

Report

SUMMER INTERNSHIP 2016

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Introduction

The report is part of the summer internship project carried out as a part of the M-des in Industrial Design program at IDC, IIT Bombay. The project helps to understand the various parameters that essentially makes a tourism project successful. It aims to visualize the key issues faced by the institute in disturbing these parameters and might hinder the development of the place at a later stage. The report also suggests solutions which are capable of giving a facelift to the institute by tiny tweaks to relevant parameters.

Project Brief

Identify issues in Sargaalaya with respect to experience of tourism.

Proposal of solutions for the identified issues to be accommodated in action plan for next year

Explore possibilities of product development in crafts stalls.

Vision of the team

Aim

To identify issues related to tourism experience in the present scenario at Sargaalaya and propose solutions for the same.

Primary Objectives

Situation analysis of Tourism in Sargaalaya and identify opportunities for industrial design

Explore various materials and crafts and initiate innovative product development

Secondary Objective

Understand the general development parameters associated to tourism.

Analysis of the visitor pattern and development parameters

Generate conceptual design solutions related to tourism experience

Create prototypes of selected designs

Understanding tourism

Key ingredients of a tourist destination

Access

This includes moving visitors from their origin to and within the destination. Access also includes having suitable transport services and infrastructure to meet market needs, including airstrips and airports, wharfs and ports and appropriate forms of ground transport.

Attractions

These are things of value that motivate people to travel to another location. Attractions can be natural, cultural, scenic or events related. They also include activities that can be undertaken including walking, snorkelling or relaxing. On the reverse side, if a destination has negative features these need to be minimised or removed. For example, unsightly rubbish, polluted beaches or poor environmental management are likely to deter visitors.

Accommodation

Most destinations require a range of accommodation needs (styles, quality and prices) to meet different market needs, experiences and preferences. Building the right facility to match the dominant markets is important. Accommodation types include hotels, backpacker hotels, bed and breakfast, camping grounds, resorts, lodges and safari camps.

Amenities

This includes any other service that is required to meet the needs of the visitor including signs, retail shopping, restaurants and cafes, tourist information centres, government services (e.g. customs and immigration), telecommunications (e.g. internet, mobile phone) public toilets and emergency services (e.g. medical centres and hospitals).

Awareness

Strong and effective marketing campaigns are essential for building destination awareness and branding. The local destination community must also have an awareness of the value of tourism, be positive about what it has to offer and train its frontline tourism staff and industry employers to have a positive attitude to tourists. A perceived I

Elements of successful tourism

High quality customer service

Having well-trained not just hospitable staff at all points of contact from the visitor information centre to the local gas station and coffee shop to the hotel or tour company.

Quality Experiences:

Quality experiences that are authentic but relevant to the visitor, easy to plan, buy and participate in. It's one thing to have great experiences or iconic attractions but travelers must be able to:

- Know what's available – this means marketing what you have to offer
- Find out information about it – what's offered, operating season and hours, prices, etc.
- Be able to easily make a booking or purchase a ticket, if necessary
- Be able to find it – this means good local information, maps and signage

Good Value

Good value doesn't necessarily mean cheap since there are markets at all price ranges but it does mean value for the money charged.

Meet Customer Expectations and Standards

Today's consumers have high expectations and standards. Local accommodations, restaurants, attractions and other experiences need to be up-to-par so as to compete.

Infrastructure and Services

Transportation connections, good signage, easy to find parking, basic services such as gas stations, banks/ATMs, accommodations and restaurants, convenience stores and visitor information.

Key Elements of development

- Public Infrastructure
- Private Infrastructure
- Destination Access
- Natural Environment
- Products
- Experiences
- Quality and Standards
- Health, Safety and Security
- Brand Identity

Present trend in tourism sector

Present trends in travel and tourism is characterized by:

Growth in the use of internet for travel research and booking

Growth in the use of social media for travel research

Growth in the use of Smart devices for locating and connecting

Role of Sargaalaya

Responsible Tourism:

Responsible Tourism is mainly conceived with three kinds of responsibilities which are termed as the 'triple bottom – line' economic responsibility, social responsibility and environmental responsibility. It seeks to minimize negative economic, environment and social impacts.

Sargaalaya as a responsible tourism model generates greater economic benefits to people in and around Iringal and enhances the wellbeing of local communities, dependent on weaving and sculpting in different materials and many other indigenous arts. It also helped in the development of the town helping people to generate income through small business. It also makes positive contributions to the conservation of cultural heritage as the birth place of Kunjali Marakkar, the naval commander of Zamorin of Kozhikode.

Sargaalaya acts as an educational hub in crafts making as well as a cultural hub by incorporating festivals and events for the communities. It provides facilities to manage events like wedding and receptions and conferences.

Craft based Tourism:

Sargaalaya has around 27 stalls which has its own workspaces and display areas to facilitate promotion of local crafts. These include Hand sculpting in terracotta and brass. Various products are made in timber, Arecanut stem, Coconut Stem. Jewelry is made out of materials like Coconut shell, Terracotta, Pearl, Crystal, Coir, Wood and Bamboo. Weaving and Crafts making using Natural fibres include Kora grass, Screw pine, Water hyacinth, Banana fibre, Palm fibre, Coir, Straw and vetiver.

