One Day National Seminar on Beekeeping, Anand, Gujarat

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Main challenges for Indian Agriculture & Role of National Bee Board(NBB)/Beekeeping in Overall sustainable development of Agri./Horti.

A. Main challenges in Agriculture:

- Population growth- Demand for food (Food Security)- Malnutrition
- Stagnant Resource base
- Stagnation in yield of various crops.
- Globalization and competition
- Technology upgradation
- Employment
- Sustainability issues
- Environmental issues including water, deforestation, etc.
- Natural Calamities
- Bio-diversity
- High cost of inputs
- Low farm incomes
- Small & fragmented land holdings-small & marginal farmers: 85%
- Lack of logistics and infrastructural facilities.
- Blue Bulls/ Elephants & other wild Animals- Human- Animal Conflicts.

B. Why Beekeeping:

1. **Pollination- Yield enhancement- Ensures food and nutritional security.**
2. **Honey and other beehive products - Nutritional Security.**
3. **Few resources are needed**
5. **Land ownership not essential**
6. **Nectar and pollen are otherwise not harvested**
7. **Different sectors and trades benefit from a strong beekeeping industry**
8. **Beekeeping encourages ecological awareness & maintain Biodiversity**
9. **Anybody can be a beekeeper**
10. **Generates employment-** 3.75 lakhs man-days/ 10,000 BC in hives.
11. **Beekeeping is benign/gold mine**

    Beekeeping generates income without destroying habitat.

    Encouraging beekeeping encourages the maintenance of biodiversity.

"If the bee disappeared from the surface of the globe the man would only have four years of life left. No more bees, no more pollination, no more plants, no more animals, no more man."

Albert Einstein

HONEY BEE SPECIES

Species	Nature	Foraging range (km)	Avg. Honey yield (kg/yr)
Indian bee, *Apis cerana (cerana,himalaya,indica)*	Domesticated	0.8-1.0	10-12 /hive
Western bee, *Apis mellifera (ligustica, carnica)*	Domesticated	1.0-2.0	50-60 /hive
Rock bee, *Apis dorsata*	Wild	-	50 /hive
Little bee, *Apis florea*	Wild	-	0.25 /hive
Trigona (can survive in high temperature)	Stingless		Few grams/ Colony

Potential of benefits due to bee pollination, in the form of increase in yield, in various Orchard crops, Misc. crops and Vegetables.

Orchard crops	% incr. in yields	Vegetables for seed/ fruits	% incr. in yields
Apple varieties	180 to 6,950	Radish	22 to 100
Pears	240 to 6,014	Cabbage	100 to 300
Plums	6.7 to 2,739	Turnip	100 to 125
Cherry	56.1 to 1,000	Carrot	9.1 to 135.4
Straw-berry	17.4 to 91.9	Onion	353.5 to 9,878
Raspberry	291.3 to 462.5	Brinjal	35-67
Persimmon	20.8	Cucumbers	21.1 to 411
Litchi	4,538 to 10,246	**Miscellaneous crops**	
Citrus varieties	7 to 233.3	American cotton	5 to 20
Grapes	756.4 to 6,700	Egyptian cotton	16 to 24
Squashes	771.4 to 800	Buckwheat	62.5
Guava	70-140	Coffee	16.7 to 39. 8
Papaya	22.4-88.9	**This increase in yield is in addition to value of honey and other hive products.**	
Mosambi	36-750	**Bee pollination results not only in yield increase but also improvement in quality of produce.**	
Orange	471-900		

Potential of Yield increase in various oilseeds and legume crops due to bee pollination

Oilseeds	%increase in yields	Legume seeds	% increase in yields
Mustard	128.1 to 159.8	Alfalfa	23.4 to 19,733.3
Rai	18.4	Vetches	39 to 20,000
Rape	12.8 to 139.3	Broad Beans	6.8 to 90.1
Toria	66 to 220	Dwarf beans	2.8 to 20.7
Sarson	222	Kidney beans	500 to 600
Safflower	4.2 to 114.3	Runner beans	20.6 to 1,100.l
Linseed	1.7 to 40	Other pulses (Pigeon pea-21to30%,etc.)	28.7-73.8
Niger	260.7	Berseem and other Clovers	23.4 to 33,150
Sunflower	20 to 3,400		

- Bee pollination results not only in yield increase but also improvement in quality of produce.
- Hence beekeeping should be treated as 5th input which regulates efficacy of other four inputs.
- 10-15 Kg Honey / colony is produced per crop season.

