

# APIARY UNIT



**Centurion**  
**UNIVERSITY**  
*Shaping Lives...*  
*Empowering Communities...*

**M.S. Swaminathan School of Agriculture**  
**Centurion University of Technology and Management**  
**Alluri Nagar, R. Sitapur, Uppalada, Paralakhemundi, Gajapati, Odisha-761211**

[www.cutm.ac.in](http://www.cutm.ac.in)

### Executive Summary

- Submitted proposal for establishment of apiculture unit after consultation with Dr. D.N Rao Vice President and Dr S P Nanda ,Dean,(Adm),MSSSoA in November, 2018
- Installation of bee units in apiary with ten units (coconut garden-7, adopted tribal village-3) was done on 09.01.2019 by ELP students in presence of Dr. N.B. Reddy, Dean, CA, CUTM. The bee keeping items were supplied by Grahraj Bee Farm, Cuttack.
- Strengthening of apiary unit was done by installing 15 more units on 27.02.2019, supplied by the same Grahraj Bee Farm, Cuttack. Details of Establishment of apiary and the cost involved

#### Details of Establishment of apiary and the cost involved

Location	Apiary establishment (No of Units)			Remark
	09.01.2019	27.02.2019	Total units	
Coconut Orchard, CUTM	7	9	16	
Adopted tribal village	3	4	7	
MDC	-	2	2	
<b>TOTAL</b>	<b>10</b>	<b>15</b>	<b>25</b>	
<b>Capital Investment Including transportation</b>	<b>Rs.52,320/-*</b>	<b>Rs.55,000/-</b>	<b>Rs.1,07,320/-</b>	

ELP Batch	Period	No of students	Income generation	HRD	Remark
1st	Jan, 2019- Apr, 2019	5	5000/- (Honey-10kg)	Nil	<b>ICAR peer review team</b> visited and appreciated the activities
2nd	Jun, 2019- Nov, 2019	10	Nil (off season)	Nil	ELP students <b>awarded 1st prize</b> in competition held in 15th August, 2019 by Hon'ble VC madam
3rd	Dec, 2019- Apr, 2020	5	6000/- (Honey-12kg)	Nil	Vice-President, CUTM visited and encouraged ELP students during Kisan Mela-2020
4th	Jan, 2021- Mar, 2021	5	6000/- (Honey-12kg)	Nil	
5th	Oct, 2021- Dec, 2021	4	6150/- (Honey-10.25 kg)	Nil	Honey store of previous season. 5-6 kg ,yet to harvest
Total	5 batches	29	Rs.23,150 (Honey 44.25 Kg)		

Though the expected output could not be achieved due to some facts and reasons, the most important being the COVID 19 Pandemic, still the achievements made is quite **SATISFACTORY**, from technical point of view. The programme can be taken up intensively for the purpose of 1) Academic pursuit, 2) Campus enrichment 3) Resource generation and 4) Human resource development for bee keeping in the state, especially in Gajapati district.

**1. Unit Name:** Apiary Unit

**2. Unit In-Charge Name:** Mr. Deepayan Padhy (Guided by Dr. CR Satapathy, OUAT, BBSR)

### **3. Objectives**

1. To focus on apicultural activity of the institution under division of Entomology.
2. To Get hands on training on bee keeping by the selected AELP students of 7<sup>th</sup> and 8<sup>th</sup> semester students of 4<sup>th</sup> year, B.Sc. (Ag), MSSSoA, CUTM, Odisha.
3. Develop entrepreneurial skill on Apiculture the AELP students to become a job provider rather than a job seeker.
4. To generate income by selling products (Honey, wax and bee colonies) generated from Apicultural activity.
5. To utilize beekeeping in improvement of crop productivity through pollination service.
6. To introduce and commercialize bee keeping in Gajapati district by imparting skilled training to the farmers and spreading the knowledge in our village.
7. Beautification of CUTM Campus.
8. Increasing the Apiary unit in our university

### **4. Description about Unit:**

#### **Apiary Unit:**

This unit was established in 8th January 2019 for academic purpose with an aim to initiate AELP program on Apiculture to develop entrepreneurship among the students. Learning during working in the unit will develop self-confidence for handling Bee-boxes and to generate income through producing Honey and bee colonies. Visit to the apiary by the farmers will inspire and motivate the farmer to promote beekeeping in this South-Eastern district of Odisha. Such interested farmers can be educated by conducting Farmers training at University level by the Scientist and the AELP students.

Therefore, inside M.S. Swaminathan School of Agriculture, CUTM, Paralakhemundi campus apiculture unit has been established with 25 numbers of boxes (Indian honeybee, *Apis cerana indica*) of which 16 boxes have been installed in Coconut Orchard behind Dispensary, 7 boxes in Tribal village and 2 boxes are placed in the lawn of MDC, Guesthouse. Apart from this, 10 boxes of the same species are also there in Jatni Campus, CUTM, Bhubaneswar.

Each unit consisted of a wooden box containing colony of *Apis cerana indica* placed over a cemented stand. Subsequently boxes of each unit have been topped with a slanting wooden roofing top for protection and beautification.



## 5. Indian honeybee, *Apis cerana indica* F. over European bees, *Apis mellifera* F.:

If we consider about the honey production, then the rock bees, *Apis dorsata* is the first rank holder in honey production (45-50 kg/colony/year). But these honeybees are not domesticated due to their ferocious nature and their bee space not yet invented. So in this case honey haunting may be possible but honey domestication not possible.