Besides being able to buy these products, it also helps any one to get hands on experience in the making of these products. By this experience Sargaalaya can attract a lot of people. Cane and bamboo crafts and furniture are an important part of Sargaalaya where artists from Nagaland and West

Bengal are putting valuable efforts to develop various products. Handlooms and Paintings and temple arts are also given priority in the village since they have great relation to our culture.

Nature Based Tourism:

A visitor is invited into a beautiful ecosystem which was once an abandoned Quarry site. The master planning of the entire village is designed in such a way that the remains of the site is integrated into the park premises which is rich in a wide variety of flora. The natural pond also provides shelter and comfort for fishes and birds. The experience of realization of the two faces of man's development is an important part of this destination.

Boating service is provided for people to in Sargaalaya in the pond developed in the site. Experiences related to river side boating and further visiting the adjacent island as a part of a tour packages is also an integral part of tourism in the place.

Services in Sargaalaya:

The list below provides the major areas where the institute plays a crucial role

Type of Crafts

Stall	Craft or activity
1	Sculptures and terracotta ornaments
2	Mini hall, Craft Training
3	Nagaland Dry Flower
4	Cane furniture
5	Palm Fibre
6	Coir jewelry and Ornaments
7	Sea shells products and ornaments

8	Screw pine and water hyacinth
9	Malabar terry and handloom products
10	Leather unit
11	Vetiver
12	Dance dress ornaments
13	Pooram Crafts
14	Terracotta Sculpture
15	Metal Sculpture
16	Coconut Stem
17	Cora Grass and Handloom
18	Bamboo
19	Paper Bag
20	Jewelry and Crystals
21	Special Metal Engraving and Decorative painting
22	Coconut Jewelry
23	Herbarium painting
24	Mural Painting
25	Chennapatnam toys
26	Metal Embossing
27	Temple Art and Sculpture
28	Textile Shop

Experience

- International Crafts Expo
- Hands on Crafts making
- Shopping handicrafts products
- Pedal Boating
- River boating
- Children's play area
- Open air theatre space
- Local Cuisine

Event Management

- Conference area
- Accommodation
- Dining Space

Education and Training

- Short term training in Crafts
- Training programs in fine arts, dance and music for children
- Training programs in selected art forms

Situation Analysis

Visitor Analysis

- An international traveler interested to explore indigenous crafts
- A person from a different state on a long tour covering different places
- A local traveler who is staying away from home for a vacation.
- A person spending time as a part of a business travel in Vadakara
- A person who is visiting friends and relatives in the town or Vadakara
- A person who wants to shop furniture for her new house
- A person who wants to order bulk quantities of crafts for a resort
- A person coming for a wedding reception in the village
- A teacher coming to attend a farewell party
- A police officer coming to attend an important meeting
- An officer on the way to an important meeting
- A couple coming to shoot their video album
- School students on a school trip to visit the crafts

- A group of students from design college to study materials and crafts making
- Students coming on weekend to learn music
- Women coming to get training on making paper bags
- Women coming to learn 'Chendamelam'
- Students coming to interpret the architecture and planning of the institute
-

Understanding Visitors' activity pattern

Type of Visitor	Range of time spent based on observation
Outdoor Enthusiasts:	2 to 4 hours
Cultural Enthusiasts:	3 to 6 hours
Event Attendee	1 to 3 hours
Pleasure Traveler:	2 to 4 hours

Understanding Visitor's activity pattern

Type of Visitor	Important Activities and Spaces Used based on observation
Outdoor Enthusiasts:	Park, Corridors, Pond Boating, River side Boating, Craft Stalls, Amphitheatre
Cultural Enthusiasts:	Emporium, Craft Stalls, Cafeteria,
Event Attendee	Conference Areas, Cafeteria, Dining Area, Corridors.
Pleasure Traveler:	Emporium, Craft Stalls, Corridors, River side Boating

Development Parameters

1. Infrastructure

a) Waste Management

Inside the stalls, Trash cans are provided along the corridor across the stalls. They are also kept near Cafeteria, Guest Houses and Toilets. They are also kept outside near Amphitheatre and parking lot. Waste collection is done using pull carts or manually and then segregated into four types and then either moved to the plant or disposed of.

2. Public Amenities

a) Information Design

b) Signage Design

Signage provided inside the village include Directional Signage and Spatial Information. The core area is home to most of these signage board in different materials and making.

c) Food and refreshment

The cafeteria located in the core area has dining spaces and kitchen. It also has spaces for small storages, Cold storages and storage of utensils. There is a popcorn unit separate from the main cafeteria.

