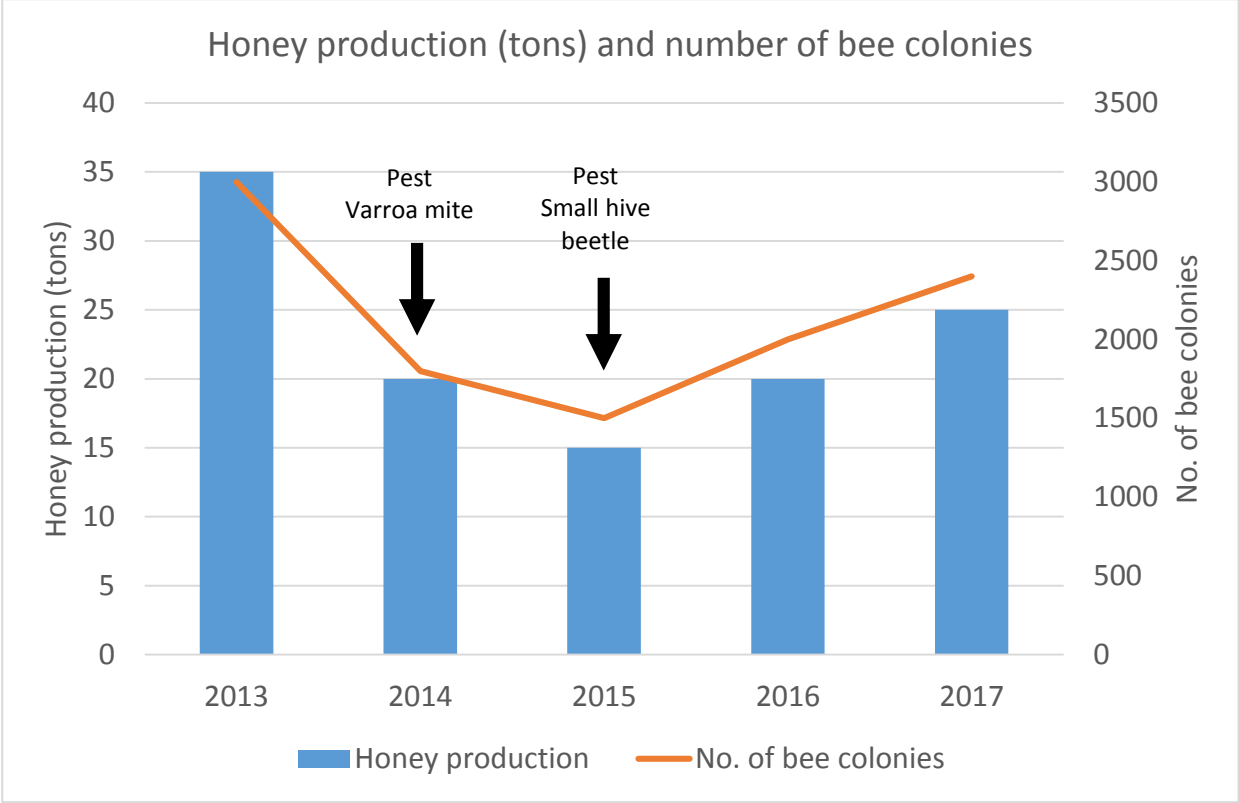
7. EVALUATION OF THE BEST PRACTICE

7.1 Explain how was the evaluation of the impact of the Best Practice conducted? *(Not more than 300 words)*

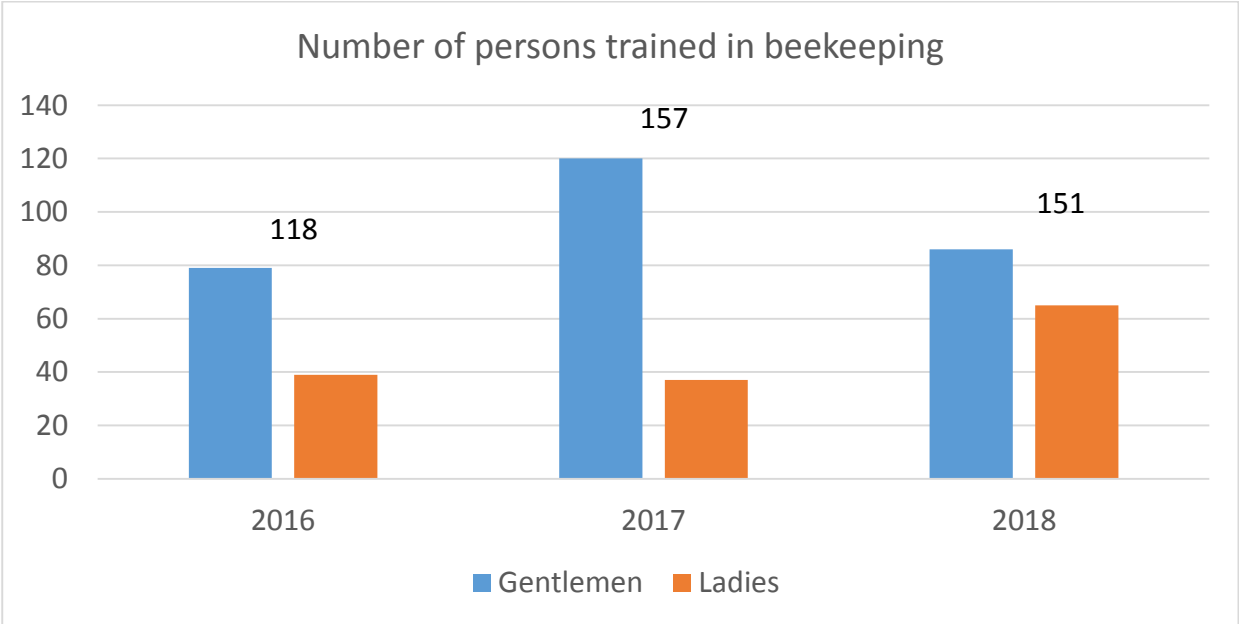
The recommended practices were assessed scientifically as per the Table 1 in Section 6.1. Data were collected, analysed and decisions were taken during meetings. When beekeepers started to use the practices, there was a follow-up by the team members so as to ensure that the techniques are properly implemented. Both the beekeeper and the team members made observations and collected data on the growth of the bee colony, rate of egg laying by the queen bee and honey production. The latter was the best indicator to evaluate the impact of the project. With the implementation of the project, honey production increased from 20 tons in 2016 to 25 tons in 2017.

7.2 Describe the impact of the Best Practice on the level of services provided to key customers and on the environment, society. *(Not more than 300 words) (Please provide data by comparing targets v/s actual performance, before-and-after indicators, and/or other types of statistics or measurements)*

With the implementation of the project, beekeepers could produce 25 tons of honey compared to 20 tons in 2016. Some lucky Mauritians were able to consume and appreciate the taste of the local honey which is better in quality as compared to the imported one. The Figure below shows the trends in honey production and the number of bee colonies over the recent years after the introduction of two new bee pests.



The figure below shows the number of persons trained in beekeeping while taking into consideration the gender.



Private carpenters developed the business for the construction of upgraded organic beehive. Similarly, there were new importers of beekeeping equipment. Hence, they obtained an additional source of revenue.

