

On the Wings of Fancy-From Hobby to Enterprise: A Case for Butterfly Farming

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Abstract

Purpose: There has been tremendous work done on innovative technologies that have focused on reduction of carbon footprint and rejuvenating the environment. This is an exploratory study on butterfly farming which is being taken up by a number of South East Asian countries. They are supplying to the Western nations a natural alternative to wasteful festive expenditure that is expended on various important person and public occasions. What is most interesting is that butterfly farming is proving to be a lucrative livelihood and yet does not endanger the environment or the ecosystem in any way. The setting up of butterfly farms would also enhance the depleted urban environment of the developed world. Some of these initiatives have also been taken up in Indian states and cities. However, there continues to exist a large gap in the many aspects of initiating such a venture. In fact most of the farmers of Punjab are almost totally unaware of the significance of this venture's potential and viability.

Approach: An exploratory investigative approach has been utilized. The idea is to look at the various ways in which the butterfly farming or raising of butterfly farms at various places can help the environment as also farmers that are slowly and gradually turning towards this new and innovative farming technique.

Findings: As this is a new field of activity most of the population is not aware of butterfly farming. As India is an agriculture intensive country there is vast scope for making this a viable entrepreneurial concern for the country in general and Punjab in particular.

Value: This is a high value study as it can open up vistas of sustainable microenterprises to benefit the rural farmers and even women of Punjab who can make this a kitchen or household based microenterprise.

Key Words: Butterfly farming, decorative element, events, occasions, life cycle, exports.

Introduction

Butterflies have fascinated human populations to a large extent since generations. Butterflies are a beautiful legacy of our collective childhoods. Most tiny tots have sat and wondered at the beauty of these delicate creatures. Years later a major part of scientific interest has also centered around these. For centuries these colourful creations have fascinated mankind. As children we have chased after

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these colourful creatures and during youth we adopted the hobby of butterfly collecting. Upto the World War II, butterfly collecting was a popular hobby among men, women and children alike. During the early 1900s large colourful butterflies fetched upto 200 pounds a piece from avid collectors. Gradually, concerns for the natural environment had the hobby of butterfly collecting becoming virtually extinct. Almost an entire century later butterflies are again in focus. They are being significantly focused upon as a commercially active, organized livelihood known as butterfly farming. A larger number of the world's population is, however, unaware of the potential success of these unique enterprises that are catching on in the world.

Hobbies, habits and habitats have changed over the past century. No doubt no one would encourage today's children to chase butterflies as they did in their youth even assuming that any of today's young people would want to adopt such a hobby. For one thing, there are no longer enough butterflies to go around. Lamentably, butterflies are not as commonly found as they used to be. During our childhood most of the larger glades and forested areas had these flighty creatures fluttering over myriad plants, shrubs and fruits laden trees. Several species of elegant, chequered butterflies could be witnessed flitting across on any blazing sunlit day. These days, however, one hardly finds even one butterfly despite having wide open spaces in urban areas. The countryside indefinitely is more butterfly friendly. In the This is probably because plenty of wild flowers are still flourishing in the fields and hedge banks with broad grassy ridges and glades. This boom of natural beauty survives today mainly in the natural reserves of the country. Over time it has been observed that human relationships with nature have changed drastically. Nature's fragility is apparent today more than ever. Most of us are aware of climate change and the gaping hole in the ozone layer. Many populations have experienced the striking consequences of environmental mismanagement in the form of droughts, severe heat waves, cold waves, flooded homes and several extinct species besides the disappearance of sundry flora and fauna.

We may know more about "the environment" these days but most of the younger generations have much less direct contact with nature. They no longer pick flowers or chase butterflies or catch newts or glow-worms to keep as pets. The obvious consequence for the youth of the country has been a marked distancing from all that is natural. It is estimated that the book that marked this change was „Silent Spring“ by Rachel Carson, because it highlighted the harmful effect of pesticides like DDT on the environment, and especially bird and insect life. From that point on nobody could write seriously about nature without voicing concern for its survival. Human beings were realizing that killing nature was bad for human survival as well.

Biologically it is a practiced fact that spiders consume far more butterflies than are captured by collectors of butterflies either as a scientific pursuit or as a hobby. Nevertheless, it is the intensive farming, depleted forestry and urban development that have done really extensive damage by wiping out the butterfly habitats for ever.

