Guidelines for the Restoration of Butterfly Habitat

[Butterfly Garden (open)]

Butterflies, known for their captivating and vibrant wings, are among the most remarkable insects in the nature. Their life cycles are intricately linked with plant species: nectar-bearing plants that serve as a food source, and host plants on which they lay their eggs, facilitating the successful development of caterpillars and their transformation into adults. One of the secrets to their life cycle's success lies in their selective choice of host plants, which minimizes competition among butterfly species. Butterflies also exhibit great selectivity in their choice of nectar plants, considering various factors such as size, shape, color, and how well the flower's attributes align with their morphological structure and requirements. Butterflies also meticulously select specific host plants to ensure the completion of their life cycle.

Therefore, in the establishment of a butterfly conservation area, it is imperative to carefully select locally available indigenous plant species that serve as both larval host plants and nectar sources for butterflies. These chosen plants should be densely planted and nurtured with utmost care, within the butterfly conservation area.

The following points needs to be addressed while developing a butterfly conservation area.

1. A minimum of 1500 sq. ft. land area, having ample sunlight availability and easy visibility for the students/visitors, is to be selected for the purpose. A larger area can also be considered, if manageable;
2. The site should have a minimum 5 feet high fencing made of eco-friendly materials;
3. The entire area is to be divided into several smaller plots, with pieces of bricks;
4. Each species of the host and nectar plants (8-10 numbers) are to be planted in each of the plots; name of the plants in each plot should be shown in befitting manner;
5. The inside of the butterfly conservation area should have a narrow pathway made of pebbles;
6. The tall plants which are mostly shrubby in nature are to be placed in the peripheral part (preferable on the back side of the site);
7. The plants with comparatively small height are to be placed towards center of the site;
8. Some climbers may be planted along the fence;
9. Clay pots with flowering nectar plants may be placed inside the area for beautification.

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10. Facility for watering, (preferable by drip irrigation method) is to be made;
11. Butterflies need salt, therefore some earthen pots with salt are to be placed carefully in different places inside the site (so that the salt is not spilled at the base of other plants);
12. The stock of the saplings of host plants needs to be kept in for replantation, if necessary;
13. Continuous monitoring is required for nurturing the plant beds;
14. Application of insecticide/ herbicide/ fungicide should be avoided in the site;
15. Only organic manures are to be applied in the site.
16. Record keeping by students about seasonal sighting of butterflies (Summer/Monsoon/Winter/Spring) with pictures.
17. Students should be involved at every stage of garden maintenance.
18. Feedback from students about their learning experience.
19. A Proper signage has to erected for the area acknowledging the support of West Bengal Biodiversity Board.
20. A financial assistance of Rs. 120000/- will be provided by the Board for this purpose, which may be utilized in the following heads:

    - Fencing for site protection
    - Landscaping & soil preparation
    - Procurement of sapling/seeds/seedling
    - Plantation, mulching, watering
    - Manuring
    - Manpower for maintenance of the site
    - Dissemination of information
    - Irrigation facility
    - Miscellaneous

- A list of host and nectar plants are given with common and scientific names for ready reference in Annexure I;
- A lay out of butterfly conservation area for 1500 sq. ft. is given in Annexure II.

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Annexure I

A few common larval host-plants and nectar-plants for Butterfly Garden

List of host-plants		List of nectar plants	
Scientific Name	**Local Name**	**Scientific Name**	**Local Name**
Aristolochia indica	Rudra-jata	*Ixora* spp.	Rangan
Citrus limon	Pati-lebu	*Tridax procumbens*	Tara-ganda
Citrus grandis	Batabi-lebu	*Heliotropium indicum*	Hati-Sur
Glycosmis pentaphylla	Aasheora	*Crotalaria pallida*	Atasi
Litsea glutinosa	Kukurchita	*Clerodendrum infortunatum*	Bhant
Polyalthia longifolia	Debdaru	*Pongamia pinnata*	Karajna
Polyalthia suberosa	Baro-chali	*Carissa carandas*	Karamcha
Murraya koenigii	Curry-pata	*Clitoria ternatea*	Aparajita
Calotropis gigantea	Akanda	*Combretum indicum*	Malatiilata / Madhumalati
Nerium oleander	Karabi	***Lantana camara*	Chotra
Dregea volubilis	Jukti-ful		
Passiflora foetida	Jhumko-lata		
Ricinus communis	Varenda		
Hibiscus rosa-sinensis	Jaba		
Hygrophila auriculata	Kule-khanra		
Flacourtia indica	Boinchi		
Ziziphus mauritiana	Kul		
Ixora spp.	Rangan		
Kalanchoe pinnata	Pathar-kunchi		
Oxalis corniculata	Aamrul		
Pongamia pinnata	Karajna		
Capparis sepiaria	Kanta-gurkamai		
Crateva religiosa	Barun		
Cleome viscosa	Hurhuria		
Cassia sophera	Kalkasunde		
Cassia tora	Chakunde		
Phoenix acaulis	Bon-khejur		
Bambusa ventricosa	Ghoti Bansh		
Curcuma aromatica	Bon-halud		
Crataeva magna	Barun		
Ficus racemosa	Jagya Dumur		