Shri Narender Modi, Hon'ble PM (then CM, Gujarat) viewing process of honey extraction

BENIFITS OF BEEKEEPING

- Beehive products-honey, pollen, propolis, bee venom, royal jelly, bees wax;
- Unemployed youth can start this business with minimal funds;
- Proper utilization of natural resources;
- Converts Pollen & Nectar into food (honey, pollen, royal jelly, wax etc.), otherwise going waste;
- Beekeeping helps in increasing the national income;
- Income from 100 Bee colonies is around Rs. 3.00 lakhs/annum;
- It helps in rural development and promotes small village industry;
- Beekeeping is one of the technologies that generate income from multiple channels.

Shri Radha Mohan Singh Ji, Hon'ble Minister of Agri. & FW releasing souvenir on Beekeeping in a seminar held at Motihari, Bihar on 12th April, 2015.

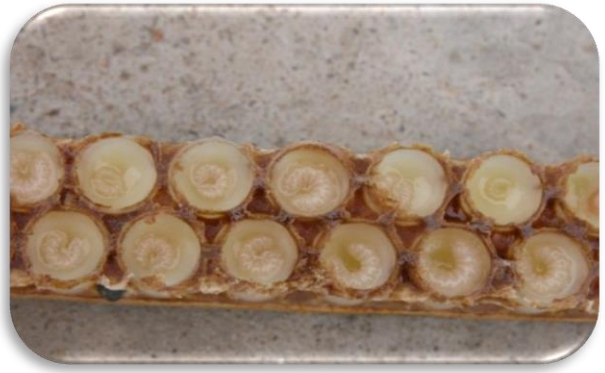
Honey & other Beehive Products and their Uses:

- **Honeybee produces**

1. **Honey: Nutritious whole food with medicinal property.**
2. **Bees wax: More valuable, used in candle, pharmaceutical and cosmetic industry.**
3. **Bee venom: Used for treatment of arthritis, rheumatic and pains (treatment known as Apitherapy).**
4. **Royal jelly: Nutritious, increase vigour and vitality/fertility.**
5. **Bee Pollen: Nutritious Food.**
6. **Propolis: Resinous substance uses as gum & in Pharmaceutical Industry.**
7. **Honey and hive products: source of income to the farm family, helps employment generation.**

Bee's Wax

Pollen



Royal Jelly

Nutritional value	per 100 g (3.5 oz)
Energy	1,272 kJ (304 kcal)
Carbohydrates	82.4 g
Sugars	82.12 g
Dietary fiber	0.2 g
Fat	0 g
Protein	0.3 g
Vitamins	
Riboflavin (B2)	(3%) 0.038 mg
Niacin (B3)	(1%) 0.121 mg
Pantothenic acid (B5)	(1%) 0.068 mg
Vitamin B6	(2%) 0.024 mg
Folate (B9)	(1%) 2 µg
Vitamin C	(1%) 0.5 mg
Minerals	
Calcium	(1%) 6 mg
Iron	(3%) 0.42 mg
Magnesium	(1%) 2 mg
Phosphorus	(1%) 4 mg
Potassium	(1%) 52 mg
Sodium	(0%) 4 mg
Zinc	(2%) 0.22 mg
Other constituents	
Water	17.10 g

HONEY - HEALTH BENEFITS

1. **Prevent cancer and heart disease.**
2. **Reduce ulcers , gastrointestinal disorders.**
3. **Anti-bacterial, anti-fungal.**
4. **Increase athletic performance**.
5. **Reduce cough and throat irritation.**
6. **Balance the 5 elements:** improving eyesight, weight loss, curing impotence and urinary tract disorders, bronchial asthma, diarrhoea and nausea.
7. **Blood sugar regulation.**
8. **Heal wounds and burns.**
9. **Probiotic.**
10. **Beautiful skin.**