Vulnerability of the Butterfly

Currently there is a trend of considering butterflies as being national property. Throughout the Third World, stringent restrictions surround butterfly collecting. It is totally illegal to harm these gentle creatures. In fact licences for butterfly collection are given no doubt but only to official expeditions.

It would be lamentable if the only butterflies that future generations will see are those in the Natural History Museum, where they are residing inside the endless drawers of sealed cabinets. There are several millions of them, thanks to the activities of plutocratic collectors like Lord Rothchild. They are exhibited in a new wing of the museum – appropriately known as the Cocoon. Recently, these 100-year-old butterflies have found a new and unexpected use. Their labels are being researched upon to understand climate change by recent scientists.

Probably our generation was the last to experience the thrill of chasing the golden winged butterfly. Looking back with shame at the killing of such lovely creatures one can only highlight the irresistible attraction and passion for Lepidoptera and its majestic hold over the natural world.

Basics of Butterfly Gardening

Basic butterfly gardening is a new concept in India and has not taken off to a very rewarding extent. A big garden area is not required to work on these beautiful creatures. Even from small area ventures there have been large returns in terms of revenue to the tune of USD 1 million in 2003. All these ventures have been based on the dramatic effect created by the simultaneous release of scores of beautiful, colourful butterflies. This has made the business of butterfly rearing a popular enterprise especially among wedding charity and other event planners. Even film makers are sourcing butterflies for their cinematic sites. The rates nominally charged are around USD 95 to USD 100 for a dozen monarch butterflies in California.

No doubt posed by conservation enthusiasts regarding butterfly-shipping. But which industry has not attracted some controversy from conservationists in these days?

Most butterfly farmers take their occupation to be a fun activity that they enjoy every moment of. It inroads into a new and emerging occupational field that can contribute to the farm sector activities available to the farmer wanting to diversify from the debilitating schedule of rice and wheat cultivation.

The butterfly farm is an expanse of land where you can see several butterflies belonging to different species at a single place and in good number. An ideal butterfly farm is a miniature representation of the natural forest habitat where various types of plants and flowers grow freely. The environment at the butterfly farm is made as conducive as possible for the butterflies local to that area as well as other types.

In last few years there has been a tremendous increase in interest in developing butterfly farms several parts of India. There are quite a few private as well as government butterfly farms that are coming up at various places across India. This is a good about in the sense the local farmers and young entrepreneurs have started appreciating the importance of butterflies as:








- (i) Objects of aesthetic value
- (ii) For conservation as well as
- (iii) For creating sustainable livelihood options for many of the agri-based families of rural India.




A butterfly farm gives manifold benefits. Butterfly gardens in Singapore, London and now even in India. I was fascinated to see so many colourful butterflies in these gardens and also to see thousands of visitors enjoying the company of butterflies! Unfortunately, we do not have a butterfly park as beautiful as the one in Singapore (on Jenting Island) or in Kuala Lumpur.

Table 1: 75 items found from eBay international sellers




Sr. No.	Picture	Description	
1		Goliathus Cacicus 94mm+ A-	MYR 4,000.00 Approximately INR 69,939.50
2		Papilionidae papilio brevicauda brevicauda Hard to obtain CANADA	INR 5,919.13 From Canada INR 1,076.21 shipping
3		Erebidae catocalini catocala relictata male from Canada hard to obtain #2	INR 538.10 INR 1,076.21 shipping
4		Sphingidae sphinx poecila male CANADA very nice rarely offered	INR 538.100 INR 1,076.21 shipping
5		Erebidae catocalini catocala relictata male from Canada hard to obtain	INR 538.10 INR 1,076.21 shipping
6		Papilio andraemon Male from Cuba Papilionidae F002	INR 3,497.67 INR 968.59 shipping
7		Papilio andraemon Female	INR 4,842.93

