

Chikkanna Government Arts College, Tirupur - 641 602

3.2.1 - Institution has created an ecosystem for innovations and has initiatives for creation and transfer of knowledge

A innovative Ecosystem has been created in the Zoology department and students are trained in various fields.

Ornamental Fish culture

Ornamental fishes are also known as living jewels. The increasing demand for aquarium fishes gradually paved the avenue towards global trade of ornamental fishes. World trade of ornamental fish is estimated to be about Rs. 2000 crores, but, India's share is only Rs. 15 crores, which is very insignificant. Most of the fish species of North-Eastern region of India possess high values for their attractive coloration pattern, graceful behavior, peculiar body morphology and endemism. Most of the ornamental fishes survive in freshwater. They come under eight closely related families namely, Anabantidae, Callichthyidae, Characidae, Cichlidae, Cobitidae, Cyprinodontidae, Cyprinidae and Poeciliidae. Aquarium fishes are mainly categorized into two groups namely, egg layers (oviparous) and live bearers (ovoviviparous). Majority of aquarium species are egg layers and normally external fertilization occurs. Based on this, it is again categorized into the following types. The Commercially Important indigenous species are: Reticulated Loach, Zebra Fish, Glassfish and Honey Gourami and Gold Fish. Black Shark.



Benefits

Ornamental fish keeping is easy over other pets as they don't make noise and also tank cleaning once in a while is enough (Dog barks, sheds fur and daily cleaning of shed is a must).

Ornamental fish keeping can make hobbyists to start their own farms in due course of time thus creates selfemployment opportunities.

Opportunities

In most of the shopping malls in major and metro cities, now a day's one can see fish pedicure spa. It is nothing but cleaning the dead skin by small fish called doctor fish, Garrarufa (doctor fish), it is a fish originates in the river basins of the Northern and Central Middle East, mainly in Turkey, Syria, Iraq and

Iran. A similar fish Garradactylais of Indian origin and can be studied for the spa. A considerable change is observed in the life style of Indians. Such type of pedicure is already in demand. A customer pays Rs. 100-200 per hour. An awareness and skill development to start such spa will certainly help and provide employment.

Edible Fish culture

Recently, a few provinces in India have taken up cage farming of freshwater fish. A combination of Indian major carps – including catla (*Catla catla*), rohu (*Labeo rohita*) and mrigala (*Cirrhinus mrigala*) – were used as the main target species for culture, as well as a few Chinese carp species like silver carp (*Hypophthalmichthys molitrix*), grass carp (*Ctenopharyngodon idella*) and occasionally common carp (*Cyprinus carpio*). The very high level of technology developed for induced breeding of carps and the abundance of agri byproducts used as supplemental feed led to the rapid development of freshwater aquaculture in the country.



Benefits

The farmed fish provides high quality protein for human consumption. Fish farming can be integrated into the existing farm to create additional income and improve its water management.

Vermicomposting

The activity of the year was conducted on 18 June 2023 in the Garden with the help of B.Sc, and M.Sc. students. In today's era, students and farmers must be aware of the changing scenario of eco environmental impact caused due to extensive use of chemical farming. Efforts must be taken to convince them regarding the importance of natural fertilizers and organic farming. Considering the need of awareness the vermicompost activity proposed the organic waste materials were collected from the college campus by the students. Heap method was used raw material which was evenly spread and sprayed by water to make it fully wet. Then, placed the dung compost over the raw material and gain make it wet. Then it was covered to retain water and avoid evaporation water. After that 1 Kg/ 2 Kg worms were introduced and was kept wet and moist by spraying water frequently because worms required wet conditions for survival. By degrading biomass with the help of worms produce a rich organic component which act as fertilizer.

Method

Choose the shadow or appropriate place where the unit is desired to setup. Make min 10' x 8' x 2' Ft. size tank either on the surface or in the soil. Place 2" x 3" inches of bricks & stone layer. Lay down 2"-3" inches of black soil layer over the surface to held water, soil and for aeration to keep soil moist. Place 4' - 5" inches of dry biomass over this layer and spray water to make wet. Now speed the dung compost only over the biomass and also spray water place some half-decomposed dung compost over the bed. Now introduce about the 1 kg to 2 kg of worms into the dung compost layer. (Gobar gas slurry can be also used] Cover it with the Jute Cloth straws or grass to present evaporation of water. Spray water regularly to keep unit moist. After 40 - 50 days, collect the granular, a dark coloured, vermicompost and keep it under shade for soaking and drying. Vermiwash can be obtained by keeping outlet to the tank.