3. Experiences

a) Installation

Most of the installations inside the village premises are large clay sculptures placed on the front lawn and adjacent to the entrances of the buildings in the core area. Soft Landscape design consists of patches of green lawn adjacent to the buildings with varying species of outdoor plants. The hard landscape consists of rock features of the existing quarry site integrated into various public spaces.

b) Landscape Furniture

No landscape furniture

4. Products and services

a) Innovative product development

b) Graphics design

Design Solutions

Signage Design





Lamp Design

Concept:

Design Inspiration:



At "Bamboolis, the bamboo design studio, they make Bamboo flower vases by Splitting bamboo on either side of the node. This is done such that both ends of the bamboo can be spread by bending after applying heat.

This same idea has been applied in many of the designs we tried, including the Bamboo lamp and making wheels. Splitting bamboo results in cracking if not bent properly. So the idea of providing large drill holes came into picture. Holes at the end of the split line helps in reducing the crack. The circular holes also add to the aesthetics of the lamp.

Selecting and Preparing Bamboo



Selecting the type and length of bamboo is based on the work to be done. Since this work involved bending a relatively raw bamboo was taken.



Peeling of skin is difficult without experience and without the right tool. The knife like tool shown in this picture is made out of axe saw blade and is mainly meant for peeling skin and remove small unevenness on the surface.



Marking and Cutting Length:



In this task, as per design 45cm length of bamboo was necessary. So initially the length was marked and cut.

It is difficult to remove the skin after detail work is done on bamboo. Not knowing about this, it was difficult for us to clear few portions of unpeeled skin.

Drilling Holes:



Marking and Cutting

Drilling holes were an important part of the design as well as aesthetics. The form was derived from the idea that drilling large holes could help in controlling cracks that continue after splitting bamboo as required. So a large drill chuck of about 1" dia. was used to make holes before splitting the bamboo as per design.

Four Holes were drilled diametrically opposite to each other at equal interval at about 8cms from the node on a side. This was repeated on the other side too.



The Bamboo with holes was ready for giving cuts.



Ends of the bamboo length were narrowing as it moves from the node by providing wedge shaped cuts. This is also helpful in making the bending process easy.

Lamp Design



Since the cutter user was not fixed, it was suggested to clamp and then cut the bamboo. This piece was cut holding with one hand for convenience. Also clamping needed frequent changing of position of bamboo for each cut.



The cut bamboo is ready for finishing with sand paper.

Finishing



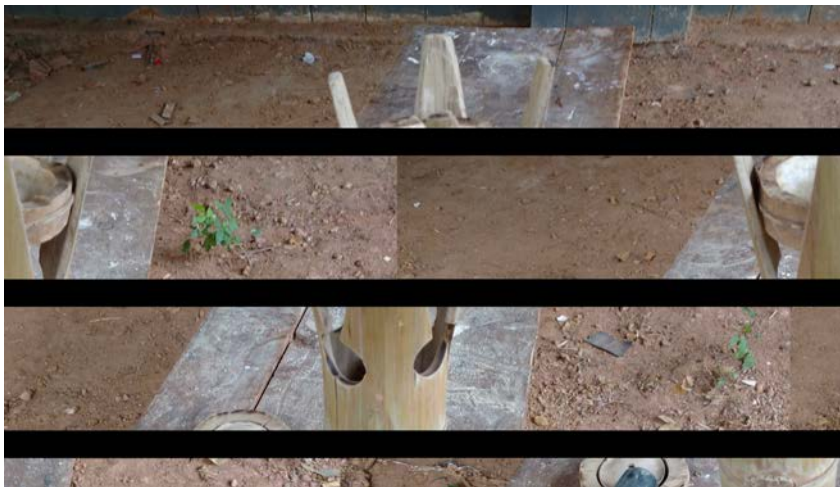
The surface of the bamboo was finished using the knife as well as various grades of sand papers to get the desired finish.

Bending



Before bending, it is necessary to understand how much the selected thickness of bamboo can be bent. The selected piece of bamboo didn't have a section that is ideal for bending. It was thick.

Rings of diameters that will go inside the bamboo is to be cut before bending. These rings were made out of bamboo itself to avoid an external material into the design. The rings have to be hammered in during applying heat.

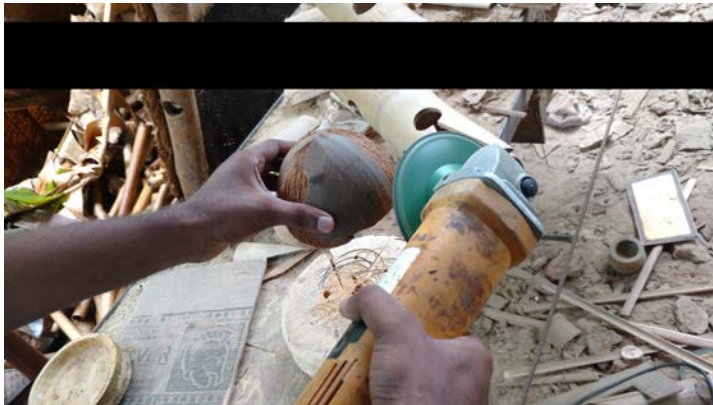


Bending of bamboo is normally done under a hot blower or under direct gas burner. Since these were not available we had to use glow lamp which gave slow result.

