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A REVIEW ON BEEKEEPING

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Abstract - *A review is provided about beekeeping in various country. The review consists of the capabilities of beekeeping with respect to advantages and disadvantages of beekeeping. The aim of this study is to provide additional data concerning bees and beekeeping. Crop yield productivity gets increased that we have learned. Diseases on bees is studied. Also the study; about which type of bee is present in that particular country , how many people do beekeeping business mention. Production from beekeeping that we are studied. There are many countries which are largest honey producer and exporter. In the world all countries play important role in honey production. Development of apiculture depend on change in honey production and trades honey producing region. Future prospects of beekeeping is analysed in this study*.

Key Words: **apiculture, Bee colony, Sustainable foresty, Biodiversity, pollination.**

1. INTRODUCTION

Bees and their products are not only well known but have wide consumer preference in nearly all countries. That Provide sustainable livelihood to many people such as small scale farmer and other rural and non rural people. In minimum investments bees offer large potential. Beekeeping does not require land ownership or rental. Example honey and wax can be sold in local market. For farm family it become important source of an income. For Human consumption, honey is used in unprocessed state. Most commonly it is consumed as a food and medicine. India is called land of honey. Variety of aliments are made by use of honey. In India forest based beekeeping has been done. Raw material which is used for production of honey is free from nature. Beekeeper need only few hours in week to look after his bee colonies. Beekeeping can be a part time occupation. Beekeeping is a sustainable income generation to rural and tribal people. We get valuable nutrition in terms of honey. Honey is also used as traditional medicine and as an kitchen as ingredient in pickles, jams preserves. In conventional beekeeping there are some difficulties and bees also die. Conventional beekeeping is handmade . So there is problem of bee sting. Hence, there is necessity to introduce automatic flowhive. Which exempt the problem of bee sting. Also wax and honey production is increased.

1.1 BENEFITS OF BEEKEEPING

In rural unemployed peoples beekeeping is excellent source of income. 250000 farmers in India are employed through beekeeping. For landless farmers excellent source of income. Beekeeping is migratory in nature. Beekeeping is taken as a profession by landless farmers. By cross pollination crop yield is increased. Up to 200% crop yield is increased.

2) BEEKEEPING IN VARIOUS COUNTRY

- Beekeeping in Arabian country-14 countries total 138 respondents had participated. 51.4% people are produce only honey .beekeeping contributes agriculture, food security and biodiversity, provide livelihood in rural area such as honey, royal jelly this products are provided. Conserve the biodiversity, nutritional and medical products also conserved. Apis mellifera this type bee present in Arabian country. (Ahmada, Al-ghamdl, Mohammed M, volume 10).
- Beekeeping in Japan and South Korea-Native beekeeping is important for sustainable forestry and conserve a biodiversity. Beekeeping is important in food culture and pollination is important .Due to use of pesticide decrease a bee colony. In 1982 Japan middle age people do beekeeping. South Korea export honey in 2013. 10000 kg honey was exported .western honeybee this is type of bee present in Japan and South Korea. Beekeeping is a part of local food culture and beekeeping has been historical practiced. Japanese bees are more in nutrition but production in small scale .How to harvest honey without killing bees this are studied .Low aggression this is characteristic of Japanese bees they do not sting people have touched. Japanese beekeeping at the end of 19$^{th\ century}$ transformed by western honeybees .High amount of honey is generated by western honeybee. Japanese bees have low production of honey. High amount of honey is generated by western honeybee. .After 2nd world war in the mid 20$^{th\ century}$ honey demand was increased .By using western honeybee production was expanded. (Ryo kohsaka, mi sun park yuta vchiyama June 2017).
- Beekeeping in United Kingdom –Losses are increased in winter .Some of the treatment to combat Varroa loss their efficiency .Honey bee get affected by American faul brood and European foulbrood .small hive beetle native dark bee. Intial stage of beekeeping is bitterness for bee venom tolerance should be developed by most beekeeping and pain and swelling sensitivity is have reduced. Apis cerana (Oriental honeybee) and a mellifera (occidental or European honey bee) are two

domesticated species. Apis dorsata (giant /Rock honeybee or dumma) and a florea are two wild species. A introduced species to India is a mellifera because it is resistant to Thai sacbrood virus. Single colony of rock bee per year nearly nearly 50 -80 kg of honey can be squeezed.

