

BIBLIOGRAPHY

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ABSTRACT

The project dealt on the establishment of a “Bee Garden” at the BSU Nature Park from December 2007 to January 2008 for ecotourism to show case how honeybees gather nectar from plants, by preparing an artificial bee flower where children will gather nectar and to prepare artificial wings of honeybees as component of the “bee garden” to be worn by children prior to gathering “nectar”.

Twelve artificial bee flowers and 24 artificial bee wings were made. The artificial bee flower is bowl type with eight yellow petals. These were installed at 1.5 by 1.5 meters apart with a height of three feet in a 40 square meters area. Meanwhile, the artificial bee wings is colored black with white/yellow stripes and attached paired antennae.

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INTRODUCTION

One of the major concerns of every developing country is the promotion of its tourist- alluring environmental assets that involve its flora, fauna, and cultural heritage.

This promotional interest is primarily for revenue generation that functions as a vehicle for economic development.

Since ecotourism is known as ecological tourism that it involves nature- based tourism, environmental conservation is very necessary.

However, because of the detrimental consequences of rapid civilization resulting to the deterioration of nature and even to its worst extinction, ecotourism is also on the parallel side declining.

Thus in order to at least preserve the concept of ecotourism, technology brought us to nature's reality through virtual images. Artificial gadgets can now serve as alternative sources of these concepts.

The artificial "bee garden" for instance is one of the best ways to promote ecotourism in the locality. Since honeybees is said to be the most familiar insects and important resources by humans.

Scientifically, honeybees play an important role in the propagation of diversified species of plants. Honeybees, moreover play both aesthetic and utilitarian use as it respectively mediate the disparity of human-land-nature for appreciation and enjoyment; and open easier acquisition of knowledge through establishment of virtual bee garden.



The provision of a “bee garden” will provide an avenue for everyone to gain knowledge on the importance of honeybees to the environment; second, one can appreciate how honeybees gather their foods and make their homes for survival. Finally, the “bee garden” will help boost the conservation and prevention of honeybees from eventual extinction.

The major objective of the study was to prepare a “bee garden” for ecotourism to show case how honeybees gather “nectar” from plants. The specific objectives were; to prepare artificial flowers where children will gather artificial nectar and o prepare artificial wings of honeybees as component of the bee garden.

The study was conducted at the BSU nature’s Park from December 2007 to January 2008.



REVIEW OF LITERATURE

Ecotourism, also known as ecological tourism, is a form of tourism that appeals to the ecologically and socially conscious individuals. Generally speaking, ecotourism focuses on volunteering, personal growth, and learning new ways to live on the planet; typically involving travel to destinations where flora, fauna, and cultural heritage are the primary attractions (www.tourism.wikipedia.com).

Ecotourism, which typically involves nature-based tourism, plays an increasing role in today's environmental management. As environmental conservation has, in many cases, suffered from a limited budget, funding ecotourism is perceived as a way to provide additional resources to finance environmental conservation efforts. In some cases, revenue generated from ecotourism can be substantial and can be used to provide alternative employment/income to local residents. This alternative employment also helps to reduce the pressure on encroachment and environmental destruction by the local people. Ecotourism is, thus, seen here as a vehicle for sustainable development (www.ecotourism.com).

The term ecotourism has been used widely as well as interchangeably to refer to sustainable tourism, alternative tourism, ethical tourism, green tourism, special interest tourism, appropriate tourism, and responsible tourism. Despite the many definitions used today, ecotourism is more appropriately defined by the Commonwealth Department of Tourism of Australia as "nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable. This definition recognizes that natural environment includes cultural components and that ecologically



sustainable involves an appropriate return to the local community and long-term (Israngkura, 2007).

Ecotourism, responsible tourism, and sustainable development have become prevalent concepts since the late 1980s, and ecotourism has experienced arguably the fastest growth of all sub-sectors in the tourism industry. The popularity represents a change in tourist perceptions, increased environmental awareness, and a desire to explore natural environments. Such changes have become a statement affirming one's social identity, educational sophistication, and disposable income as it has about preserving the Amazon rainforest or the Caribbean reef for posterity. With its great potential for environmental protection, the United Nations celebrated the "International Year of Ecotourism" in 2002 ([www.history of ecotourism wikipedia.com](http://www.historyofecotourism.wikipedia.com)).