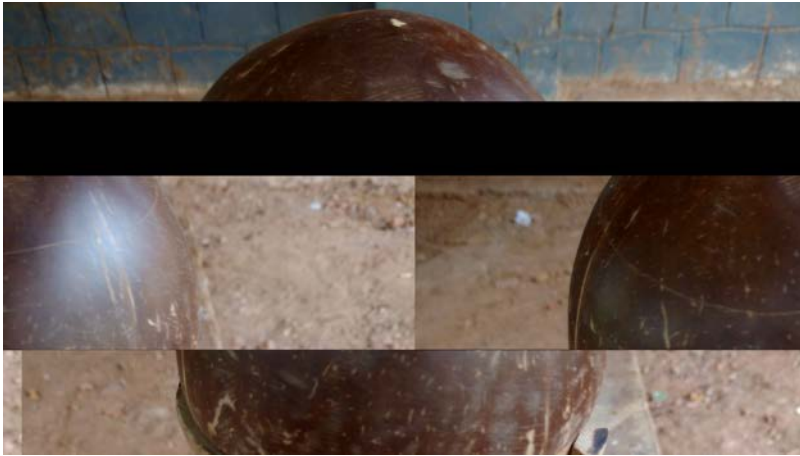
As seen in the picture, the ring was hammered in till it started to give cracks. Cracks were actually a result of uneven heating of bamboo. This design actually requires application of heat on all sides consistently to help the ring to go in.

After bending both the sides, this part is ready for finishing.

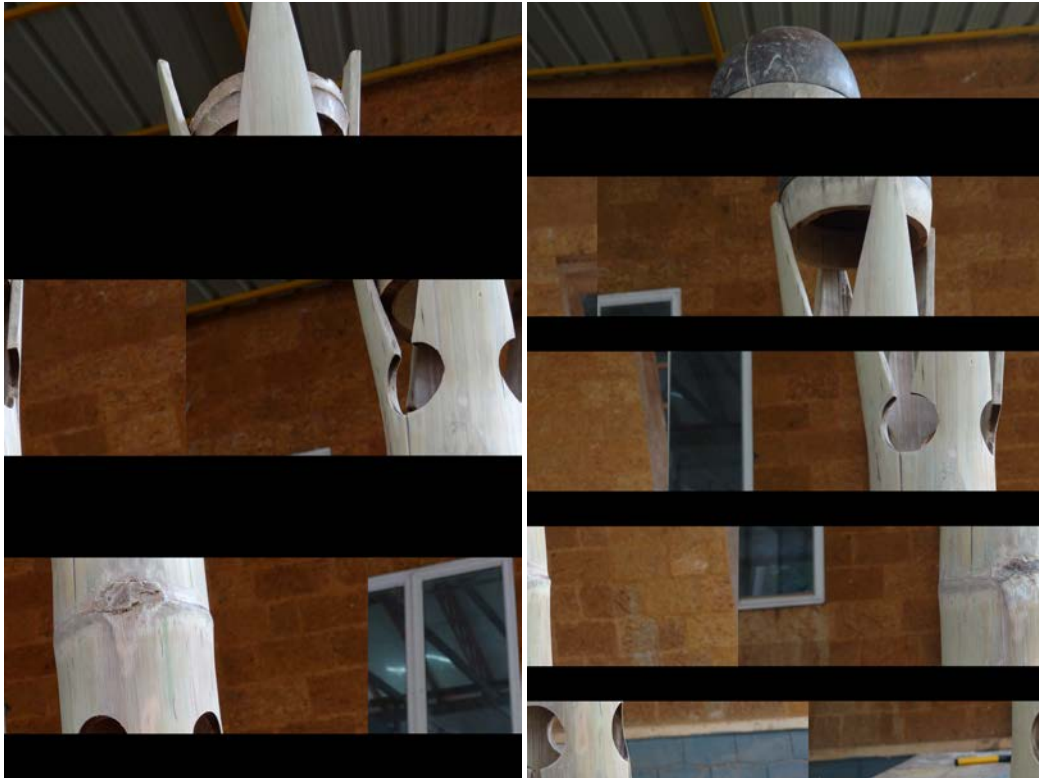
Coconut shell top



The next part in the lamp design is the coconut shell top. Finding the right sized shell was the toughest part of the work. Normally at Coconut shell stall in Sargaalya, hanging lamp is made out of coconut that is chosen from adjacent areas based on size. Only the large and visually symmetrical ones are used. This particular shell was obtained from a nearby seller to match the top and bottom edge of the body.