भी तबादला हो गया है।

मधुमक्खियों की मदद से बढ़ेगा फसलों का उत्पादन

इलाहाबाद। खेत के आसपास मधुमक्खी पालन करके फसलों का उत्पादन भी बढ़ाया जा सकता है। मधुमक्खियां रस लेने के लिए एक से दूसरे फूल पर जाती हैं जिससे परागण की क्रिया तेज हो जाती है, जो फसलों के लिए जरूरी होता है। रसायनों के अत्यधिक उपयोग से फसलों के मित्र कीट-पतंगों के विलुप्त होने के कारण उनकी उपयोगिता और बढ़ जाती है। विशेषज्ञों का दावा है कि कृषि क्षेत्र में भी इसका उपयोग बढ़ाकर तथा अन्य उत्पाद बनाकर पालक शहद उत्पादन से इतर 15 गुना तक लाभ बढ़ा सकते हैं। मधुमक्खी के इन गुणों को देखते हुए सरकार ने भी मधुपालन को बढ़ावा देना शुरू कर दिया है। इसी उद्देश्य से कृषि और सहकारिता मंत्रालय के अंतर्गत अलग से नेशनल बी बोर्ड का गठन किया गया है। बी बोर्ड ने माध्वी पालकों के साथ ही अफसरों के लिए भी प्रशिक्षण और जागरूकता कार्यक्रम चलाने का निर्णय लिया है। इसी क्रम में बोर्ड के सहयोग से कुमार ग्रामीण विकास सेवा संस्थान की ओर से पथरचट्टी रामलीला मैदान में चार और पांच मई को कार्यशाला आयोजित की गई। कार्यशाला को संबोधित करने के बाद प्रेसवार्ता में बोर्ड के अधिशासी निदेशक डॉ. आरबी सारस्वत ने बताया कि किसानों को उनके शहद का उचित मूल्य मिल सके, इसके लिए राष्ट्रीय स्तर पर प्रयास किए जा रहे हैं। कार्यशाला में किसान समितियों से जुड़े कई लोग मौजूद रहे।

अमर उजाला

डॉ. बीएल सारस्वत।

धर्मशाला • अलीगढ़ • गोरखपुर • लखनऊ

कांग्रेस विचार विभाग

DAC&FW initiatives to promote Beekeeping

- Pollination Support through Beekeeping a component under National Horticulture Mission /MIDH
- National Bee Board (2006/2008) reconstituted under DAC&FW
- Promote scientific beekeeping through bee pollination in crops.
- Enhancing the income of farmers and beekeepers from yield improvement & honey production .
- Integration of schemes of beekeeping & crop production (NHM, HMNEH, NFSM, NMOOP, PKVY, RKVY)

New Initiatives by DAC & FW
implemented through NBB in states

- Integrated Bee Development Centers (IBDC) –
  - 10 IBDC 3 commissioned -Bihar, Haryana, Delhi
  - 7 MP, Uttarakhand, Manipur, Punjab, UP, TN and J&K in process
- Integrated Development of Scientific Bee Keeping (IDSB)- RKVY, MIDH and other schemes
- Skill Council of India course on Bee Keeping qualification pack finalized
- Safal brand of honey launched through Mother Diary on Pilot scale using milk route
  - 40 ton honey as first lot is being sold from Safal outlets
- Honey brands (Mustard, Eucalyptus, Litchi, Multiflora)
- Development of data base – Mobile App / Bee Portal
- Task force constituted for Master Plan on beekeeping & report approved with Master Plan on NBHM.


