

# ENTREPRENEURSHIP DEVELOPMENT



## Chawki Rearing Center—A Sustainable Enterprise



Sericulture is part of the cultural heritage of Mysore district. Mysore silk is popular world over and has a history of over 220 years. Mulberry, the host plant for silkworms, is being cultivated on an area of 2,371 ha in Mysore district contributing to an average yield of 59kg cocoons/100 Disease Free Layings (DFL). Farmers generally purchase worms of about 10 days (2<sup>nd</sup> Moult) from Chawki Rearing Centers (CRCs) and rear them for the next 30 days to avoid pests and diseases at the very young, vulnerable stage due to poor hygienic condition, especially when the rearing house is part of the farmers' dwelling house. Here, 'Chawki' refers to the young silk worms reared from hatching to 2<sup>nd</sup> moult stage. The quality of these chawki worms is the crux of successful silkworm rearing. Despite the fact, there were hardly any CRCs operating in Mysore district until 2006.

With this background, KVK Mysore introduced Chawki Rearing Centers in a project mode in two districts viz., Mysore and Chamarajanagar in 2008. So far, three CRCs have been initiated by the KVK, two in Mysore and one in Chamarajanagar district. All the three CRCs have completed one year of successful operation. Two of the three CRS are being run by farmers' SHGs whereas the KVK is directly managing one CRC. The three CRCs put together generated 2520 man days of employment. With this kind of engagement in CRCs, each SHG member is earning between Rs 1000 to Rs 1500 per month, which works out to a total of Rs 126000 wages earned. It may be noted here that this is an additional income for those involved in chawki rearing since it is only a part-time work for the members that involves about 3 hours of work a day. Further, it has an incremental contribution to silk industry through increased cocoon yield is worth Rs 7800000. This apart, the CRC as a seri-enterprise has witnessed



## Salient Features

- CRCs provide healthy 2<sup>nd</sup>moult worms ensuring better cocoon yield
- By hatching under controlled temperature, humidity and hygienic conditions, the disease incidence on silkworms is reduced significantly
- Additionally, through black-boxing technique, the CRCs ensure uniform hatching of eggs
- CRCs, in the process, save about 10 days of rearing time for farmers thus reducing their overall production cost
- Created a lot of part-time as well as full-time rural employment opportunities among low income families

innovations like black-boxing for uniform hatching, institutional innovations like participatory chawki management by farmers' SHGs and use of indigenous techniques in temperature and humidity management.

Inspired by the success of the three CRCs, three more CRCs have already started working, two in Mysore and one in Chamarajanagar district. What is heartening is that the traditional dry land sericulture areas like Kuderu in Chamarajanagar, where sericulture had almost disappeared due to poor monsoon and irrigation facilities, the sericulture enterprise is re-emerging. The success of CRCs is owed to the firm conviction of the host institution JSS Mahavidyapeetha, which believed that this is possible, and hence supported the initiative taken up by both the JSS KVK and an additional effort under the special SGSY project.

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## Self Employment by Raising Mango Nursery



**A**gro-climatic condition and hill slope in South Tripura district is very much congenial for successful growing of horticultural crops. Mango variety Amrapali has been found most suitable variety under Tripura agro-climatic condition. Amrapali is a dwarf variety and vigorous type with regular and late bearing. It yields on an average 16 t/ha with 1600 plant population. Demand of mango seedlings in the district is more than 1 lakh per year and production of seedlings and grafted mango are not meeting the demand.

KVK of South Tripura trained rural youth for production of quality planting materials. Among the trainees three school drop outs namely, Shri Priyabrata Datta and Shri Uttam Deb Barma from Takmacherra village and Shri Manoranjan Deb Barma from Manu village of Bokafa Block of South Tripura established mango nurseries at their home gardens with an initial investment of Rs 5000 and now they are earning a gross income of Rs 30000 to 90000 per year. As a result, about 45 youth farmers also motivated and established mango nurseries in the vicinity of KVK. They are producing about 50000 – 100000 mango planting materials every year in the district.

Most important fact is that the family members who used to go outside in search of wages are now engaged in their own farm nursery. Nursery is on small scale, but it has helped in creating an assured employment and raising social value of the rural youth farmers and farm women in the community.