With increasing frequency, ecotourism is proposed as way of ensuring environmental conservation while enabling economic development. Developing countries, in particular, are being encouraged by a set of diversified interest groups to consider ecotourism as a solution to their environmental and economic challenges. The supporters of ecotourism as a development strategy include international, financial institution; global environmental organizations, national governments and local community organizations, as well as individuals who regard themselves as eco-tourists. In many ways ecotourism is being proposed as a tool for negotiating for complicated relationship between these potentially conflicting interest groups (Duffy, 2002).

"Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features - both past and present) that promotes conservation, has low negative



visitor impact, and provides for beneficially active socio-economic involvement of local populations" (Ceballos-Lascurain, 1996).

Lanfant (1995) argues that tourism marketing shapes the image of the place, and the identity of the society is described according to seductive attributes and crystallized in publicity image in which the indigenous population is insidiously induced to recognize itself. The state can then be exploit a tourist images that flatters national identity and praises of the nation state in order to reinforce national; cohesion. For those involved in tourism, the projection of the state as a tourist destination creates and idea of the state itself, this can in turn be fed back in the domestic political order.

Hall suggest that tourism promotion has develop because of the perceive need to promote a destination and image in the global market place (Hall, 1994). The promotion of a developing country also serves to enhance state security and bolster the acceptance of the state boundaries and area of authority, because tourist need to assured of a country's safety.



MATERIALS AND METHODS

Study Site

The BSU nature's park (Figure 1) features a blend of nature and agriculture. It offers for educational purposes in botany, entomology, forestry, agroforestry and nature as a whole it is also an ideal place for trekking, nature photography, meditation, and picnic. The park is about 51 hectare mossy-pine forest reservation of la Trinidad farm school in 1916 now Benguet State University it is 1500 m above sea level with the temperature 15 (lower) to 21 °C. It has scenic views of mountains and La Trinidad valley known as the salad bowl of the Philippines.

Materials

The materials used were the following: plastic plates (7 inches diameter), plastic cups, PVC pipes (2 inches diameter), Styrofoam, yellow acrylic spray paint, black and white mesh cloth, wire (gauge # 10), yellow enamel paint, Chinese garter (1 inch), rubber floor matting, glue stick and yarn.

Tools and Equipments

The tools and equipments used were digital camera, empty hive box with empty frames, cutter blade, hacksaw, needle, glue gun and paint brush.

Methodology

The site was prepared and the materials were brought and prepared based on existing sample at the BSU Nature Park.





Figure 1. BSU Nature Park main entrance



RESULTS AND DISCUSSION

The “bee garden” has two primary components that include the artificial bee wings and artificial flowers. The following processes are presented and classified as to the materials used and its descriptions. Descriptions are defined as the exact measurements and quantity of the materials used.

Preparation of the Artificial Bee Flower

One of the major components of the “bee garden” is the artificial flowers. This serves as the place where the children act as foraging bees. Parts of the flower made artificially in this project are the petals and the florets.

The plastic plates were cut with hacksaw to form a flower figure. A cutter blade (Figure 2) was used to smoothen the greasy edges of the petals. Rubber floor mats were designed into larger petals on which the plastic petals were attached on top using glue gun.

The plastic plates and the rubber floor mats were designed as sunflowers and were painted with yellow color. These plastic plates serve as the first layer-petals of the flower while the rubber floor mats as the second-layer petals (Figure 3).

The plastic cups on the other hand were designed as florets or nectar container. These cups serve as storage part of the artificial nectars (Figure 4). These were then attached on the first layer of the petals.

Description

There are exactly 12 plastic plates and 12 rubber floor mats that were made into flower petals. Each plastic petal and rubber petal has a diameter of 7 inches and 14



inches, respectively. The numbers of petals are varied for every artificial flower. There were 12 artificial bee flowers were made.

For the plastic cups that serve as nectar storage, it has a diameter of 2 inches and a height of 3 inches.

The plastic cup is removable and will only be used if there children tourists. Each plastic cup will be put at the center of the petal. This will be poured with mineral water (clean water) that was serves as the “nectar” of the artificial flower to be sipped by the children.