कृषि उन्नति मेला
कृषि एवं किसान कल्याण मंत्रालय
भारत सरकार
CII
Confederation of Indian Industry
कृषि उन्नति मेला

NATIONAL BEE BOARD

- **Restructured in June 2006 under Chairmanship of Secretary (A&C) on PPP Mode;**
- **18 Members MC including 08 elected members from beekeeping community & ED as Ex-Officio member;**

Main objectives :

- **Promoting scientific beekeeping for enhancing income of farmers and beekeepers by providing ensured pollination support to increase production of crops & beehive products;**
- **Popularising State of Art Technologies for Scientific Beekeeping including production of quality bee stock, capacity building programmes for bee breeders, beekeepers/ farmers, quality production of beehive products, etc.;**
- **Formulation, execution, implementation, supervision/ guidance and monitoring of programmes/policies for promoting scientific beekeeping in the country;**
- **To liaison with all concerned organisations of Govt. of India and State Govts. , time to time, advice them in all related issues/ matters, etc.**

Status of beekeeping in India – World

INDIA:

- Number of bee colonies – About 30 lakhs
- Honey Production – 94500 Metric
- Number of Beekeepers / employment to >2 lakhs
- *Apis cerana* & *Apis mellifera* both are in practice;
- About 50% of honey produced is exported to various countries viz; Germany, USA, UK, Japan, France, Italy, Canada, Spain etc.;
- Value of honey export is about Rs. 1100 to 1200 crores

World:

- Mostly, *Apis mellifera* is in practice all over the world.
- Honey production per annum varies 13.50 to 15.00 lakh ton
- 15 countries in world account for 90% of world honey production.
- Major honey producing countries are China, USA, Mexico, Argentina, Ukraine, Turkey, Russia & India.

Constraints

- Nucleus stock production technology for bees
- Evolve scientific beekeeping practices based on good agriculture and management practices following both crop and insect (bee) centered approach.
- Ecofriendly control measures for serious problems- Parasitic mites (Varroa, Acarapis etc.), fungi (Nosema, Acosphaera), bacteria (Paenibacillus, Melissococcus). Viruses (Sacbrood virus).
- Disease diagnostics /prevention system.
- Technology for high value products: Honey, Bee pollen , Royal jelly, Propolis, Bees wax, Bee venom
- Database on honey production
- Consumer awareness of honey and its products
- Poor quality control for production of honey (Quality lab)
- De-forestation; Wild fires; water and air Pollution ; Mono-Cropping culture; Indiscriminate use of agrochemicals etc.

Opportunities & Potential in Beekeeping (BK) :

- **Needs small technologies & low capital investment or infrastructure.**
- **Diversified Agro- Climatic conditions provide great potential and opportunities;**
- **Potential & requirement for *200 million Bee colonies***
- **Employment to 215 lakh persons**
- **10 million tonnes of honey, valued Rs. 3,00,00,000/- Lakhs**
- **Value of enhanced crop production Rs. 60,00,00,000/- Lakhs**
- **Great self-help potential for rural people/tribals/hilly/MF & SF/LL labour, etc. and great opportunities as under:**
  - **Honey - provides cash income;**
  - **Beeswax – twice costly to honey and great demand;**
  - **High value products: pollen, propolis, bee-venom & royal jelly;**
  - **Part & full time employment without sacrificing main occupation;**
  - **Bee pollination & prodn. of beehive products – A double benefit; and**
  - **Processing and value added products of Bee- products.**


BEE EQUIPMENT MANUFACTURING UNIT
BEEKEEPING EQUIPMENTS
Beekeeping a Profitable Venture
Small Investment - Big Gain
Beekeeping Increases Yield
NESCAFÉ
frappé

18 मई-09 सोमवार

हिन्दुस्तान

वर्ष 14, अंक 136, 16 पेज, मूल्य 3.50 रुपए

बाँदा संस्करण

कानपुर, 18 मई 2009, ज्येष्ठ कृष्ण पक्ष नवमी, दिन सोमवार

के तहत शुरू कराया गया। सप्ताह तक करीब ढाई सौ मजदूर लगे रहे। लेकिन प्रचंड गर्मी में आग की बरसात में मजदूर पसीना से तरबतर हो जाते हैं।

वह चार दिनों से बराबर ससुराल आता-जाता था। सब्बीर का आरोप है कि शुक्रवार की रात ससुरालीजनों ने उसे मारा पीटा। अगले दिन वह कोतवाली सूचना देने