## Salient Features

- Established mango nursery units by rural youth
- Nursery units meeting the demand of mango planting material in the district
- Mango nurseries created self employment among rural youth
- Socio-economic status of the farmers improved due to the establishment of mango nurseries

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## Nursery Raising Enhanced Farmers Income



**A**nnual income of small to medium land holders between Rs 12000-15000/ha was too little to provide bread and butter to their families. KVK Jhunjhunu had organised a training on nursery raising for enhancing additional income of desert farmers. One of the farmers, Shri Kripal Singh Dayal of Dayalon ka bas in district Jhunjhunu established nursery unit under the technical guidance of KVK. He planted Ganganagari rose on half bigha land and earned Rs 8000 per month. Merigold cultivated on one bigha land earned Rs 25000 during cropping season. In seven bighas land he raised mother plants of ber, chiku, mango, mausumi, orange, lemon, jamun, pomegranate and rose. In his high tech nursery under net-shade he has grown number of different improved plants, vegetable seedlings and variety of ornamental plants using mini sprinkler and drip system.

Department of horticulture, ornamental growers and farmers had purchased plants from his nursery unit which generated a net income of Rs 5 lakh per annum to him. Other farmers with small land holdings got inspired by him and started cultivation of rose and merigold on their fields which raised the income of farmers up to 1.5 lakh per annum. This enabled farmers to provide good education to their

## Salient Features

- Cultivation of rose and merigold improved the income of small land holding farmers
- Farmers could provide good education to their children from public schools
- Nursery raising adopted by 15 farmers proved an income generating enterprise
- Cultivation of okra after merigold minimized the attack of nematode
- Area under vegetable cultivation increased to 2 lakh ha in Jhunjhunu district

children from public schools situated in Jhunjhunu town in addition to livelihood security under limited land holdings. Cultivation of okra after merigold minimized the attack of nematode. Cultivation of seasonal vegetables by buying seedlings from this nursery and other nurseries has increased up to 2 lakh hectare in Jhunjhunu district which enhanced the income of vegetable growers.



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## House Wife Become an Entrepreneur



**S**mt Jyothi Mahipal, 45 years old Commerce Graduate and married women belonged to Koppal District in North Karnataka, received training from AICRP - H.Sc (F & N), UAS, Bengaluru on processing and value added products from ragi (finger millet). As ragi is rich in calcium and good for health, she prepared ragi malt with different flavours, delicious ragi peda using ragi malt powder, halwa, popped ragi snack items, ragi dosa mix and ragi hurihittu with germinated methi powder for diabetics with necessary information on nutrition labeling, packaging, standardization of product and marketing avenues. She is following eco-friendly packaging and providing employment opportunities for rural women. She is marketing her products under a brand name VATHSALYA.

She participated in exhibition organized by the Government of India, food technologists meet, international food product and bakery technology meet and Krishi Mela at UAS, Bengaluru. She sold 150 kg of ragi malt and 50 kg of ragi hurihittu and earned 25% profit in Krishi Mela organized by UAS, Bengaluru at GVK campus during the month of November, 2006. She received 3<sup>rd</sup> prize for displaying her products as best stall named Ragi Mane in Krishi Mela, 2007 at UAS, Bengaluru. The participation in these events has given her lot of marketing potentiality, new avenues, and confidence to go ahead with new ventures. She sold her products at local shops at the beginning. Later on products are sold at an outlet in her residence located in Jayanagar, Bengaluru and also in other districts of Karnataka such as Hubli-Dharwad, Koppal and Gadag. Besides, she had tie up with other agencies like Desi, Total Mall, MK Ahmed Retails, Nilgiris and Sun



## Salient Features

- Gained Knowledge and skill on processing and value addition of millets
- Prepared variety of quality and nutritious products from ragi
- Earned 40 % profit by selling the products
- Established linkage with marketing and credit agencies
- Created employment opportunity for rural women
- A house wife become as successful entrepreneur through value added products from ragi

Corporate, Bakers Hut . The profit through the sale of her products is around 40% and her two products peda and chuda is a favorite item for many functions which she prepares on request by the consumers. Presently on an average she is selling 200 kg ragi aralittu, 300 kg ragi malt, 150 kg hurihittu, 200 kg chuda, 300 kg dosamix per month.