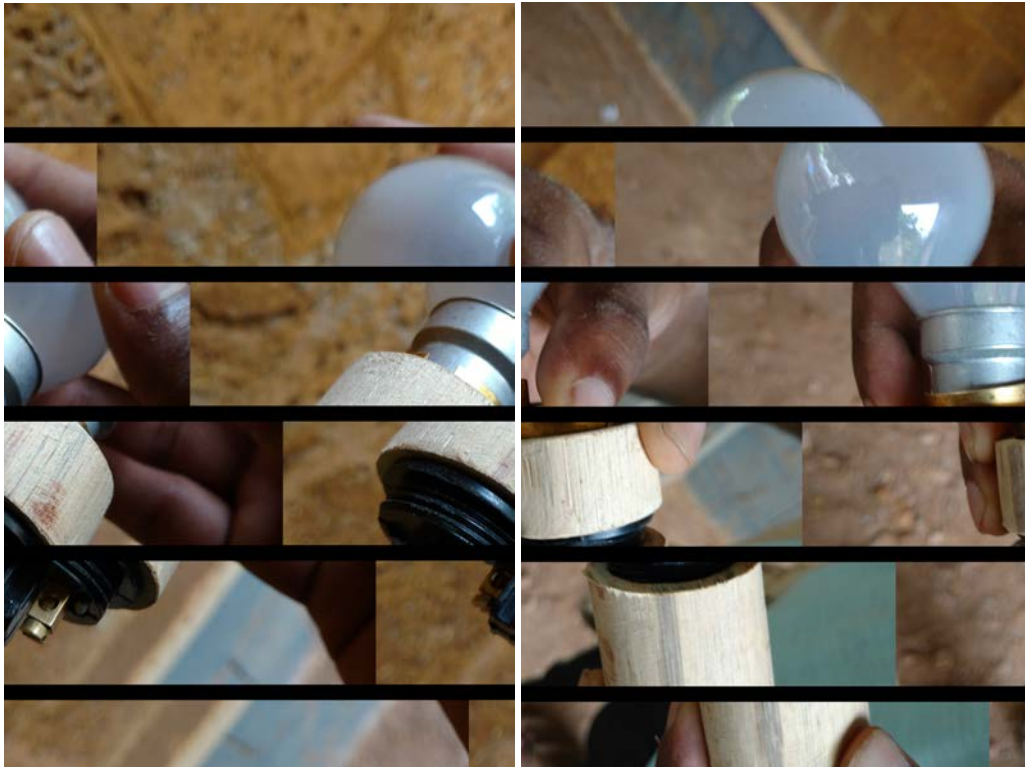


The shell was the ground by handheld sander to remove the fibrous skin. Then it was finished using sand papers to get a smooth finish as shown in the picture.



View of lamp prior to painting

Bulb Holder in Bamboo

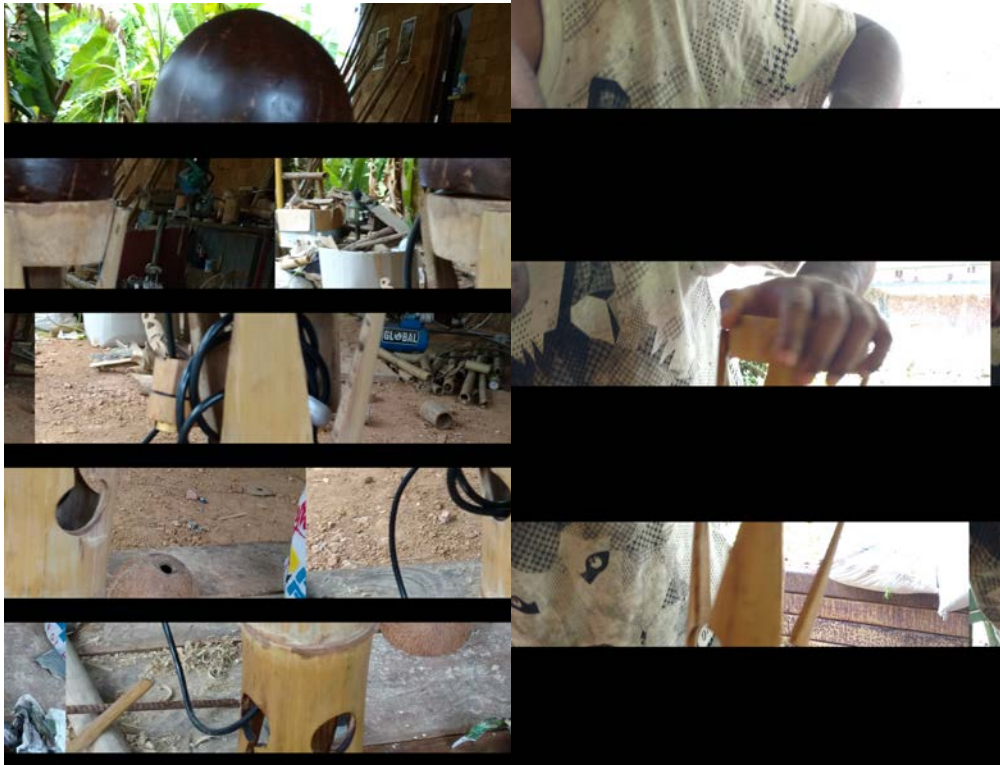


The holder was designed and positioned such a way that it fits exactly in the centre of the bamboo piece. Getting the bulb at the centre of the drill hole was one of the criteria in aesthetics. The wire was taken through the bottom side of the node and the holder was fixed with strong adhesive.