पत्र मिला है जिसमें उसने लिखा है कि उसकी पत्नी अपने मायके वालों के साथ सोने-चांदी के जेवर एवं नगदी के साथ मायके में रह रही है। लिवाने जाने पर उसके साथ मारपीट की गई है। मृतक द्वारा लिखे

टपा में क्लानर है। शनिवार दोपहर वह बबेरू बस स्टैंड पर खड़ा था तभी सामने से आ रहे ट्रैक्टर ने ठोकर मारकर घायल कर दिया। उसे जिला अस्पताल में भर्ती कराया गया है।

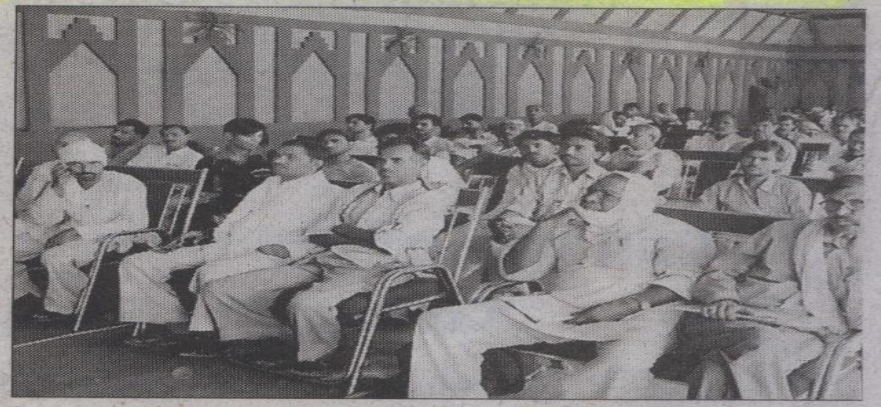
लिए सस्ता ही खाएगा किंतु उसे पता ही नहीं की सस्ते के चक्कर में वो जहर खरीद कर खा रहा है। उसे खाद्य पदार्थों एवं सड़े गले फलों पर जमी धूल और भिनभिनाती मक्खियां नहीं दिखाई देती।

भारत में दो हजार लाख मौन वंशों की आवश्यकता

- दो दिवसीय मौन पालन कार्यशाला का समापन
- कृषकों को दी गई तकनीकी जानकारी

हिन्दुस्तान संवाद बाँदा

कार्यशाला के समापन पर बोलते डा. बीएल सारस्वत



उपस्थित किसान

कुमार ग्रामीण विकास संस्थान द्वारा आयोजित दो दिवसीय मौन पालन में जागरूकता एवं तकनीकी प्रसार कार्यशाला के समापन के दिन कृषकों से मधुमक्खी पालन पर जोर दिया गया। साथ इसके पालन के उपकरण व गुणवत्ता पर प्रकाश डाला गया। साथ ही लोगों से शहद सेवन पर बल दिया गया।

डा. बीएल सारस्वत अधिशाषी निदेशक नेशनल बी बोर्ड, भारत सरकार नई दिल्ली ने बताया कि इस कार्यशाला की सफलता के पश्चात इस क्षेत्र में इस प्रकार की गतिविधियां और बढ़ाई जाएगी। क्योंकि अभी भी भारत में दो हजार लाख मौन वंशों की आवश्यकता है तथा वर्तमान में कुल चौदह लाख मौन बक्शों से ही मधु प्राप्त किया जा रहा है। इस प्रकार मौन क्लब की अभी अपार संभावनाएँ हैं। उन्होंने बताया कि इससे केवल रोजगार ही नहीं बल्कि कृषि उपज भी बढ़ाई जा सकी है। उन्होंने बताया कि मधुमक्खी पालन से शहद, मोम, पराग, रायल जैली प्राप्त करके रोजगार बढ़ाया जा सकता है। इसके अलावा इनके डंक विष से दवा का निर्माण किया जाता है। उन्होंने कहा कि इस प्रकार के कार्य से ग्रामीण अंचल में भी आर्थिक विकास भी होगा। जिला उद्यन्न अधिकारी डा. बलजीत सिंह ने कहा कि बुंदेलखंड में मधुमक्खी पालन बड़े पैमाने में किया जा सकता है।