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		from Cuba Papilionidae F003	INR 968.59 shipping
8		Papilionidae papilio brevicauda brevicauda male Hard to obtain CANADA xpupae	INR 2,152.41 INR 1,076.21 shipping
9		Erebidae grammia virguncula male from Canada	INR 269.05 INR 1,076.21 shipping
10		Erebidae grammia parthenice male from Canada	INR 322.86 INR 1,076.21 shipping
11		Sphingidae Smerinthini pachysphinx modesta male CANADA very nice xpupae #1	INR 376.67 INR 1,076.21 shipping
12		Sphingidae smerinthus cerisyi pair from CANADA very nice xpupae pair	INR 538.10 INR 1,076.21 shipping
13		Papilionidae papilio brevicauda brevicauda female Hard to obtain CANADA xpupae	INR 2,690.51 INR 1,076.21 shipping
14		Sphingidae paonias myops	INR 269.05

		female CANADA very nice xpupae	INR 1,076.21 shipping
15		Papilionidae papilio byasa alcinous brown female Japan	INR 538.10 INR 1,076.21 shipping
16		Sphingidae Macroglossinae hemaris diffinis male CANADA	INR 376.67 INR 1,076.21 shipping
17		Sphingidae Smerinthini pachysphinx modesta CANADA #2	INR 376.67 INR 1,076.21 shipping
18		Smerithini Paonias excaecatus pair from CANADA nice	INR 538.10 INR 1,076.21 shipping
19		Erebidae grammia virgo pair from Canada	INR 538.10 INR 1,076.21 shipping
20		Erebidae arctiini arctia caja americana male Canada	INR 215.24 INR 1,076.21 shipping
21		Erebidae arctiini arctia caja americana female Canada	INR 269.05 INR 1,076.21 shipping

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22		Erebidae catocalini catocala rectata male from Canada	INR 538.10 INR 1,076.21 shipping
23		Erebidae catocalini catocala ilia male from Canada	INR 269.05 INR 1,076.21 shipping
24		Moth Saturnidae Antheraea polyphemus male	INR 161.43 INR 1,076.21 shipping
25		Saturnidae automeris io male from USA	INR 322.86 INR 1,076.21 shipping

Source: https://www.ebay.com/b/Insect-Butterfly-Collectibles/10869/bn_2313786

These quotations were taken from ebay:

Sr. No.	Species Name	Sex	Priced
1	Fantastic Parnassius Wiskotii Superb Forma Male Papilionidae Papilionidae	Male.	INR 1,922.80 INR 1,780.37 shipping
2	Parnassius Uralensis Female Form From North Ural, Russia	Female	INR 89.02 INR 854.58 shipping
3	Parnassius Citrinarius Ssp. From Japan	Male	INR 89.02 INR 854.58 shipping
4	Parnassius Uralensis Male Form From North Ural, Russia	Male	INR 89.02 INR 854.58 shipping
5	Parnassius Imperator Musageta Male Form From Ping An, Qinghai, China	Male	INR 89.02 INR 854.58 shipping

Research Focus

While the larger Indian population is not familiar with the idea of “butterfly farming,” there are many successful entrepreneurs who are raising the colorful insects for profit. An article published by CNN Money in 2001 stated that it was entirely possible to earn USD 50,000 to USD 100,000 per year on the basis of this with a butterfly promotional business, and the demand was growing steadily for butterfly production. The going rate in 2016 for a dozen butterflies was USD 95 for Monarchs and USD 80 for Painted Ladies. Therefore, it is increasingly seen how something with a relatively low production cost could yield such sizeable profit in such a small time. The South East Asian countries have begun capitalizing on the sale of butterflies and this is evident from the following Table No. 1 called from the net.

Current Markets Future Trends

Several countries are featuring the availability of several species of Lepidoptera on websites. The species and their availability alongwith the price range are all exhibited. The butterflies are sold in several stages of their life cycle.

Table 2: Insect Price List / Nymphalidae

Sr. No.	Code	Latin-Name	Locality	Sex	US\$	Stock	Buy
1	Nymph3118	Acraea issoria (E.Java)	Indonesia	50pcs	15	Yes	
2	Nymph3004	Agatasa calydonia calydonia	Malaysia	M	7	Yes	
3	Nymph3068	Cethosia biblis insularis (Marinduque)	Philippines	20pcs	13	Yes	
4	Nymph3018	Cethosia biblis perakana	Malaysia	20pcs	15	No	
5	Nymph3002	Cethosia cyane cyane	Thailand	20pcs	16	Yes	
6	Nymph3103	Cethosia hypsea (W.Java)	Indonesia	17 pcs	20	No	
7	Nymph3108	Cethosia hypsea hypsina	Malaysia	10 pcs	12	Yes	
8	Nymph3116	Charaxes affinis affinis (Palu,C.Sulawesi)	Indonesia	10 pcs	15	Yes	
9	Nymph3022	Charaxes bernardus crepax	Malaysia	20pcs	12	Yes	
10	Nymph3024	Charaxes distanti distanti	Malaysia	20pcs	12	No	