- Beekeeping in Siberia- 84% of plant that is necessary for human life pollinated by bees. Honey does not need processing. Wax need processing. Temp drops below -50^{o} c in Siberia beekeeping become difficult .Animal husbandry and plant growing have a strong relationship with beekeeping. Entomophilous plant is produced by pollination of bees. Queen larvae, worker bee, male bee this bees are present. Life of bees exposed to many dangers such as fungal disease, virus's poisons, pesticide and parasite, swarming brings damage to beekeeping Russia has more than 1 million apiaries. Entomophilous plant productivity get increased by bee pollinator. Agricaltural products are produced by Russian agro industrial complex. For AIC foundation is agriculture .48% fully ready to eat products are produced by industry. Good quality of food is main objective of AIC. Agriculture is depend on climate and weather condition .In Russia the north zone more than half of its territory is located .Agriculture one side business is beekeeping .Now a days there is Reduction in the production of bee product .Individual beekeeper or small business representative are engaged in this activity death of bees are increasing in 2-3 weeks. (V.A.Gaga and V.N.Esaglor 2016) .
- Beekeeping in Turkey-Proper ecological condition rich flora, existence of colony is good for beekeeping. 2, oo, ooo agriculture organization have activity in apiculture. But only 20,000 of these organization deal with apiculture as main source. Bursa province high quality honey production and highest quality pollen production.12.35% as static, 42.83% wanderer beekeeping in city. 44.82 wanderer beekeeping between region .Bees have been raised as cross breed, mixed breed and kafkas breed. Honey candle, pollen are major bee product. Average age of beekeeper is 43.88. In turkey total 80 beekeeper are surveyed. 35 beekeepers sell honey to dealer.27.5 in local market. New type hive increase 0.4% honey production. Economic and technical aspect are given to beekeepers. Recent news and developments about beekeeping are given by some article or magazines. In two years queen of colony has been changed. Important diseases and harms recognized by beekeepers. Cleaning and feeding is done to beehives in springs. For feeding Honey, Honey syrup, sugar syrup and cake have been used. In March feeding generally started. In April natural swarm of bees is taken. In May or June first honeys have been set into beehive. (Hasan vural, Suleyman karaman 1 November 2010).
- Beekeeping in India-India is largest honey producer and exporter. Honey is taken as medicine and food. Protein rich pollen. Small quantity of honey used in kitchen as a ingredient for pickles, jams and preserves. Forest honey is used in pharmaceutical food bakery and cosmetic industries.2,50,000 farmers are employed through beekeeping. Landless farmers it is excellent source of income.200% crop yield is increased by pollination. In India honey consumption is 8 gram. In Germany it is 1800 gram. In beekeeping 16 lakh peoples are engaged. Number of beekeepers is 150000.Number of beehive is 600000. 8.5 kg is average production of honey. In 1997 honey exported is 3000 ton. And in 1999 is 750 ton. Apis Dorsata, Apis cerana indica and APIs melifera and Italian bee this bees are present. India was exported 25,780.74 mt. In himachal pradesh 85000 families do beekeeping.1600 tonnes honey annually produced. Indian honey bee is Apis cerana indica. Apis mellifera is an Italian bee. Punjab, Haryana, Himachal Pradesh UP, Bihar and west Bengal this are major honey producing state. In Himachal Pradesh and Jammu Kashmir quality honey is present. In developing of beekeeping the all India beekeepers association has made contribution. Export of honey is promoted by agricultural product export development authority. In the scientific cultivation harvesting wild honey training is provided to tribal people .Science of bees, beekeeping several appropriate technologies is suited that are studied in central bee research and training institute Beekeeping is a mesmerizing science and an art in India. Beekeeping is mostly an engrossing hobby and full time occupation to produce handsome income and table honey .Special gift to mankind is a honeybee. Beekeeping is useful for pollination service and products such as honey, beewax, propolis bee venom etc. For different small and large scale industries in India these products their widespread use. Bee sting is only bitter part of beekeeping. (M Kishan tej R Aruna M R srinivasan 2017, Jain agrawal 2 July 2014). .