Figure 2. The researcher smoothing the greasy edges of the artificial bee flower.





Figure 3. The artificial bee flowers



Figure 4. The plastic cup on top of the artificial flower



Preparation of the Bee Wing

Another major component of the “bee garden” is the artificial bee wings. It has also its major parts such as the wings and the antennae.

The wires were bent into curve so to shape the skeleton of the wings. The antennae which actually extend from the front of the head usually between and slightly above the insects eyes were attached in between the wings and extended adjacently apart (Figure 5). The tips of the antennae were also oppositely bent into curve (Figure 6). Each tip of every antenna was painted with color yellow. This however was intended for aesthetic purpose only and it doesn't have any regards as to its function in reality.

Fine mesh cloth of two different colors (black and white) were used as coverings of the antenna and the bent wire-wings. This was from the existing artificial wings.

For the first artificial bee wings, the black mesh was used to wrap all antennae (Figure 7) and the edges of all wings. The white mesh served as coverings of the inner circumference of the wings (Figure 8).

For the second artificial bee wings, both the wings and the antennae were respectively wrapped and covered with black mesh (Figure 9).

A yarn was used to mend the meshes wrapped and covered on the antennae and wings. This will maintain the firmness and the attachment of the mesh cloth.

Finally, a Chinese garter was used as strap of the artificial bee.

Description

The materials used and the parts of the artificial bee wings are accurately measured and presented in the following:



The wire used in the wings and antennae was approximately 2.5 meters. Each wing measures 9 inches wide and 7 inches long. Each antenna also measures 18-20 inches long.

The mesh, which measures 1.5 yards, was used to wrap both antennae and to cover the wings. A roll of yarn was also used. The Chinese garter that was used as a strap measures 1 inch wide. Each artificial bee wings used at least 24 inches Chinese garter for both straps.

There were exactly 24 artificial bee wings that were made. This is purposely to provide equal opportunities to every child tourist at the same time when they start to play in the “bee garden” using the materials provided. Since the project caters to mostly children ages 6-12, sizes of the artificial bee wings were intended as such (Figure11). The wings will be place at the back of the person by a as shown in figure 10.



Figure 5. The researcher wrapping the antenna of the artificial bee wings





Figure 6. The antennae at the top of the head



Figure 7. The tips of the antennae oppositely



Figure 8. The artificial bee wings with white mesh cloth



Figure 9. The artificial bee wings with black mesh cloth painted with yellow design



Figure 10. A child being assisted to wear artificial bee wing



Figure 11. A child wearing an artificial wing and sipping” nectar” from the artificial flower



Installation of the Artificial Flower and Preparation of the “Bee Garden”

The “artificial bee garden” (Figure 16) was flattened and cleaned from any obstruction (Figure 12). It measures 40 square meters. Twelve plastic pipes which are erected in between 1.5 meter (Figure 13), measure a height of 3 feet for the children to easily reach it as they would try sipping the nectars (Figure 14). The distance of every flower are intended as such to provide wider space for the children to abstain from bumping each other as they transfer from one flower to the other. The plastic pipe serves as a stem for the artificial bee flowers. Atop of it is where the petals were attached (Figure 15).



Figure 12. Clearing of the site





Figure 13. A taller child sipping artificial “nectar”



Figure 14. Installation of the plastic pipes





Figure 15. Installation of the artificial flower



Figure 16. The “bee garden”

SUMMARY, CONCLUSION AND RECCOMENDATIONS

The project aims to encourage ecotourism at the BSU Nature Park. The “bee garden” gives a wider view on honeybee and their importance to the environment and to man. The activities also show how honeybees gather food like nectar from flowers. Children performing the activity open.

The bee garden composes of the artificial bee wings and the artificial bee flowers. The artificial bee wings are used by the children to portrait the honeybees. While the artificial bee flowers serve as true flowers.

The “bee garden” is a very good way of promoting ecotourism in the locality and establishing a “bee gaden” it is a source of income.

The equipments like the artificial bee wings and artificial bee flowers are limited; there is a need to make more artificial bee wings and artificial bee flowers to provide more persons to perform the activity and the bee wings and bee should improve its aesthetic view. Furthermore a wider space is needed to accommodate more children. Invitations letters, flyers, and leaflets are important in advertising the activity.



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