जिसके लिए किसानी को इस कार्यशाला के माध्यम से संपूर्ण जानकारी उपलब्ध कराई जा चुकी है। जिसका लाभ लेकर कृषक मौन पालन करके अपनी आर्थिक स्थित मजबूत कर सकते हैं। डा. एसके गुप्ता ने कीट प्रबंधक एवं बीमारी पर विचार रखे। पुलकित श्रीवास्तव प्रधान अधिकारी ने वैज्ञानिक विधि,विभिन्न उपकरण, मौन छत्ते एवं इसकी प्रक्रिया एवं भंडारण पर विस्तृत चर्चा की। इस दौरान श्यामधर, सुशील कुमार ने मौन पालक ने सफलता पूर्वक मौन पालन की विधियों एवं अपनी सफलता की बात कही। सत्येंद्र कुमार ने मौन पालन की संभावनाओं एवं विकास पर अपने विचार रखे। कार्यशाला समापन के पश्चात ने आए हुए प्रतिभागियों को प्रमाण पत्र वितरित किया। कार्यक्रम को सफल बनाने में नई पहल संस्था का भी सहयोग मिला। संचालन राजेश सिंह, मुख्य कार्यकारिणी संयोजक ने किया। कार्यशाला में पुलकित श्रीवास्तव सहित सैकड़ों कृषकों ने भाग लिया।

Financial Assistance under MIDH for promotion of beekeeping activities by NBB/ States

S.N	Components	Rates of assistance approved under MIDH (NHM/ HMNEH)
1	Promotion of Research & Development by ICAR	
2	Development and Multiplication of Bee Stock	
	I. Production of nucleus (Pedigree) stock.	Rs.20.00 lakhs/ project
	II. Production of Bee colonies by Bee Breeders.	40% of cost or Rs.4.00 lakhs/ Project (whichever is less)
3	Distribution of 8 frame bee colonies & beehives (50 bee colonies in beehives, supers etc. / beneficiary)	40% of cost or Rs.1600/ per set of bee colony & beehive (whichever is less)
4	Distribution of bee equipments [a set of one honey extractor of SS (4 frames) & 10 containers (30 kg each) of FGP /SS, 1 net & a set of other tools] / unit of 50 bee colonies / beneficiary.	40% of cost or Rs. 8000 per set / per beneficiary (whichever is less)
5	Human Resource Dev.(HRD) activities.	
	A. Conference/Seminar /Workshop	
	a. National level	Rs. 5.00 lakh /event
	b. State level	Rs. 3.00 lakh/ event
	c. Distt. level	Rs. 2.00 lakh/ event
	B. Trainings – within State & out of State	@ Rs. 1000/- participant/day & project based
	C. Exposure Visits	Project based

Regional Seminar on Beekeeping at Barabanki (U.P.) on 8-9/06/07

Economics of Beekeeping

Honey Bees: ***Apis mellifera***- Man power required: **At least one regular basis –plus two casual labour.**

(As per the present prevailing market prices of honey & other beehive products & price of bee colonies during 2016-17).

