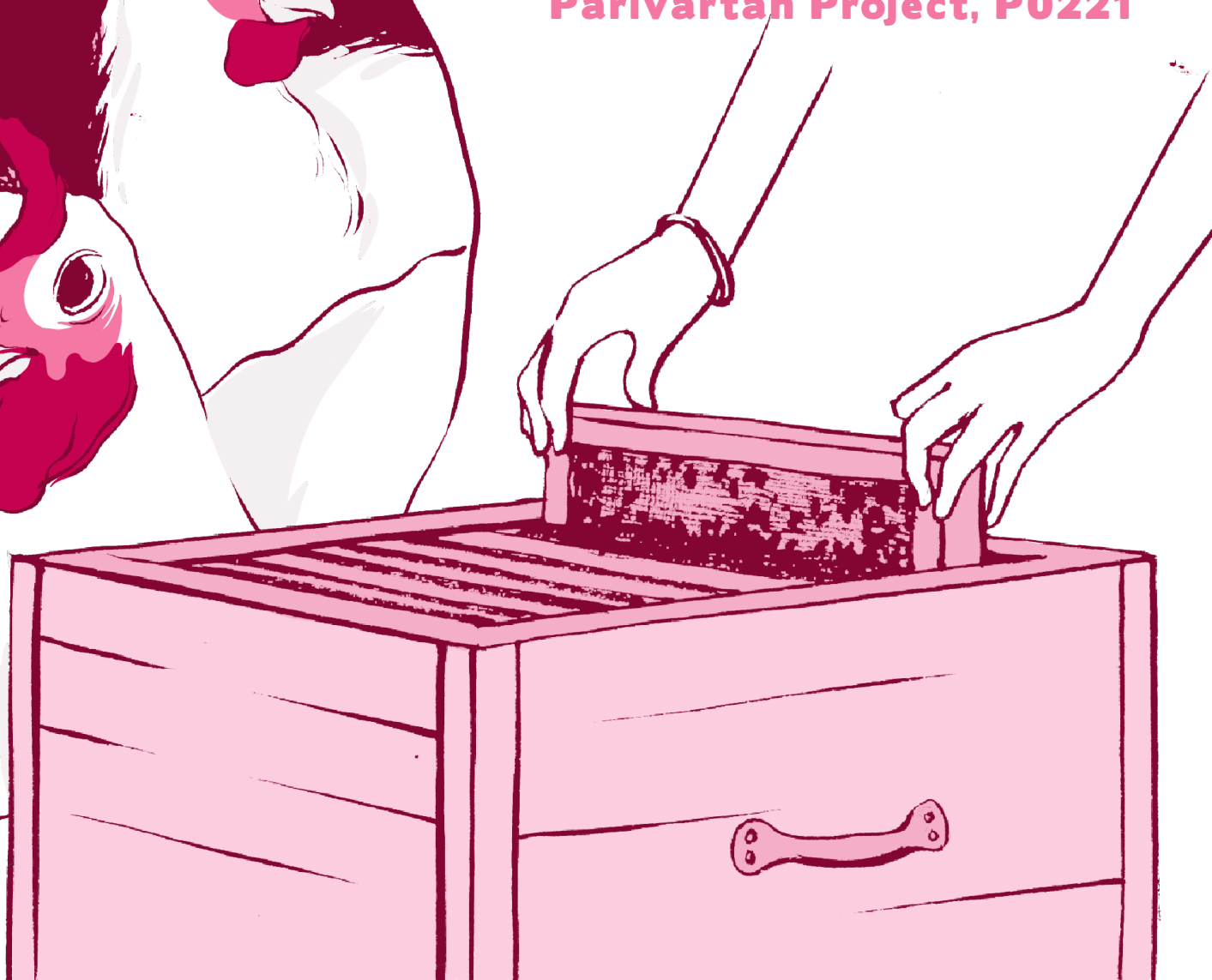




POULTRY AND BEE KEEPING

HRDP-ABOHAR
Parivartan Project, P0221



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About the Organisation

The Centre for Advanced Research & Development (CARD) is a non-government organisation established in India with its HQ at Bhopal (Madhya Pradesh) with their activities of research, evaluation, documentation and programme execution spread nation-wide. To promote innovative action research and to apply its findings for the protection and development of the society and its environment has been the prime purpose to establish CARD.