Considering the use of only bamboo for the whole design, the holder and socket for bulb was made using bamboo. The core of the socket was taken from a common lamp holder and then, bamboo matching the width of the holder was used to give a tight fit design.



Finishing



Once these part were over, the bamboo parts were put to finish. Sanding sealer mixed with wood powder was used to seal the cracks and make the surface even. After that the surface was sanded. This process was done for two or more times wherever required.

After this a coat of sanding sealer was applied with added stain of Dark wood finish as per colour required. This was also done for the coconut shells on top and bottom of the Lamp.



Brass frame:



A problem arose on how to fix the coconut shell to the body. Initially it was decided to place the shell on top of the body. But the shell could easily fall down on carelessness. So the necessity for a new detail came into picture. The fixing of shell on to the body was not suggested since the bulb may have to be changed over a period of time.



Brass detail:



Brass details for hanging:

It was decided to give a projection on top so that the shell does not slide off the bamboo top. A design was made and was made in a strip of brass sheet with a width of almost half an inch which was meant to wind along the top of the body. The strip was fixed using brass headed nails with the help of adhesive. This way the shell could be kept intact.



Lamp Design



The design was rethought in such a way that the same lamp can be used as hanging lamp or table lamp for ambience.

Brass details were made out of sheets to make hooks for fixing the clamps. The clamps were made out of 3mm brass rods which were relatively easy to cut and bend.



Holes were directly drilled using 1mm drill bits on to the coconut shell for fixing the hooks for the bottom portion.



Final Product

Fixed Wall Lighting

The task was to design a wall lighting for a given space in a wall for a Spa in Thrissur.

Mock up Models



Fixed Wall Lighting



Fixed Wall Lighting



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Fixed Wall Lighting



Vintage Wheel – Car

Part making



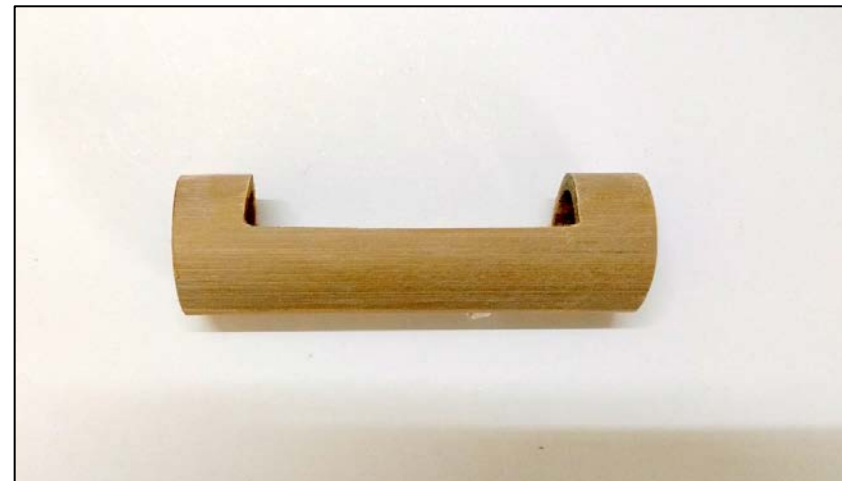
The concept is to make a detachable toy using bamboo and brass joinery. There are mainly 3 parts in the toy: The front, The middle and the rear.

The idea was to make a modular toy in bamboo in which the middle body can be interchanged with another.

Vintage Wheel – Car



The tires were also made use of varying sizes of bamboo. The axis of rotation was made using strips of bamboo finished to a level of high smoothness.





Vintage Wheel – Car



Day Night Stand

Inspiration



The design is inspired by the pen stand designs in Sargaalaya. It is a simple product which consists of three pieces of sliced bamboo fixed together on a base plate. It also has mural like painting on it.

The proposed concept was an alternative to this design, meanwhile raising the utility of the product to a higher level and also placing it as a premium product.

Three similar bamboo pieces of varying heights are made to use in the new design so that the heights of the lamp could be varied. These are attached to the base metal plate to make it steady.

Day Night Stand



Torch Making



The body of the torch was obtained by identifying the sizes of the batteries that will go in. An LED torch was identified as a base size for the required electronic parts to go with the bamboo torch. The body was cut to the exact size of the plastic body.



The base of the torch was chiselled at 45 degrees to match the top of the pen stand. The advantage of this design is that the base of the bamboo torch body which is the node could now support the batteries arranged on top of it



The top of the torch body was slit mainly because of two reasons. One was to accommodate the metal ring that act as a conductor between the head of the torch and the battery. This also helps in a way to help to join the head with the body with the help of a metal ring.



The head of the torch is made to accommodate the magnifying lens, LED bulb along with the circuit board. The position of the board was miscalculated in the initial stage and a metal ring had to be introduced to act as the connecting link to complete the circuit. A ring was attached to the top to prevent the joining ring to slide out of the body.