S. N	Items	Rate/per Unit cost (Amt. in Rs.)	Total cost(Amt. in Rs.)
A.	**One time cost for establishment/ Fixed cost**		
1.	50 Beehives with supers & tools, etc.	2000/-per set	1,00,000/-
2.	50 bee colonies each of 8 frames @ Rs. 250/- per frame	2000/- colony	1,00,000/-
3.	50 iron stands	100/-each	5000/-
4.	Honey extractor (SS) and other equipments, FGP containers, honey extr. net, etc.	-	20000/-
	Sub total of A.		**2,25,000/-**
B.	**Recurring cost/working capital per year**		
1.	Comb foundation sheets (Wax Sheets) 100kg for one unit	250 per kg	25,000/-
2.	250 kg sugar for feeding in dearth period	40 per kg	10,000/-
3.	Interest on fixed capital	12% per annum	27,000/-
4.	Depreciation on fixed capital	20% per annum	45,000/-
5.	Miscellaneous expenses including labour charge, migration cost,etc./annum	-	1,50,000/
	Sub total of B.		**2,57,000/**
C.	**Per year income from 50 colonies in beehives**		
1.	Honey production @ 40 kg per colony Total production 2000kg.	80 per kg	1,60,000/-
2.	Sale price of BCs of 8 frames each multiplied during the year i.e. 50 colonies (50x250x8) of 8 frames.	2000/- per colony	1,00,000/-
3.	Production of Bee pollen (250 kg) @5 kg/colony	400 per kg	1,00,000/-
	Total Income(C)		**3,80,000/-**
D.	**Net income per year (C-B)**		**1,23,000/-**

Note: **Economics of beekeeping is directly linked with the market prices of honey & other beehive products and price of bee colonies, which fluctuate time to time.**

Dr. Michael Guido Eich, Expert, Beekeeping, QSI, Bremen, Germany addressing participants of 7 days training on scientific beekeeping by NBB under PPP Project for Quality Improvement and Increase of Productivity of Indian Honey in collaboration with QSI, Bremen, Germany at New Delhi from 28th Nov. to 4th Dec., 2011.

“PROTECT YOURSELF AND CROPS FROM MENACE OF ELEPHANTS AND MONKEYS BY ADOPTING SCIENTIFIC BEEKEEPING”

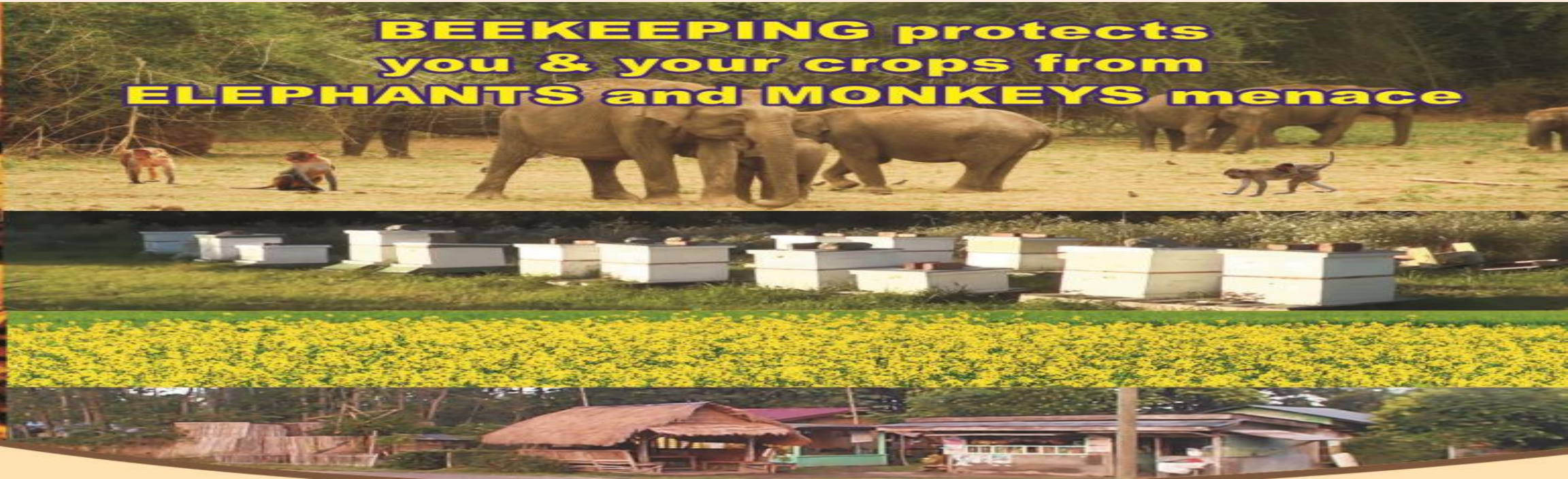
❖By adopting Scientific Beekeeping, in addition to income by enhancing crops’ productivity and production of honey and other beehive products, we may protect ourselves and crops from the menace of elephants and monkeys.