**Exotic and considered as invasive alien species. However, Butterflies visit these flowering plants regularly. Can only be planted with proper management.

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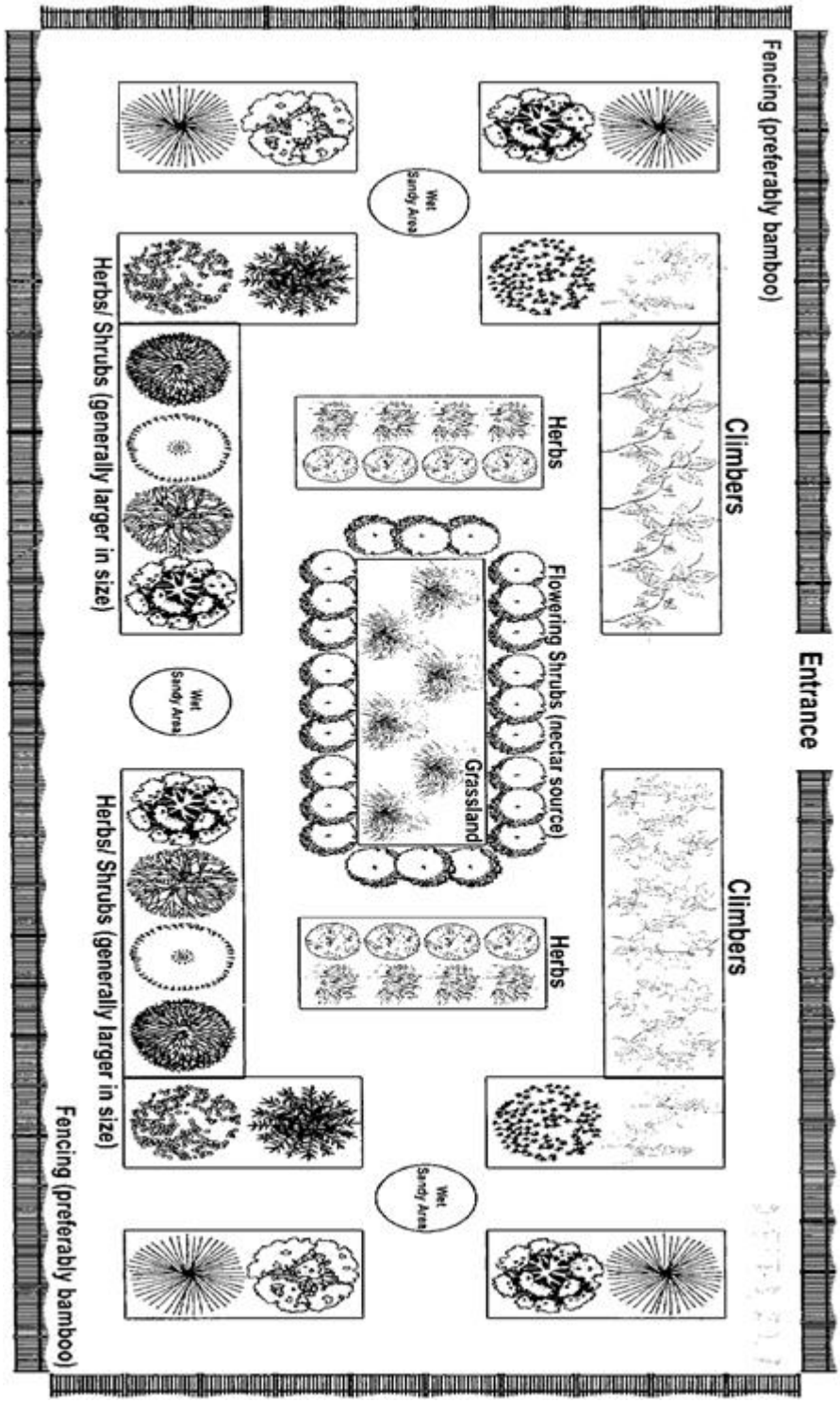
Annexure II

A lay out of butterfly garden



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