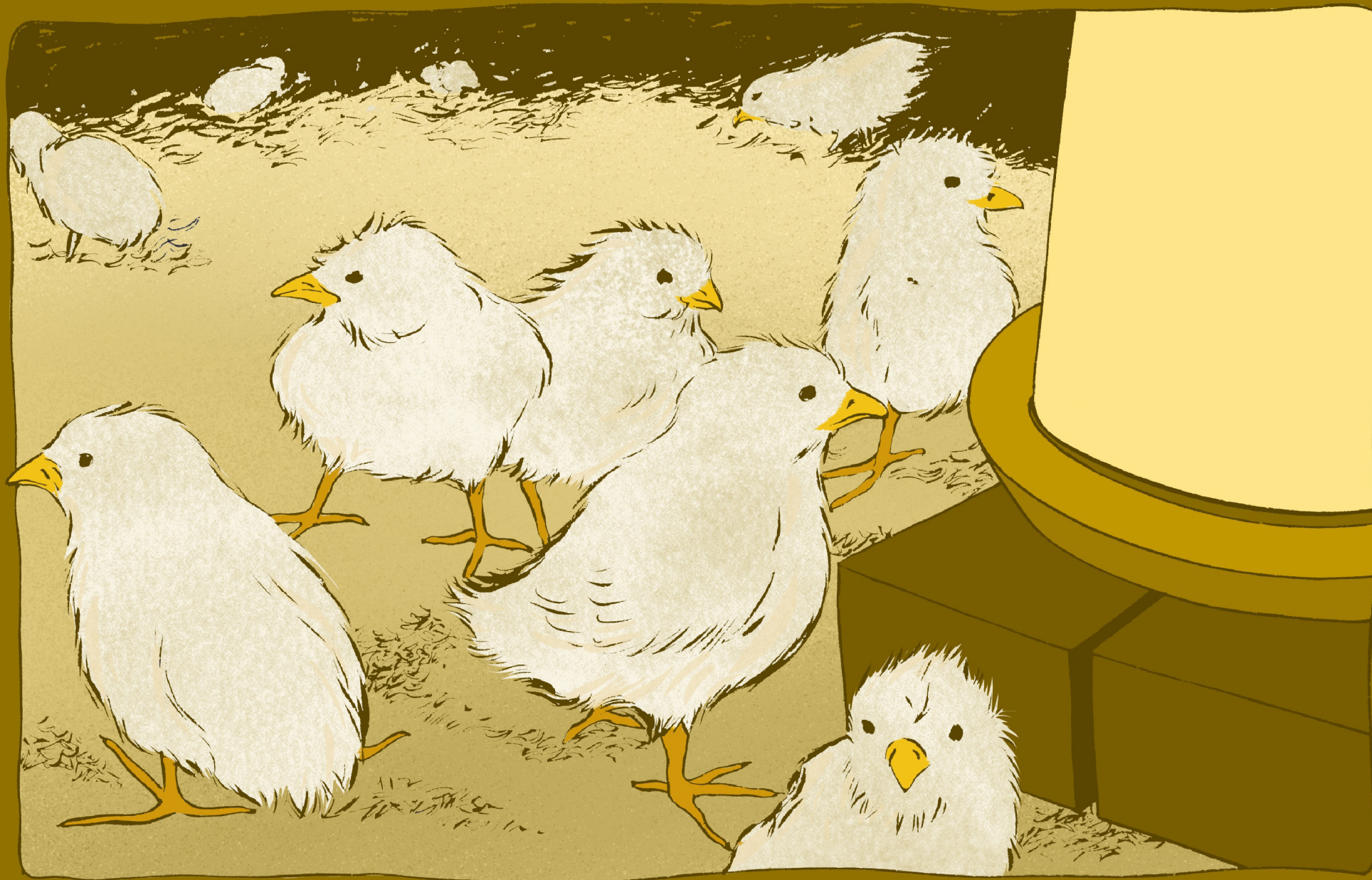
BACKYARD POULTRY

Raising of local poultry breeds in the backyard is a prime source of livelihood for the rural people. It is a type of organic farming with no harmful residue in egg and meat.