If we consider about Italian/European honeybees, *Apis mellifera*, then these comes second after Rock bees *i.e.* they produce on an average (25-35 kg/colony/year). Generally, commercial beekeepers prefer European honeybees and they tend to shift from place to place as per availability (which can't be directly possible with academic activity). The European bees are more pest and disease prone. Survival in term of tolerance is more in Indian bees. Though swarming is not there in European honeybees but adjustment with the scarce resource is very less in these bees. On the other hand, in case of Indian bees, though they have swarming tendency but they can withstand the scarce resource to some extent.

Though production is less, but if we consider about quality and density of honey produced by both *A. c. indica* and *A. mellifera*, there will be a huge difference. Even the customers who have taken Indian bee honey, they easily identified the next time when we have shown European honey which was purchased from OUAT, Bhubaneswar. The density and thickness of the Indian honey is relatively higher as compared to European honey. Now European honey are marketed @ Rs. 300-400/- per kg where as Indian honey are sold @ Rs. 600-800/- per kg of honey (Even more).

## **6. Efficiency of Indian honeybees in pollination service:**

A lot of research and review are already been carried regarding the pollination service of different honeybee species including Indian bees which enhances yields of different crops like mustard, sunflower, sesamum, redgram, brassica, vegetables etc. by 20-40%.

## **7. Floral diversity of MSSSoA:**

Apart from major field crops like sunflower, mustard, sesamum and some other vegetable crops, our campus is richly distributed with a diversified variety of plantation crops, forest plants, creepers, annual flowers. (Attached here with) which will be helpful in bee foraging. Apart from this if sunflower, Nigeria, mustard, sesamum will be grown round the year, then definitely it would boost up the productivity of honey and colony development.

## **8. Future of Beekeeping in CUTM:**

With respect to all of the above mentioned condition and availability of honeybee colonies we can easily increase our unit. We can increase the unit by purchasing some more colonies from the beekeeping entrepreneurs. After our establishment, we can produce more bee colonies by colony division of existing colonies and the bee boxes can be constructed by our wooden lab present in Jatni campus

## **9. Challenging Task:**

1. To observe the flower (Bee flora) diversity of MSSSoA campus.
2. To observe the pollinators diversity foraging on different bee flora (flowering crops).
3. To observe bee foraging activity of Indian bees in flowers (No of visits, time spent on flower)
4. To observe seasonal activity of bee in the bee hives.
5. Encouragement of beekeeping in Gajapati District

## Achievements

### First Batch: January, 2019- April, 2019

1. To accomplish HRD at institutional level – Production of student entrepreneurs.

K.SATHYAVATHI	150804130097
A.PAVAN RAJ	150804130109
N.HARINI	150804130134
D.JANKINADH VARMA	150804130161
CH.BHAVANI SHANKAR	150804130166

2. To accomplish HRD at public (Farmers level) - Production of Bee entrepreneurs.

**-Nil**

3. Production:- Honey Production = 10 kg @Rs. 500/- = 5,000/-



### Second Batch: June, 2019- November, 2019

1. To accomplish HRD at institutional level – Production of student entrepreneurs.

Students enrolled:

#### Reported By:

N. jagadesh kumar yadav	160804130108
J. N.S.Tejaswi	160804130109
B.Suma	160804130245
K.Ramya	160804130178
P. lekha shree	160804130214
Y.Devi	160804130164
CH.R.K.R. Priyadharshini	160804130163
M.Vasavi	160804130002

R. Hasan  
S.vamsi Krishna

160804130027  
160804130210

To accomplish HRD at public (Farmers level) - Production of Bee entrepreneurs.

**-Nil**

3. Production:- Honey Production =Nil



(Students awarded by Hon. VC Madam as the 1<sup>st</sup> prize during competition held in August-15<sup>th</sup>, 2019)

### **Third Batch: December, 2019- April, 2020**

1. To accomplish HRD at institutional level – Production of student entrepreneurs.

Students enrolled:

#### **Reported By:**

DHANPATI GOKUL KRISHNA	160804130180
SHAKAMUDI LAXMI PRASANNA	160804130233
BANTU PRASUNA	160804130175
PUPPALA SRI SARANYA	160804130074
YERRA LAHARI	160804130103

2. To accomplish HRD at public (Farmers level) - Production of Bee entrepreneurs.

**-Nil**

3. Production:- Honey Production = 12 kg @Rs. 500/- = 6,000/-



**(Interaction with Vice president Sir during Kishan Mela 2020)**



**Fourth Batch: January, 2021- March, 2021**

1. To accomplish HRD at institutional level – Production of student entrepreneurs.

Students enrolled:

**Reported By:**

SHIBANANDA MOHAPATRA  
 ELORA PRIYADARSHINI  
 HEENA CHOUDHURY  
 SATTWIK DASH

170804130090  
 170804130147  
 170804130221  
 170804130270

2. To accomplish HRD at public (Farmers level) - Production of Bee entrepreneurs.



-Nil

3. Production: - Honey Production = 12 kg @Rs. 500/- = 6,000/-



### **Fifth Batch: October, 2021- December, 2021**

1. To accomplish HRD at institutional level – Production of student entrepreneurs.

Students enrolled:

#### **Reported By:**

PRALIPTA PRIYADARSINI SAHOO	180804130241
SWAGATIKA MAHANTA	180804130193
CHANDRIKA ROY	180804130276
ABHISHEK MISHRA	180804130177

2. To accomplish HRD at public (Farmers level) - Production of Bee entrepreneurs.

-Nil

3. Production: - Honey Production = 10 kg @Rs. 600/- = Rs. 6,150/- (Continuing)



### Honey production