❖Areas where apiaries/ bee colonies are kept and scientific beekeeping is adopted, elephants and monkeys avoid to enter.

❖It minimizes human-elephant conflicts.

❖This way we can contribute in the progress/ development of our Area/ State/ Nation.

❖For details and training, Executive Director, NBB may be contacted.



Sh. Radha Mohan Singh, Hon'ble Minister of Agriculture and Farmers Welfare, Govt. of India & other officials are inaugurating Trainees Guide and Qtrly Magazine 'Bee World' on Scientific Beekeeping.

Promotion of Beekeeping through NDDB/ GCMMF/ Cooperative Net Work

- Beekeeping is mainly the activity of poor/small & marginal farmers/landless labourers which could easily adopted by Dairy farmers after training;
- It does not need land ownership;
- It is a good source of income for the poor;
- It is one of the best fittest rural-agro-based activities;
- It does not have competition with any other activities;
- It works as supplementary/ complementary to other activities;
- The activity is remunerative/ attractive for poor/deprived category of the society
- For poor, it's a major source of their livelihood;
- Beekeeping/Honeybee plays vital role in sustaining plants bio-diversity resulting in environmental stability;
- **NDDB/ Cooperative infrastructure could be more effective in this field**;
- Honey is not so a perishable product & does not need every day handling;
- Daily transportation of honey is not required;
- It could be stored at one nodal point and time to time the volume could be transported to the processing plant/unit for processing/ storage/ packing/ marketing;

(continue……)

- This way the lean period of the day/system/logistic system of cooperatives could be utilized for doing business of honey/beekeeping;
- It could be collected/ handled in lean period of the day/ system / logistics systems of dairy cooperatives / federations;
- Establishing prevailing market prices of honey & other beehive products in domestic market and the beekeepers/members of cooperative will also get remunerative prices;
- A win-win situation, as the beekeepers/members of cooperative network will get additional income and domestic consumer will get quality honey and other beehive products- as is being **happened in case of Safal brand of honey by Mother Dairy;**
- Reduce the dependency of beekeeping industry on volume of export of honey;
- Once intervention of cooperative network takes place in domestic market, beekeepers will get remunerative prices and customer will also get quality product at reasonable rates;
- Honey can be used for developing various products from milk & milk products, particularly in the form of sweetener, viz.; ice cream, diary milk chocolate, sweets, etc., which will improve the quality of these products; and
- The activity could be attractive for the member of dairy cooperatives because it has no competition with their primary business.

Practical training in beekeeping for officers of NE States conducted by NBB.

Way forward

- **Strengthening of National Bee Board and State Boards/ Missions**
- **Setting up of National Beekeeping & Honey Mission. State Bee Boards / Missions/ IBDCs/ Technical Centres;**
- **Strengthening & involving supplementary Institutional frame work to promote scientific beekeeping for pollination support to the crops – SHGs /FIGs / FPCs /Cooperatives/ NDDB/ GCMMF, etc.;**
- **Developing quality germplasm & nucleus stock of honey bees;**
- **Policy on migration / transportation of bee colonies etc.;**
- **Convergence of various schemes of various departments;**
- **Making Forest Laws/ Acts, suitable for beekeeping etc.;**
- **Domestic strds. for honey & other beehive products by BIS/ FSSAI, etc.;**
- **Disease diagnostic labs & bee products quality analysis labs ;**
- **Insurance of bee colonies;**
- **Efforts for conserving wild bees in sustainable manner;**
- **Capacity building/skill development of all stakeholders;**
- **Promoting Scientific Beekeeping etc.;**
- **Treating beekeepers at par with farmers in all respect to compensation due to damage – natural calamities;**
- **Availability of credit/ loan through banks; and**
- **Taking Beekeeping on Mission Mode .**

Looking ahead for Sweet Revolution for food, nutritional and livelihood security through Bee keeping

Thank you