Characteristics of Backyard Poultry :

- Backyard poultry is advantageous as it provides supplementary income in the shortest possible time with minimal capital investment.
- It is simple in operation and ensures availability of egg and meat even in remote rural areas.
- As the birds used are found in the vicinity, they get better adaptability and tend to protect themselves from predators and diseases.
- Products from rural poultry farming fetch high price compared to those from intensive poultry farming that is almost double the rates of brown-shelled eggs in the local market.

In Punjab, Rhode Island Red is among the successful breeds of birds used in backyard poultry, as it has a quantitative egg-laying capacity and also has good meat weight.



Poultry Feed

Healthy poultry requires a sufficient amount of protein and carbohydrates, along with the necessary vitamins, dietary minerals, and an adequate supply of water. Some diets also require the use of grit, tiny rocks such as pieces of granite, in the feed. Grit aids in digestion by grinding food as it passes through the gizzard. The poultry feed must always remain clean and dry as contaminated feed can infect the poultry.

There are four kinds of feeds which are necessarily provided to the chicks:

- **Crushed Maize** : First and Second day
- **Pre starter** : From the second day to 10th day
- **Starter** : From the 10th day to the 30th day
- **Finisher** : From the 31st day

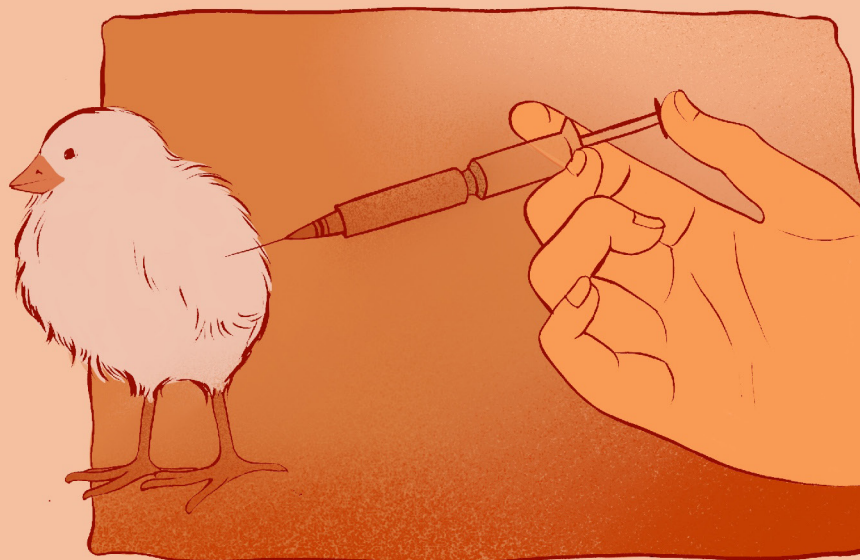
Also, provide the chicks with further supplements in the form of multivitamin and calcium at regular interval.

Disease mitigation and medications

Administering Mareks Disease vaccination is mandatory before the chicks are supplied by the suppliers. Ensure providing water and sugar (Gud) solution to all chicks immediately after they enter into the sheds and observe that all chicks should run in poultry shed for dissolving the yolk sac, also note if the yolk doesn't dissolve then this may lead to disease in chicks.

Provide brooding antibiotics (Doxycycline and Neomycine) along with B complex during the brooding period of up to 3 to 5 days to improve the immunity, nerve function, liver function, appetite and growth as well as to control mixed bacterial infection in chicks during brooding.

Ensure to give three Vaccines to all chicks on time i. e., F1 Ranikhet, Gumboro and Lassota (F2).
Ensure foot bath (add 1% KMNO₄) at the entry gate of Poultry Shed.