- Beekeeping in Australia -6,00000 hives produce 30,000 tonnes of honey. 25-30% annual production of honey exported .148 beekeepers have a 500 hives is may be termed as a professional beekeepers.27800 tonnes honey was produced in 2000-01.Australia contain 80% beekeepers. Beewax is by product of honey production. Annual honey production is form 20000 and 30000 tonnes. South Australia contain 80% beekeeper area and Australian honey is 70%.Beewax is a major product.1 kg wax is produced every 60 kg of honey consumption. skin ulcers honey is particular

effective. . Eucalypt is Australian dominant flora. European or western honey bee APIs mellifera is a social insect in colony up to 60000 adult bees. For profit large number of people do beekeeping as a business. Significant honey states in South Australia and Western Australia. Smallest producer is Tasmania. Location does not matter weather is important factor for beekeeping. Paid pollinator is more. Beekeeping is valuable source of income to some area. Serious bee disease exists in Australia. More serious pest is provided by the small hive beetle. Amateurs less than 11 hives. 50 Kg of honey is produced per hive. Professional means 148 beekeepers owning over 500 hives in the state.54% hives registered in the state. (Fredrick s.beneck April 2007).

- Beekeeping in New Zealand-In New Zealand beekeeping apiaries range in number 16 to 36 hives.30.6 Kg/hive honey is produced in 2002-2007 50 kg honey gives by individual hive.56% reduction was occured in north island.29% reduction was occurred in south island. Average number of hives is 16 hives. Most serious problem is varroa mite. Fertile female mite is enters in open brood cell. In male 1st egg developed after this eggs are developed into female .From worker bee 15 daughter mites are produced. From drone 25 daughter mites are produced. PMS-Parasitic mile syndrome deformed wing caused by viral. Infection mites have 2 stages 1) Acute Phase 2) Chronic Phase 3 and more treatment for acute phase, for chronic phase 2 treatment present. Absconding, robbing, drifting this diseases are present. A mite is reduced by bayvarol and apistan. Killing a mites apivar this is effective. Api-life-var contains four essential oils. Eucalypts, thymol, camphor and methol absorbed in vermiculite wafer. Honey yield is vary in national level average of six year the period 2002-2007 was 30.6Kg/hive. 50 kg yield is come from individual hive. In domestic market honey is sold, and then exported .2007 census of beekeepers apiaries 19228 and hives are 313399 number of beekeepers registered that have significant reduction from may 2000 until june 2007. 56% reduction occurred in south island varroa was not found until mid 2006. Difference between north and south island is 27% stocking rate was closer to 24 to 36. One kilometer is the distance between apiaries.(Daug, somer ville july2008)

- Beekeeping in Mexico-great socioeconomic and ecological importance for beekeeping in mexico. Main cattle-raising activity generating foreign exchange is production of honey, pollen and royal jelly propolis. Environment is balanced by bees. 45 thousand export in 2015.In production Mexico is 6th ferms. And third largest exporter.Individual bee colony resource consumption is minimize. Productivity maximize export is increased 33% throughout the country 45 thousand beekeeper. Annual honey production is ranged around 57200 thousand tones (January 2017).

- Beekeeping in China-Six species of honeybee genus are found in china. Two APIs mellifera and APIs cerana are managed for their product in china colony density is 0.73per square kilometer. More than I million beehive registered in shangai. This hives contributes one third of the honey royal jelly is half production all over the country. Asian honey bee not productive. Apis mellifera ligustica are more productive average annual yield of honey production of an apis mellifera colony is 50 kilogram.