With her confidence, encouragement from family and technical guidance by faculty of AICRP-H.Sc (F & N), UAS, Bengaluru, she has established micro-enterprise on ragi products. Further, Khadi gramodhyog has come forward to finance her for expanding the unit to process small millets like navane (Italian millet), same (Little millet), haraka (Kodo millet) and baragu (Proso millet) as these have good market potential in future. Smt Jyothi has trapped the potential of millets and moving a head to become a successful entrepreneur to reach export market.

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## Traditional Phulkari Becomes a Rural Enterprise



**P**hulkari is embroidered shawl formerly worn by women of Punjab. It is cultural heritage of Punjab. Phulkari trade was flourishing in Patiala but in an unorganized manner and rural women were merely in status of workers. At this juncture, KVK Patiala organized skill training, capacity building and extension activities for rural women. Having developed confidence among women, they established their own small scale enterprises under the technical guidance of KVK faculty and avoided the exploitation of middle men.

KVK Patiala has been organizing training programmes on Phulkari since 1996. KVK Patiala organized around 2 training programmes on different facets of Phulkari per year benefiting an average of 41 rural girls and farm women. A total of 225 demonstrations were carried out by KVK benefiting 579 farm women and rural girls over a period of fourteen years covering the aspects like block printing and tracing, innovation in base material, traditional pattern and use of beads and sequins. Further, KVK also organized Phulkari Mela on 13.8.2009 and provided a platform for rural women where they could share their views for their upliftment. KVK organized 5 mahila gosthis in different villages of Patiala district in last three years. A total of 56 rural girls and farm women participated in these gosthis. KVK promoted Phulkari as a vocation through different print and electronic media also.



## Salient Features

- Entrepreneurs on Phulkari have become role models for fellow villagers
- Rural women and rural girls of the district are getting additional income out of Phulkari craft enterprise
- Many trainees have started their own retail outlets for sale of their products
- Traditional Phulkari become as rural enterprise and created self employment among rural women and girls

In the beginning, majority of trainees adopted it at domestic level. But, later on when the worth of Phulkari craft in terms of profitability was proved, more number of trainees started adopting it at commercial scale. Adoption of Phulkari craft was almost 100 %. On an average the trainees were earning around Rs 50000 per annum if adopted at commercial scale. Even those trainees who adopted Phulkari at domestic level earned Rs. 10000 - 15000 per annum which were being incurred on purchase of Phulkari craft for own use.

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## Mushroom Promoted Farm Women Economically



**D**irectorate of Research on Women in Agriculture (DRWA), Bhubaneswar introduced mushroom cultivation in 2007 through training followed by skill demonstrations. It has created an impact on Jai Sriram SGH, constituted in 2006 with 12 members of rural women belonging to Salepur Block of Cuttack District in Odisha. Group established oyster mushroom production unit with 30 beds by an initial investment of Rs 450 at Rs 15 per bed under the technical guidance of DRWA. Unit yielded 50 kg mushroom. Out of which, members of SHG used 30 kg for their home consumption and rest 20 kg sold @ Rs 40/kg in village itself and earned Rs 800 with a net profit of Rs 350.

Members of SHG were exposed to a series of activities such as motivation for group cohesiveness, focus group discussions, exposure to successful units, regular advisory services and sharing of experiences of successful farmers organized by DRWA. Having gained skill and experience on mushroom cultivation by each member of SHG, enterprise has been branched into individual units with 10 - 30 beds. On an average, individual unit has produced 5 kg mushroom and earned an income of Rs 200. There was no problem of marketing as village haat is nearby and also no scope of preservation because of demand for raw mushroom as well no surplus production.