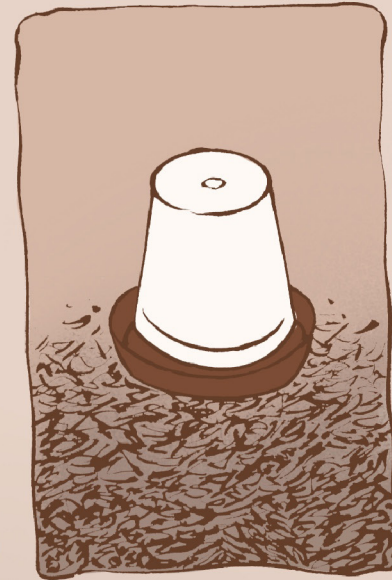
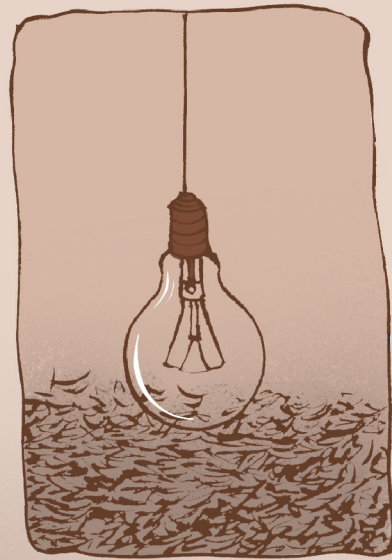
Shed Management

The main reason for the high mortality rates in poultry is due to a lack of management practices at the Poultry Sheds. To avoid the high mortality rates, following some basic care procedures is necessary :

- During the first three days, compulsorily feed the chicks on paper at the shed.
- Compulsorily place one feeder and drinker per 50 chicks in the shed.
- Dried wood ash (Kuni) of 2-inch width must be spread over the floor to absorb the litter and thus, reduce the chances of spread of diseases.
- It is necessary to clean the drinker thoroughly twice a day.
- Make a pit 1/2 inch deep in front of the gate (if the floor is not proper, give a layer of polythene below) and fill it with potassium permanganate/bleaching powder, add water to it, so that they could dip their feet in this water before entering the poultry shed.