Day Night Stand



Cane

Exploring cane material

Working with cane

High quality cane Obtained locally from Thamarassery OR Coimbatore

There are two artisans specialized in cane and bamboo products at Sargaalaya. We were mostly interacting with Mr. Sanjay who has been there for the past 7 years, a native of West Bengal. He had learned all the skills from his native and has experience in making furniture of all kinds. Mr. Naresh who is also a Bengali works on larger pieces of furniture. They also do weaving in cane and threads.

Product categories at Sargaalaya

A few products in cane are already displayed for potential customers. These includes a sofa set and a dining set which are displayed in the emporium priced at 45000 at 30000 respectively.

Few other products in the making were a sofa set priced at 50000. Closely Watching the making of this piece of furniture helped to understand the basic idea of making structure for furniture. This product was entirely different and had a striking sense of aesthetics associated with it.

Making Process

Preparing the cane

Treated cane was kept in bundles in the store room. Out of this cane was chosen based on its flexibility. The flexibility of a cane length can be understood by checking its cross section. The cane is more flexible if the pores are more closely packed. So if the frame to be made has an extreme bend they chose the one which is more flexible.

Types of cane: Cane is available in varying thickness till a maximum of 1"

Tools Used

There were mainly two tools for working with cane. The knife for peeling is made out by shaping an axe saw blade to a desired sharp curve. The same knife is used for making small cuts and wedges. Cane lengths are cut using a cutter (plier like). A wooden piece was used as support while peeling the skin.

Bending of cane is done with the help of a gas assisted flame torch. The frames of cane were made by bending cane. A wooden tool as shown in the picture was used for bending the cane as well as refining the natural bends of the cane.

The bending process

The length of frame to be made are marked on the cane length before cutting the desired length. An extra length is given at the edge to assist in bending the ends.

The idea behind bending is that if one half of the cross section is heated up and the other is left as the same, it can be bent to the heated direction. Bending is done by exposing the required area to extreme heat or flame which unlike bamboo results in burning that portion. The intensity of heat depends upon the type of curve to be made.

The typical bends include an angular bend and curves. The technique in both was slightly different when examined carefully. As shown in the picture angular bend involves application of intense flame to a point and gradual heat to adjacent areas to ease the bend or to avoid cracking. The curve is made by accurately marking the length of curve first. Then the start and the end of the curve are flamed and given a gradual angular bend as per the shape of the curve. Then the middle part of the curve is bent gradually in continuous flame to get a neat curve.

After this, the wooden tool is used to correct the direction of the curve or to correct any minor mistakes. This is done with the help of light flame if required. The flames area is then scraped off with the knife to give the normal colour or left with the burnt appearance. The burnt area shows black spots on the cane.

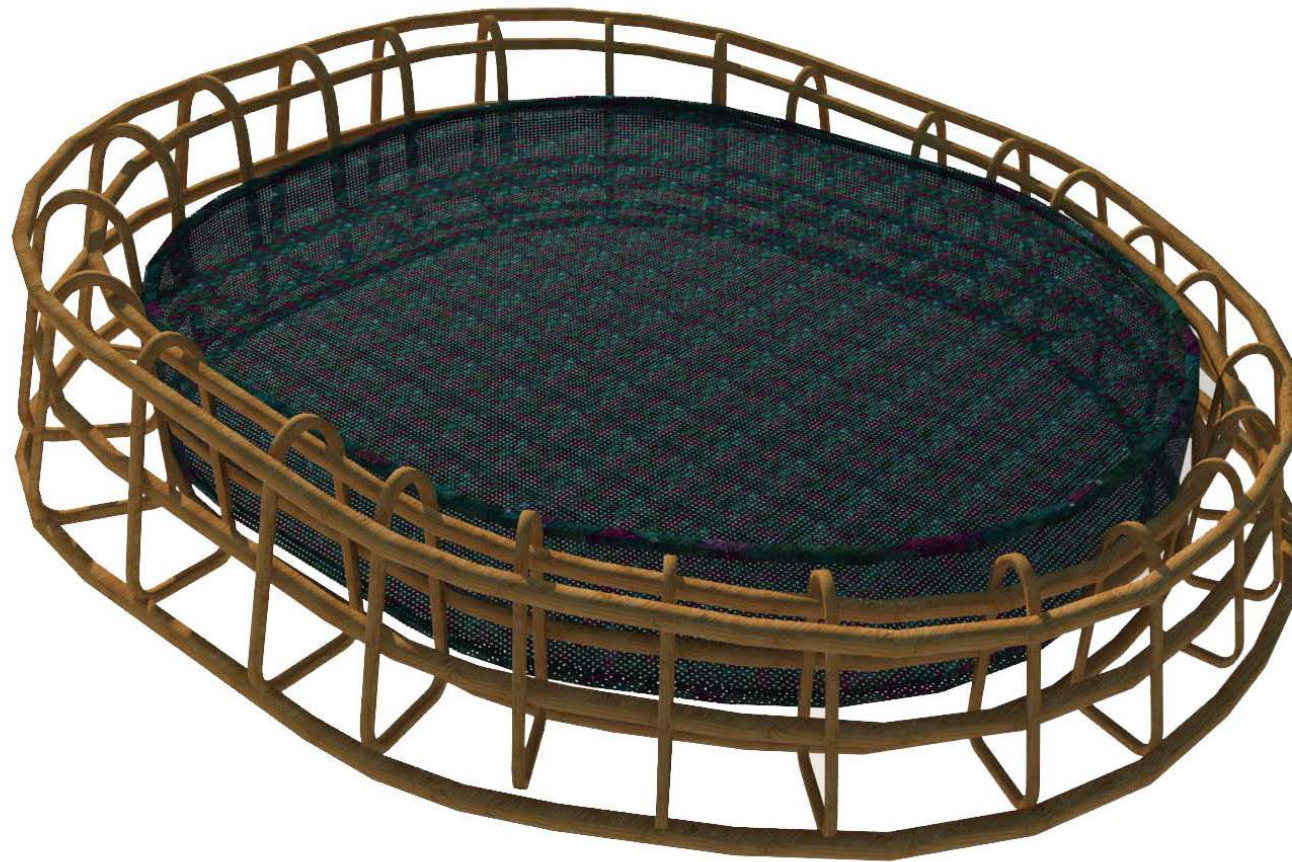
Making frame profiles:

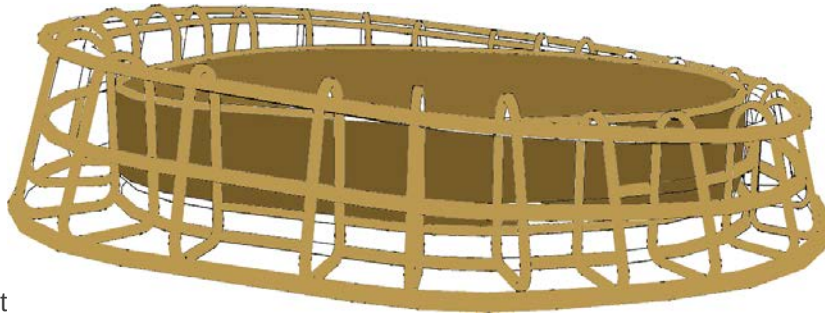
This particular chair consists of rounded rectangular profiles which act as the thickness of the chair. Initially a circular frame is made to fix the profiles. The profiles are created by joining two ends of a desired length. The joint is made by creating lap joints on both ends.

Lap joint in cane:

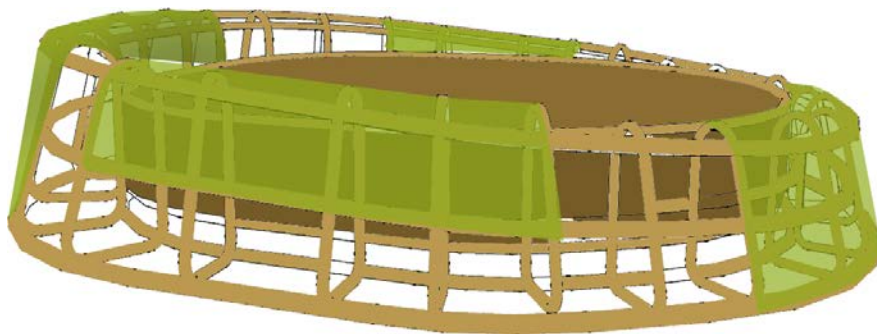
This is done by giving a wedge on both ends of the cane length approximately 1 to 4 inches depending on the size of the frame. Half of these are cut and then joined using iron nails to get a perfect lap joint.

Furniture Design





Concept



This furniture design was inspired by one of the sofa set which was made in cane. This was done using frame profiles which was used as the skeleton of the chair over which cane is woven.

The order or the flow of the profiles for a given form gave rise to the idea of making a furniture in which the cane profiles were exposed. Only those portion which will be in contact with human body on usage is given a weave. This chair is designed to be used in resorts as well as tree houses to give a raw experience to the user.

This design helps to bring down the heavy amount of time that is spent on the weave as well as new way to look at the form.

Screw Pine

Exploring screw pine material



Product categories at Sargaalaya

Screw pine is a type of plant normally found by the side of lakes and rivers which has leaves closely related to palm leaves. These leaves are used for making handicrafts. Only the mature leaves are cut for helping to regenerate. The leaves are cut into fine strips and then goes through processing. These leaves can be given a variety of colours using dyes. These are used to weave mats and then to make variety of products like bags, boxes dust bins, table mats etc.

Types of weaving in screw pine





Bottle Holder for Cycles

Support design



Bottle Holder for Cycles



Bottle Holder for Cycles



Bottle Holder for Cycles

Buckle design



Texture and colour



Bottle Holder for Cycles

Final design on Normal Cycles



Bottle Holder for Cycles

Final design on Kid's Cycles