3) Beekeeping is deep rooted household and long standing activity for rural communities of Ethiopia. Where millions of honeybee colonies are kept in traditional hives in backyards and in forest using at different geographical location. The international bee research association was formed on Monday 24th January 1949.We learned about bee science and beekeeping. The study of bees and bee product studied in other science such as a gas chromata (Sarah L Jones,H Richard Jones and reas thrasyvoulou 27 june 2011).

4) Bees and their products have well known & wide consumer preference in land ownership does not required for beekeeping. Locally tools and with equipment it should be started. Example wax and honey among others which can be sold in local market. Regular income source for farm and families. Complementary service such as crop pollination farm family nutrition can be increased by bee product. In many countries honey hunters can be found .Fire & smoke have used to rid the bees from their nest. Entire colony can be destroyed .Along side honey hunting is traditional forms of beekeeping. Small scale farmers provide protection for bee colonies. Hole is provided in wall a clay pot or basket attached to tree branch. So bees can colonize it. Without destroying the colony we can harvest a honey. Children as a protein supplement. More advanced form of beekeeping is purposed, made hive it provide pollination service for fruit crops. It is more profient and efficient management. Beekeeping as a business as well as market potential. (Martin Hilmi ,Nicola Bradbear and danilo meja 2011).

5) Important pollinators of agriculture crops is honey bee. North America and some European countries high annual losses of honey bee. We study relationship between multiple factors including

pathogens and abundance colony health was assessed PCR and quntitative PCR used to evaluate seven honey bee pathogen. Early in the year pathogen prevalence was lower.

Greater in the summer. Apis mellifera this honeybee are primary insect pollinators of agriculture crops. Pollination done for fruits, nuts and vegetable Pollination of crops agriculture non agriculture take by honey bee. Honey bee colony losses in the US. Multiple factors are present such as impact colony health, including pathogen (mite, viruses, bacteria and fungi) colony genetics, queen failure, nutrition, weather, nutrition. Colonies contain 35000 sterile, female workers, males are hundred reproductive queen is single.

6) CONCLUSION –

Beehive is easy to use for farmers, Pollination is done by bees. Crop yield is increased. We should get royal jelly, honey, bee venom, propolies. We studied traditional method and we studied different advantages and limitation . Also studied bees type and how much honey is produced that we have studied.

7) REFERENCES

1)Ahmada , Al-Ghamdl, Mohammed M. volume 10,"Current status of beekeeping in the Arabian countries and urgent needs."
2) Ryo kohsaka, MI sun park, Yuta vchiyama volume 2, issue2, (june 2017),"Beekeeping and honey production in japan and south korea past and present."
3) Beekeeping in united kingdom.
4) V.A. Gaga and V.N.Esaulov(2016),"innovative technologies and modern facilities in beekeeping."
5)Hasan vural and suleyman karaman(1 november 2010),"Socio-economic analysis of the beekeeping and the effect of beehive type on honey production."
6)Tarunika jain agrawal volume 2 issue(7 july 2014),"beekeeping industry in india future potential."
7)Fredrick S.Benecke published in (april 2007),"Commercial beekeeping in australia 2007rural industries research and development."
8)Doug Somerville (july 2008),"A study of new-zealand beekeeping lessons for australia."
9)Imadeddin motid albaba," Precision beekeeping is the best choice sustaining the lives by the major pollinater local network are feasible & essential for precision beekeeping.
10)M kishan tej R Aruna M R srinivasan (2017),"Beekeeping in india."
11)Martin Hilmi, Nicola Bradbear and danilo meja(2011),"Beekeeping and sustainable livelihood."
12)William Glermy lan cavigli Katie F Daudhen baugh rosemarie Radford susan E Kegley michelie L Flenniken(August 17-2017) ,"Honeybee Apis mellifera colony health and pathogen compositionin migratory beekeeping operation involved in California almond pollination."