Source: Insect-sale.com

Some Illustrative advertisements that are available on the net:

1. “Please visit our New and Improved Website for a better shopping experience!”
2. “Sale : Low-Cost Painted Lady Butterflies As Low As \$29 Per Dozen!”
3. “New! Introducing the Clear View Butterfly Zoo – a completely new way to grow live butterflies no more caterpillars in a cup!”
4. “Giant & Gorgeous Monarch Butterflies As Low as \$ 99 per dozen”

Here's How It Works

Several instructive and illustrative answers to popular queries are listed as follows:

“The day before your event, you will receive a box via FedEx overnight delivery. The shipping box is insulated with ice packs keeping the butterflies in a cold dormant (sleep-like) state. Inside the shipping box each butterfly is resting and carefully contained in its own packaging designed to protect the butterfly in shipping. Simply store the butterflies in the shipping container indoors in a cool location and then 2-3 hours before release, take them out so that they have time to warm up. Instructions are included. Find out answers to commonly asked questions about the monarch butterfly.

The Individual Release

“Our most popular release option: the individual butterfly release packaging. At the appropriate time before or during the wedding, memorial, or other type of special event, the individual butterfly release boxes are passed out to the guests or participants. When the special moment arrives, all participants open their release boxes witnessing the majesty of the monarch and painted lady butterfly. These beautiful butterflies joyfully emerge and dance in flight to the delight and amazement of everyone”!

The Mass Release

“Another way to release butterflies is all from one container - call a "Mass Release." Please see our assortment of mass release butterfly packaging. The butterflies will be shipped in special protective packaging (called "transfer envelopes") so that the butterflies arrive in perfect condition for your wedding, funeral, memorial or other type of butterfly release event. Transferring the butterflies from the protective packaging into the mass release container is both easy and fun! Butterfly transfer instructions will be provided”.

Don't Worry

“Each hand-raised butterfly is fed, packaged, and ready to be released. No growing or feeding is required. All butterflies are guaranteed to be alive and healthy due to our Flight Proven™ Technology and other special methods we use to ensure that our premium live monarch and painted lady butterflies arrive to you healthy and ready to fly. We are the Original Butterfly Company with a solid guarantee of the quality of our butterflies. (Last minute orders are our specialty!)”.

How Many Butterflies Should I Order?

“For the “individual butterfly release,” one butterfly for every guest to release is ideal! However, if your budget does not allow for this many butterflies, we have found that releasing one butterfly per "couple" (or every other guest) will also result in an enjoyable display for releasing live butterflies. For funerals and memorials, it may be hard to predict how many people will attend. But, try to have at least one butterfly for each close family member or friend”.

“For a “mass butterfly release,” at least 2-3 dozen monarch butterflies is recommended. The more butterflies the better, but we understand that this could also put a large dent in your budget. So, we have found that 2-3 dozen monarch butterflies are a good amount of butterflies to fill the sky while

being a bit easier on the wallet. Although the minimum order is 1 dozen, we recommend ordering 2 dozen or more for the optimum visual effect. Of course the more butterflies, the more visually stunning your live butterfly release will be”.

What Happens To The Butterflies After They Are Released?

“Monarchs have the ability to travel thousands of miles. For more information about their incredible fall migration, please see our monarch migration study. They can find small patches of milkweed (the caterpillar food plant) hundreds of miles away, stopping to nectar on plants in the wild and in people's back yards! Monarchs released in the fall will migrate to various over-wintering sites, returning the following year.”

How Long Do Monarch Butterflies Live?

“Monarchs live from 4-6 weeks depending on environmental conditions. Overwintering Monarchs can live up to 8 or 9 months!”

Do They Stick Around After Released?

“Yes! Monarchs are very “friendly” butterflies. They aren't preyed upon by most butterfly predators because their bodies contain toxins that are distasteful. They are fearless when they interact with people and will allow you to move in close to get a photograph and sometimes even let you pick them up. They truly are the friendliest butterfly in the world!”