Brooding

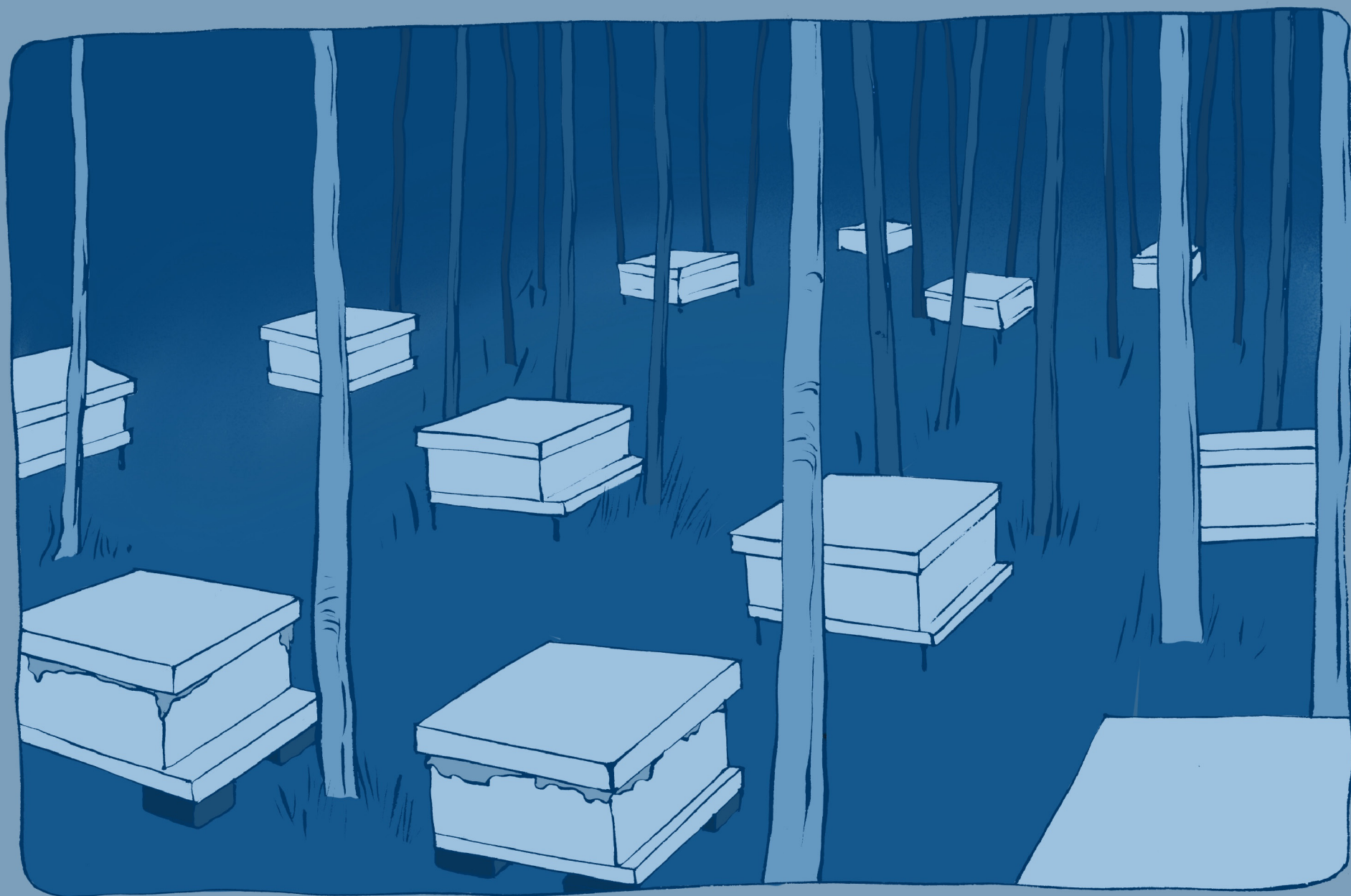
Brooding refers to rearing baby chicks. This procedure majorly involves providing adequate heat to the baby chicks, so that their body temperature is maintained. If there is no proper brooding arrangement, then the baby chicks can die due to cold. Using an incandescent bulb with a high power ranging from 100 watts to 200 watts is followed for the brooding purpose. Brooding must be done when the temperature is below 95 degrees F and can be reduced by 2 degrees F every three days until it reaches room temperature. But it should be maintained to not fall below 70 degrees F. Maintain 50% – 70% of relative humidity through proper ventilation, use of wood ash on the floor and using lime on the floor to absorb humidity. Open and cover the curtains correctly according to the weather condition. Take appropriate care that the chicks run for one or two days to dissolve the yolk sac so that the chicks do not get infected. Brooding space should be a minimum of 0.5 Sq. ft. for a Day One Chick.



BEE KEEPING (APICULTURE)

Beekeeping is the maintenance of bee colonies by humans, commonly in human-made hives. It is an agro-based enterprise for an additional income generation, especially done in rural areas. In beekeeping selected species of *Apis* genus is used. In Punjab and Haryana, *Apis mellifera* is the most popular species of bee used in apiculture. September to March is the most favourable duration for beekeeping in these states after which transferring of bee colonies to areas where pollen and nectar are available is necessary.

One must take utmost care to migrate and handle the bee colonies. Proper training is necessary before handling the bee colonies as bees tend to attack when they are moved during day time and while collecting honey from the frames. Their feed arrangement is also necessary, due to which, during the off-season, they are provided sugar solution in equal amount in each of the bee boxes. The inadequate feed may lead to the death of bees or bees leave the colony forever, which results in a massive loss for the farmer.



Training for Bee Keeping

Training on bee keeping is necessary, as to acquaint the farmers for handling the bee colony, its feeding, collection of honey and care to be taken during migration process.