## Salient Features

- Enhanced the knowledge and skill of rural women on mushroom cultivation
- Developed leadership and team spirit among rural women
- Social stigma of treating mushroom as non-vegetarian item has been removed
- Established linkage with marketing and credit agencies
- Rural women promoted economically by establishing mushroom units

Smt Sabitri Rout, President of SHG has trained inspired rural women belonging to neighbouring villages viz., Jaripada, Chapada, Safa kanpur, Kochila Nuagaon and Rameswar. A total of 15 rural women trainees from Jaripada village has formed as Sri Laxmi SHG and established a mushroom production unit in a large scale with the financial assistance of Rs 2.5 lakh from Gramya Bank, Tangi. During Tribal Fair of Odisha, Sri Laxmi SHG presented the details of unit in the presence of his Excellency the Governor of Odisha.

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## Mushroom Production Opened a New Vista for Better Income



Sikkim, being the distinctive hotspot of rich biodiversity has served as the habitat of a wide variety of mushroom species (locally called *Cheaoe*), either it is commonly cultivated oyster or naturally grown morsels. Traditionally it is a popular food item of the tribal people. Mushroom production in Sikkim dates back to the late 70's, but lost its momentum due to dearth of knowledge about the distinction between the poisonous and non-poisonous species, improved production technology, availability of quality spawn, processing and marketing. In fact, mushroom production has tremendous potential in Sikkim because of its congenial climate (sub tropical to alpine) and availability of plenty of bio-waste materials.

Initially the KVK has standardized the organic based low cost mushroom production technology and popularised through various activities among the farmers in the district during 2007- 2008. The technology was imparted through skill based training and demonstration on scientific oyster mushroom cultivation and management of spent mushroom beds for vermicomposting. The farm women of Nari Jagaran self help group (SHG) of Rey Mindu village were established mushroom production unit with 10 beds under technical guidance of faculty of KVK during 2008-09. The critical input spawn of *Hypsizygus ulumarius* and *Pleurotus florida* supplied by KVK to them. The unit produced 124.70 kg mushroom with a net profit of Rs.598. Benefit cost ratio was observed to be 2.5:1 which shows its high return efficiency. Being impressed with this result, the women SHG received a financial assistance of Rs.10000 from the State Rural Development



## Salient Features

- Standardized organic based low cost oyster mushroom production technology to suit to the conditions of Sikkim
- Established oyster mushroom production units with low initial expenditure
- It possesses highest bioconversion ability i.e. more than 60%.
- It thrives well in the moderate range of temperature 20-30 °C with 80-85% humidity
- Production was taken almost year round (10 months)
- Created self employment and additional income

Agency, Government of Sikkim and expanded the unit in a large scale with more number of beds.

Smt. Shanti Lepcha (9775476307) , Smt. Kesang Lepcha (9775960622) from Rey village, Smt. Bina Subba (09474356998) , Smt. Sharmistha (9733301921), Shri. Sonam Bhutia, women of Ujjala SHG from Ranka village are some of the successful mushroom growers of the East district of Sikkim. They are growing mushroom successfully round the year except during extreme cold at household level with minimum use of resources. Marketing of mushroom made easy as it is the part of the food habit of the people. Commercial oyster mushroom cultivation has become the talk of the day and the technology has been spread to the other districts of Sikkim like North, West and South Sikkim.

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## Milky Mushroom Empowered Rural Youth



**K**VK Villupuram introduced milky mushroom cultivation among 1200 unemployed rural youth in 2009. They formed as eight registered associations viz., Arokya Milky Mushroom Growers Association (AMMGA-E), Eruddayanpattu, Marutham Milky Mushroom Growers Association (MMMGA), Erukalankuritchi, Bismi Milky Mushroom Growers Association (BMMGA), Tindivanam, Hitech Milky Mushroom Growers Association (HTMMGA), Navammal Kapper, Mazhaithuli Milky Mushroom Growers Association (MMMGA), Valavanoor, Annai Milky Mushroom Growers Association (AMMGA), Molassur, Pasun Thalir Milky Mushroom Growers Association (PTMMGA), Kattuchiviri, Arokiya Milky Mushroom Growers Association (AMMGA-C), Chinnakallipattu. KVK conducted 55 repeated and intensive training courses on commercial production of milky mushroom and its spawn for the members of these eight Associations and also sensitized them for bank loans and market avenues.