How Can I Get Good Pictures of the Butterflies?

“These cold-blooded creatures can be kept in their boxes and placed in a refrigerator for 20 minutes and this will slow their reactions and movement. Then they can be placed onto bridal bouquets, wedding gowns, graveside stones, or whatever you desire. You will have about 30 seconds to capture your photograph before the butterflies warm up and “re-animate” by slowly opening and closing their wings and walking at a slow pace.”

It is fairly easy to raise butterflies if one works hard on various aspects of proper habitat construction of the butterflies their nutritional needs, and the best practices for shipping live insects. Several scholars have written many articles online that advise entrepreneurs on how to go about getting started. There are several hobbyists and producers that may be willing to help with sourcing equipment and breeding stock at the initial. The idea of butterfly farming is to raise colourful butterflies that can be released in their brilliant multitudes across the world on special occasions.

There are several different ways in which the farmer can convert his love for nature and butterflies into profit. They have to study the options of either farming butterflies merely as a side business or take it to as an enterprise that can prove to be a commercially viable enterprise and financially successful.

Various farmers have shown by experience that butterfly farming is a viable enterprise. Globally its momentum is picking up pace. There are several newer and newer ways through which butterflies are raised in India and abroad. The utilization of their talents is justified by the following uses:

(i) **Event Releases**

Supplying butterflies for being released at weddings has resulted in huge revenue inputs for most butterfly breeders. It had been common practice to release colourful balloons, birds or have a fly past of planes releasing streams of different, colour. These practices are, however, getting to be quite cost prohibitive and therefore alternatives were being sought. Therefore, butterfly farming became an effective alternative.

(ii) **Teaching and Research Programs**

Many school college study courses utilize live butterflies at various stages of development in their lifecycle in a classroom setting. Watching caterpillars go through the complete life cycle to butterfly stage is quite a popular activity for several scholars.

(iii) **Gifting and Celebrating Souvenirs**

There are a number of potential gift items which can be developed for sale. In fact the butterfly products are sold in sundry gift shops. They can also be seen displayed for sale on websites. Popular items made with butterflies can include butterfly raising kits, jewelry paperweights, photos, apparel, and more. Many people are rapidly turning to butterfly rearing as it is such an exciting hobby.

(iv) **Breeding Butterfly Stock**

Several farmers are turning to butterfly rearing for profit. Some of them are even selling to other breeders or hobbyists. They are often involved in establishing their programs restocking their butterfly their supply after it has been depleted. Farmers may sell the butterflies at their own convenience at any stage of the life cycle from egg to mature butterfly depending on the needs of their buyers.

Thus, butterfly gardening has come to stay as an income generation, additive activity with annual sales from gardening grossing net profits from the first batch onwards has become very important. In the U.S.A. the Association for Butterflies supports gardeners by offering Butterfly Gardening Courses with certification. During the course the farmers learn how to create a habitat which attracts and promotes the breeding of butterflies.

Understanding the Practical Aspects

Butterfly garden can be a closed one or an open one. A closed butterfly garden can be an entire garden covered with green nets. The butterflies are released into either as adult butterflies or are reared in the garden itself. In Singapore and London butterfly parks, they procure pupa (chrysalis) and keep them in small boxes till the butterflies emerge. As soon as the butterflies emerge they are released into the garden. In absence of any predators, the butterflies survive till they die naturally.

Research Gaps

But the Indian Wildlife Protection Act (1972) considers butterflies as wild animals and it is illegal to keep any wild animal in an enclosure (or captivity, in the legal language). As soon as there is an enclosure, it becomes a zoo. And to run a zoo, permission is required from Central Zoo Authority of India and also it is mandatory to follow their guidelines for establishing and managing a zoo. Getting

permission from this authority (though creating a butterfly park may be a good objective) is „mission impossible“ for a general citizen.

But permission can be taken by government zoos, if they want to set up “butterfly fly enclosures” in their zoos. Zoos in India have so much of land; they should actually prove that they can create butterfly parks in India.

Methodology

This is an exploratory study that is based on primary and secondary data. The primary data was collected through Focus Group Discussion (FGDs) held among agriculturalists and farmers. Secondary data was taken from the district sources of Hoshiarpur district.

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