Result:

A granular, black coloured, soft, light weight vermicompost is obtained after 40 - 50 day keep it under shade for drying and soaking. The students were told and instructed for the collection of dried biomass from the campus so that the campus will clean up & will get raw material for the decomposition.

Kadaknath Chicken Farming

As we know poultry farming is one of the oldest farming businesses and turning out to be more profitable in the present days. The Kadaknath chicken breed is native to the tribal communities of Dhar and Jabhua districts in Madhya Pradesh state. As the breed is famous for its black color and black meat chicken, commercial farming of Kadaknath chicken has successfully started in Andhra Pradesh, Tamilnadu, Telangana, and Kerala states. The products of Kadaknath chicken such as its black meat, brown eggs, and Kadaknath chicks are highly in demand with large profit margins. The bird gains weight from 0.50 grams to 1.75 kg within a period of 107 to 115 days with a high feed conversion ratio yielding maximum profits.



Advantages of Kadaknath Chicken Farming

- The demand for the byproducts of the Kadaknath chicken breed is very high.
- Meat taste, texture, and flavor are very good.
- The breed demand is high with a very high profit margin as the pricing of its byproducts are sold at high rates in the market.
- The breed meat and eggs contain many essential vitamins, minerals, protein, amino acids.
- Contains vitamins C, E, B1, B2, B6, and B12.
- High levels of 18 essential amino acids along with niacin, calcium, phosphorous, iron, nicotinic acid, and others are required by the human body.

- The blood levels and hemoglobin levels in the human body can be increased due to the medicinal properties contained in Kadaknath meat.
- It has great importance in helping to treat and cure various medical problems such as a headache, post-delivery problems, nervous disorders, and asthma through Siddha and Homeopathy.
- Kadaknath breed chickens are hardy to many of the poultry diseases.
- In order to boost its commercial farming, many state governments are helping farmers by providing various schemes and subsidies to boost Kadaknath farming.
- Feed consumption is moderate compared to other poultry birds.
- Birds can easily grow and survive in low-cost food habitats.
- Chicks are highly disease resistant compared to other poultry.
- Kadaknath eggs and meat are a nutritious diet.
- Kadaknath chicks grow fast and the grown-up is tasty and nutritious food.
- Kadaknath meat and eggs contain less fat compared to all other meat.
- Kadaknath chickens are well adapted to regions having scarce food and climatic conditions.
- It has the highest rate of protein content (more than 25%) compared with other chicken breeds.

Students can Start with a Business Plan:

Kadaknath chicken farming is a profit-earning business and provides job opportunities directly and indirectly to many people. Kadaknath breed farming is a simple business for its low maintenance and quality byproducts. Kadaknath eggs are rich in nutrients, vitamins, and protein and meat are one of the healthy poultry products having an array of health benefits. It is estimated that a tribal family makes about Rs.5,000/- per year on one Kadaknath bird. Entrepreneurs and existing poultry farmers will be able to get a high return on investment

Commercial Kadaknath chicken farming is solely based on its eggs and meat as this business has the potential to generate income within a short period of time. For a successful business and for huge income profits one must have some basic training with some small land. Even if it's a small farming or a big farming business, a proper Kadaknath chicken farming business plan must be prepared and it must include feeding, housing, care, labor, capital investment, and marketing strategies. Having a decent business plan, students can start in the commercial growing of these birds.

The EDP Programme Present Status and Future Plans

Among the Persons who underwent training Tamil Selvan of Zoology department UG 2016 to 2019 (Reg. No. 1622F0092) and PG completed. PG 2019-2021 PG register no (1932F0019) who have started their own Ventures has expanded their Venture to a great extent and are inspiring others. Many of the students got trained in the subsequent years and are waiting for the financial assistance from public banking sector.



Tamil Selvan



Mahendram









Future Plans

To train interested students and public thereby provides implications for leveraging the IE approach to advance sustainable development. In practice, to identify and govern the diverse factors shaping the outcomes of sustainability practices in dynamic and interdependent socio-techno-economic environments, enterprise managers, policy makers, non-profit groups, and other stakeholders will likely to succeed with the help of the IE approach and mindset.



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