Production of milky mushroom by these Associations ranged from 95 Kg to 1200Kg/annum. They sold mushrooms to the consumers through direct sales at farmers market and through door delivery to apartments and quarters @ Rs 100/kg. BMMGA produced value added products from mushrooms such as mushroom soup, mushroom samosa, mushroom chappathi, chilli mushroom and mushroom manchurian. But, PTMMGA produced only mushroom soup. On an average 600 soup packets were produced per month by BMMGA and earned an income of Rs 435000 where as PTMMGA earned an income of Rs 23000. Eight Associations



## Salient Features

- Identified willing unemployed rural youth and made them to form as registered associations.
- Extended technical guidance and support to the members of eight associations through the funds from the Ministry of Science and Technology, DBT, Government of India, New Delhi
- Annual gross income earned Associations ranged from Rs 9500 to 555000
- Developed entrepreneurship among unemployed rural youth and farmers

viz., MMMGA, BMMGA, HTMMGA, AMMGA-E, MMMGA-V, AMMGA, PTMMGA and AMMGA-C earned a gross income of Rs 124600, Rs 555000, Rs 302500, Rs 94060, Rs 83400, Rs 52300, Rs 62000 and Rs 9500 per year, respectively. To be as a self sustainable milky mushroom production unit, these Associations have produced 35 to 150 culture tubes and spawn on their own. Further, mother spawn was also produced by all of them using sorghum as raw material. Bed spawn production by these associations ranged from 475 to 4000 numbers. HMMGA produced 42 t of vermicompost during 2<sup>nd</sup> year as a product of value addition of mushroom spent waste, which remains as residue after mushroom cultivation. Milky mushroom cultivation further spread among 1875 rural youth belonging to Chennai, Villupuram, Cuddalore, Trichy, Perambalur and Ariyalur districts of Tamil Nadu through organization of skill training courses by these eight Associations.

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## Tribal Women Sustained Livelihood through Mushroom



Hazaribag district is congenial for mushroom production throughout the year except the months of May and June. Mushroom is preferred by all the community of the district. KVK Hazaribag introduced mushroom cultivation as an enterprise for sustainable livelihood option for tribal women by motivation, persuasion, interaction and arousing interest in them through their visit to mushroom production unit of the KVK. Initially 28 tribal women from four different villages were imparted training on mushroom production for three days at KVK. In place of certificate the women were provided with 20 medium size bags of spawn to start production in their houses with locally available materials. Entire process from unit establishment to harvesting of mushroom was supervised by KVK. Women produced 224 kg mushroom and sold in the local market @ Rs 35 per kg.

Success of women prompted 1026 tribal women to undergo training on mushroom cultivation at KVK. Within five years, KVK has arranged 4730 kg spawn to the ex-trainees as well as other farmers who adopted mushroom cultivation in their back home situation. Mushroom cultivation has provided alternate income and self employment to tribal women of Hazaribag. Mushroom cultivation has been spread to aspiring farmers of both men and women from



## Salient Features

- Mushroom is a preferred food item in Jharkhand
- Mushroom production is a low cost technology
- Women can produce mushroom at household level with locally available resources
- It has the potentiality to offer additional income and employment to tribal women of Jharkhand
- KVK as a facilitator can boost up the women to produce more and more mushroom

other districts of Jharkhand, Bihar and West Bengal and they are regularly approaching KVK for technical guidance. Development department of Hazaribag has provided mushroom shed to all the women who had undergone training at KVK. Endeavour of KVK proved very effective in providing sustainable livelihood to the tribal women of Hazaribag.

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## Mushroom Production at High Altitude Areas



**P**hek district is rich in natural flora and fauna. Climate suits well to oyster mushroom production as it grows well at moderate temperature ranging between 22 to 25°C with 55 to 70% humidity. It can be grown round the year, except during extreme cold months, at household level with minimum inputs. Marketing of the produce is also not a problem as mushrooms are part of the food habit of tribal people.

Considering all these facts, KVK Phek disseminated cultivation of oyster mushroom among farmers of the district. KVK trained 70 farmers from five different villages during 2007-08. Six trainees from Pfutsero village, 3 from Porba, 2 from Pfutseromi, and 2 from Sakaraba village have established mushroom production units. Mushroom produced by the villagers other than Pfutsero and Pfutseromi villages was primarily consumed by boiling with other vegetables and meat (70%) or frying (10%). In some cases they dried the mushroom and preserved (20%). However producers of Pfutsero and Pfutseromi villages could sell about 70% of surplus produce.