The training should include the following components :

- **Selection of the right honey bee species :** Necessary to identify the species which is adaptable to regional climate and vegetation and which could provide good return on investment.
 - **Selection of Bee Box and its maintenance :** Knowledge related to frames and dimension of bee box and wood which should be chosen to make bee box.
 - **Feed arrangement during off season :** Bee collects their own food, but in off season artificial arrangement needs to be made.
 - **Migration of bee colonies :** It is necessary to put the colonies in places where there is availability of pollen and flowers. It should also be kept in mind that bees feed on selected flowers. So migration should be done to those places where there is abundance of favourable flowers for bees and places which are free from chemical spraying and natural predators.
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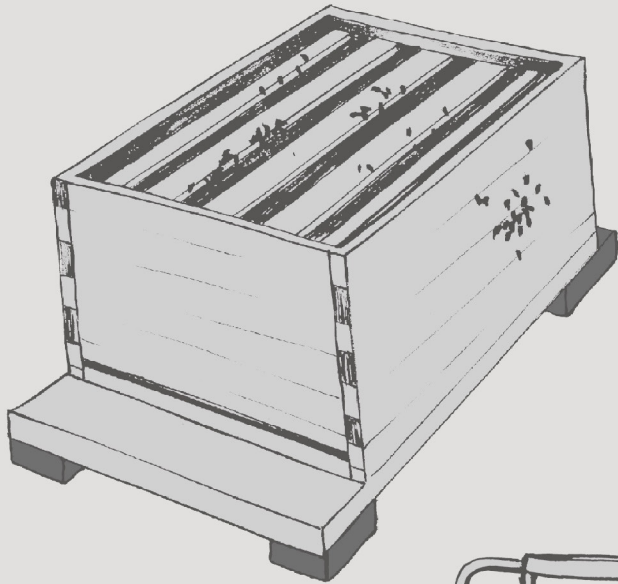


Equipment in Bee Keeping

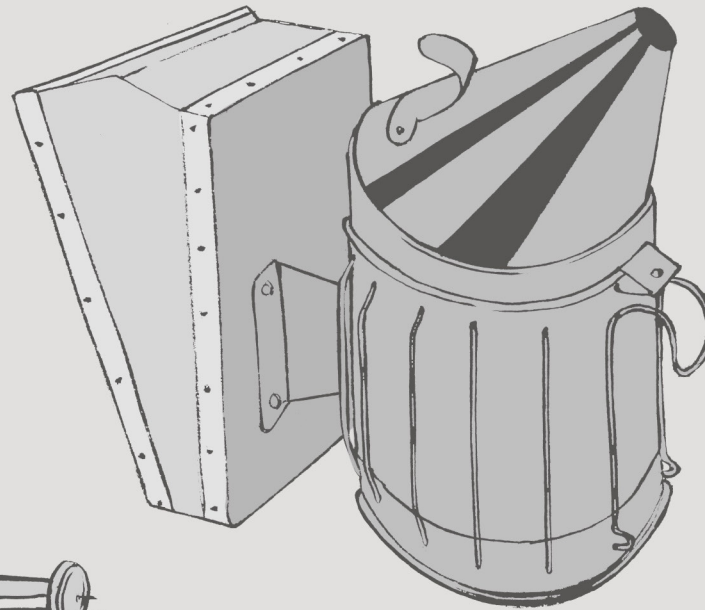
Apiculture requires the use of a variety of equipment. Some of the most widely used types of equipment are as follows :