With more bees around, pollination of crops is enhanced with a higher fruits production namely litchi, guava, citrus, peach, jamblon and roussaille among others. With more bees, vegetable growers obtained an increase in production of onion seeds by at least 15%.

Honey bees play an important role in pollination of trees in the forests thus maintaining plant biodiversity which is essential for the survival of mankind.

8. REPLICATION TO OTHER ORGANISATION

8.1 How can the Best Practice be replicated to other organisations? (Not more than 200 words)

In order to replicate the best practice in another organisation, a team of members together with a team leader to work on the project should be identified. The team members should be trained first on beekeeping and later on the different techniques developed. They should obtain the theory and the evidence that expected results will be obtained. The new team should first replicate the different trials that were carried out so as to be convinced that the new techniques work. Once they are convinced they will be able to transfer the knowledge to beekeepers as per an implementation programme provided they received the required resources in terms of beekeeping equipment, human resource and transport facility among others.

The old team should communicate and share their practices with the new team. The latter should be supported over time as they adopt and adapt to the practices.

The team spirit should be created so that the goals of the project become the goals of the individual team members.

8.2 Based on your organisation's experience, name up to three factors which you consider as indispensable to replicate the Best Practice. (Not more than 200 words)

- (i) The process (flow chart) for implementing the Best Practice should be well documented with clear roles and responsibilities.
- (ii) Capacity building of the new team on the Best Practice to be adopted is very important.
- (iii) The organisation should have a strong will to implement the Best Practice and thus arrange for the necessary resources for its implementation.