Shri Lhiwepre Ritse (09436010213) of Pfutseromi village, who received training in the first batch, could earn Rs 4500 for a batch of thirty bags having 2.5 kg

## Salient Features

- Climate of Phek region suits well for oyster mushroom production
- Introduced mushroom cultivation and farmers came forward to establish mushroom production units
- Shri Lhiwepre Ritse could earn Rs 4500 for a batch of thirty bags on an expense of only Rs 1805.
- Overall production was recorded 812 kg in 2008-09 that has increased to 1060 kg in 2009-10
- Now mushroom cultivation is being spread to other villages

paddy straw as substrate on an expense of only Rs 1805. Overall production from adopted villages recorded 812 kg in 2008-09. It has increased to 1060 kg in 2009-10. After seeing the success of these units, farmers from Gidemi, Kikruma and Zellome villages were encouraged to establish mushroom production units.



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## Rural Youth Self Employed through Apiculture



Unemployed youth of Baran district were highly frustrated and proved burden on the parents having meager earning from traditional farming. Some of the youth migrated to cities for getting job but high living cost and job availability forced them to return back to their villages. Parents contacted KVK, Baran for guiding their children in new income earning activities related to agriculture. Then KVK conducted a pre-survey to judge the education and knowledge level of rural youth on which basis a training programme on apiculture technique was developed with an aim to provide employment opportunities for their livelihood security in rural area of Baran district.

KVK organised a 30 days training for unemployed youths on apiculture during December, 2008 and upgraded their knowledge from time to time through scientists-farmers interface. Nine youth started an enterprise on apiculture. Initially 100 boxes were arranged to them under the National Horticulture Mission scheme on 50% subsidy in 2009. Later 50 more boxes were added. Based on flowering cycle of crops like mustard, coriander, sufedai, litchi, bajra, cotton and sunflower, they have shifted/migrated the bee hives from Baran district to villages of Punjab and Haryana. Gross income from apiculture unit was Rs.13.1 lakh and they got a net profit of Rs 7.5 lakh by the end of April 2010. Each unemployed youth earned around Rs 83000 within a year. Unemployed youth of other villages of Baran



## Salient Features

- KVK introduced apiculture as an enterprise among rural youth
- Nine members rural youth adopted apiculture as an enterprise and established 150 boxes apiary with the assistance of NHM and technical guidance of KVK
- Each member of group earning Rs 83000 per year
- Crop growers of Punjab, Haryana and Baran district were benefited by bee cross pollination.
- Provided quality honey to various firms including Khadi and Village Industries
- Youth migration from villages to cities halted

district got motivated and obtained training on apiculture from this group of entrepreneurs under the supervision of KVK Baran. They have submitted applications to NHM for establishing their own apiary units. This venture has not only enhanced the income of rural youth but also established them as inspiring educated rural youth in apiculture enterprise.

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## Bee Keeping made Farmer as Entrepreneur



**H**oney bees are one of the most well known, popular and economically beneficial insects. For thousands of years, man has plundered colonies to get honey. Now honey bees are kept in artificial bee hives throughout the world. Many people make it a living from bees, most keepers are hobbyist who have only few hives and who simply enjoys working with these busy and fascinating insect.

In March 2007, when officials of KVK of South Sikkim surveyed all the villages surrounding Namthang area to see the farming system adopted by the farmers, before starting the functioning of the Kendra and visited the farm of Shri Bal Bahadur and learnt that farmers of Namthang area are interested in Apiculture, incase proper training and guidance are provided to them. KVK conducted a workshop to find out the prospect and constrains of bee keeping in Namthang area. Sixty farmers attended training. Later in the same month KVK conducted four days training on bee keeping with the support of resource person from State Institute of Rural Development (SIRD) at its campus. After the training Shri Bal Bahadur was in constant touch with KVK and established bee colonies in 2007 and sold first harvest of honey worth of Rs 6000. In the second year, he expanded his colonies with eight boxes at subsidized rate from Horticulture Department. By the end of 2008, he sold Rs 12000 worth of honey and Rs 20000 worth of colonies to Science and Technology Department through KVK. In the third Year up to June



## Salient Features

- Shifted bee colonies from wooden log to scientific bee boxes
- Rapid multiplication of colonies through scientific method
- Gained good market
- Increased crop yield and improved quality of produce due to cross pollination by honey bees near by fields
- Farmer became an entrepreneur through bee keeping

2009 he has sold honey worth Rs 17000 and has kept colonies worth Rs 100000 ready for sale to Science and Technology Department.