- **Bee Box** : Standard bee box is 19.75 inches in length, 16.75 inches in width and 9.75 to 5.75 in-depth. It contains 6 to 10 frames. Good quality wood such as pine and poplar are used for their prolonged life, to construct the bee box. The bee box should be able to withstand and protect itself from termites.
 - **Smoker** : Smoker is used to warding away the bee when bee collection is completed as bee attacks those who collect honey from frames.
 - **Extractor** : Extractor is for collection of honey. It generally has openings for 6 to 10 frames where they are fitted.
 - **Collection Tray** : Tray collects honey out of the extractor.
 - **Pollen Trap** : A pollen trap is a device that fits over the hive entrance and forces returning foragers to crawl through small openings to enter the hive. The purpose of collecting pollen is to keep a reserve of high-quality protein for use during early spring brood rearing or queen rearing.
 - **Protective Clothing** : Protective clothing cover the exposed part of the body of farmers from bee stings.
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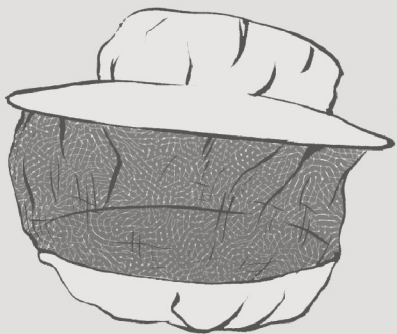
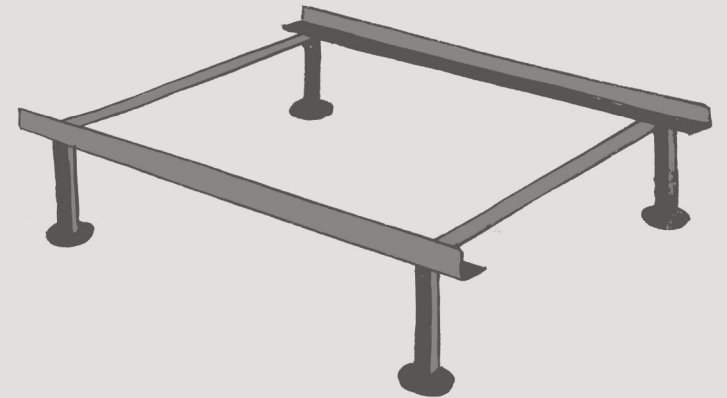
BEE BOX WITH FRAMES



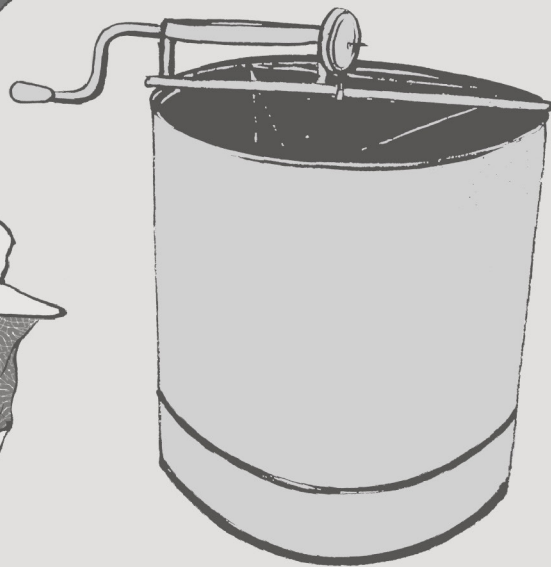
SMOKER



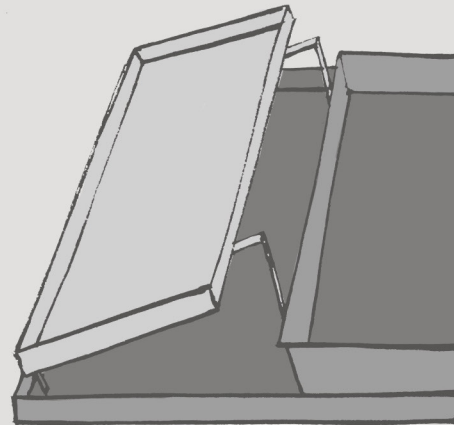
BEE BOX STAND



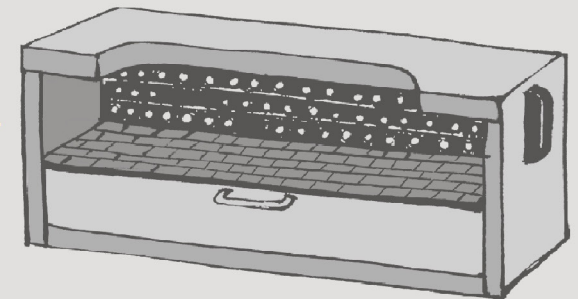
PROTECTIVE CLOTHING



HONEY EXTRACTOR



HONEY COLLECTING TRAY



POLLEN TRAP