Recently, Shri Dawcho Lepcha, Hon'ble minister for Food Security and Agriculture Development, Horticulture and Cash Crop Development and Irrigation and Flood Control Department, along with the other senior officers of both Agriculture and Horticulture visited his bee colonies. Hon'ble Minister was impressed with his work and gave him cash prize. For Bal Bahadur it is an additional income without any land requirement and time except for proper vigilance at times for pest. KVK South Sikkim envisages to make Namthang a honey belt from a dry belt of South Sikkim.

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## A Tribal Farmer Becomes a Successful Bee-Keeper



**S**hri Taleswar Mahato, a tribal farmer from 16 member family of Kharkhutoli village, Ranchi used to work hard in his 3.2 ha land to feed the family members. As mostly of his land was rainfed upland in nature, other members of the family had to work as agriculture laboures in others field for sustenance of the family as the productivity was very low.

Shri Mahato enrolled his name for training on bee-keeping offered by KVK for duration of one month. With utmost sincerity and dedication Shri Mahato successfully completed the training and he started bee-keeping with two Italian bee boxes under the guidance of KVK faculty. This was the beginning of the end of his plight. At the end of the same year he multiplied the bee-colony from 2 to 4 with production of 140 kg honey that fetched him Rs 9800.

Then he started increasing the number of colony as well as selling out old colonies to earn dual income from colony and honey. In the next four years total income earned was Rs 290700 by selling 34 bee-colonies @ Rs100 and 1710 kg honey @ Rs170 per kg. He invested his earning for better return from agriculture

## Salient Features

- Honey has considerable market demand
- Bee-keeping is becoming popular among youths
- Proper guidance can make this enterprise a lucrative one
- Return from apiary is almost certain
- Bee-keeping can be taken up throughout the year

like digging two dug wells for irrigation, application of bio and organic fertilizer, improved seeds of vegetable, cereals, pulses and oilseeds. Diversified income from bee-keeping and agriculture has helped Shri Mahato to improve the socio-economic status of his family in that area.



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## Bee Keeping – As Subsidiary Enterprise



Economic status of farming community in Mohindergarh district of Haryana is relatively poor due to the small land holdings of the farmers. Declining water resources have further restricted the options of the farmers for adopting diversified irrigated cropping systems. Under these circumstances, farmers of this area have no other option but to adopt subsidiary occupations. On exploring various possibilities in year 2003, bee keeping seemed to be a good option because mustard is the major *rabi* crop of the region.

Then KVK Mohindergarh introduced scientific bee keeping in the district through organizing vocational training courses. A total of 528 farmers have been motivated towards setting up of bee keeping units in the year 2004 and subsequent years. At present, 105 beekeeping units have been established by the trainees of KVK in 22 villages. One of the problems faced in running the bee keeping units was to make arrangement of flora in dearth period (June-Sept) and it was overcome by migrating the bee colonies on hilly areas of Haryana, Punjab and Himachal Pradesh during this season. For easier management farmers were advised to form clubs. Farmers started migration of bee colonies which facilitated the adoption further. In

## Salient Features

- Bee keeping does not compete with other agricultural enterprises for resources
- Heavy initial investments not required.
- Recurring expenditure also is negligible
- Requires simple equipments and thus provides rural employment for their fabrication
- Migration of bee colonies during dearth period is the key for success
- Pollination by bees improves the quality and quantity of the crop produces

the year 2009, 3060 q honey was produced from 7650 bee colonies. Large scale adoption of bee keeping was the result of proper follow up of trainees in the field by KVK.



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