



# Training Manual for Bamboo Craft

## Module V: Bamboo Jewellery



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# Preface

Bamboo is an ancient woody grass widely distributed in tropical, subtropical and mild temperate zones. Traditionally seen as the “poor man’s tree”, in recent years bamboo has risen to a high-tech, industrial raw material and substitute for wood. Although the commercialization of planted bamboo has been slow, it is becoming an increasingly important economic asset in poverty eradication, economic and environmental development (FAO, 2005).

Bamboo is a group of perennial evergreens in the true grass family Poaceae and includes the largest members of the grass family. There are more than 70 genera of bamboo divided into about 1,450 species, of which only around 50 species are routinely cultivated (Hunter, 2003). Native bamboo grows in many parts of the world, including East Asia, Sub-Saharan Africa and the Americas. Bamboo is not limited to tropical climates, with some species able to withstand frost and survive in Northern Europe. It is an extremely fast-growing plant, with some species obtaining growth surges of 100cm per 24 hour period. Most bamboo species grow to their full height within a single growing season. Over the following seasons the walls of each culm (or stem) dry and harden, reaching maturity within 3 to 5 years.

Bamboo has traditionally been used for basic construction and scaffolding, woven mats, basketry, incense sticks, and a wide variety of other handcrafted items. The utilization and trade of bamboo sector is dominated by a large informal sector comprising farmers, artisans, and family-owned cottage industries located in remote villages. Bamboo has been used as the primary raw material of the pulp and paper industry of North East India for many years. It is increasingly being exploited as a wood substitute for a range of industrial products including particleboard, bamboo mat boards, and bamboo mat corrugated sheets. Bamboo is cultivated in a small scale in homesteads but most of the material that is processed into finished products is extracted from state owned forests.

## The Manual - Module 5

In order to promote vocational skill development through the use of technology enhanced learning, and open educational resources, training contents have been developed for training artisans / workers to enhance the quality and introduce new line of products with higher value addition that has acceptance in high-end markets.

Module 5 is designed to provide a pictorial step-by-step elaboration on the various applications of bamboo to create diverse products. It describes methods for making wide range of jewelry using bamboo. This manual can be used as a reference material for trainers, trainees and artisans who are learning to work with bamboo. An audio-visual guide has also been developed for the manual in order to enhance understanding. It is advisable to use both resources to derive the most of the manual.

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# 1. Introduction

**B**amboo jewellery making is an art which requires knowledge in bamboo, skill, creative imagination and awareness about the market demands and trends. This is very eco-friendly and provides employment generation to many artisans in the villages. It can be produced without much infrastructure thus every house in rural areas can make bamboo jewellery at home without needing much investment.



Images of artisans working on various types of bamboo jewellery.

## 2. Tools & Raw Materials

There are various tools used for working with bamboo especially for making various jewellery. The most important tools are given below for reference. Many of these are required for various purposes related to making jewellery. The process starts from measuring to cutting, splitting, drilling, bending, grinding etc. The material for making products should be selected carefully and treated well before using it.



**Tool 1:** Steel ruler



**Tool 2:** Measure tape



**Tool 3:** Knife



**Tool 4:** Hand saw



**Tool 5:** Chisels



**Tool 6:** Cutting plier



**Tool 7:** Marking tool



**Tool 8:** Nose plier



**Tool 9:** Fret saw



**Tool 10:** Files



**Tool 11:** Bench vice and 'C' clamp



**Tool 12:** Bench vice



**Tool 13:** Hot air gun



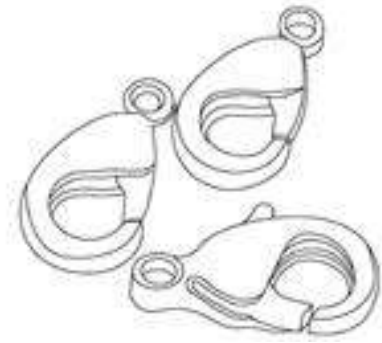
**Tool 14:** Power drill





## 3. Jewellery Making

All types of bamboos - hollow bamboo, solid bamboo, reed bamboo, bamboo branches, bamboos having small diameter, etc can be used for making bamboo jewellery. The natural form of bamboo needs to be converted to various shapes as shown in the image. Moreover, to make small accessories like ear rings, chains, hooks, etc, basic materials like nylon thread, copper wire, elastic band, etc can be needed according to the requirement.



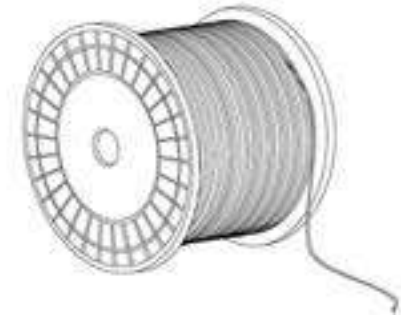
Hooks for necklace



Bamboo cut into various shapes.



Hooks for earring.



Nylon wire



Thread and needle



Bamboo branches for making beads.



Step 1: Cut the bamboo branches into small pieces using hacksaw



Step 2: Bend the branches using hot air gun



Step 3: Cut the excess length after bending.



Step 4: Cut the solid bamboo to make beads.



Step 5: Finish on the sanding machine.



Step 6: Drill on the bamboo beads.



Step 9: Finish it with mellamine before the assembly.



Step 7: Various cut forms and beads are kept in the dye.



Step 10: Arrange all the beads and shapes on table



Step 8: Dry the pieces after dyeing.



Step 11: Make a combination before the assembly.



Step 12: Another combination.



Step 13: Stringing the beads together with thread and metal wire



Step 14: Assembly of the beads.



Step 15: Cleaning and finishing.



Step 16: Use an adhesive to stick the components.

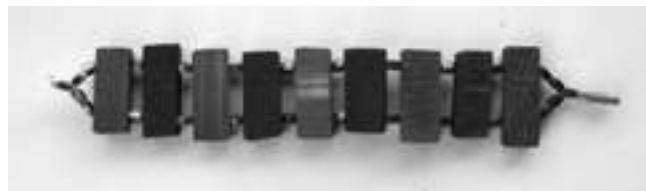
Step 17: One of the combinations assembled.



## 4. Jewellery Products







## 5. Workshop Safety

**W**orkshop is the place where various kinds of machineries are being used and it carries the risk of potential safety hazards. The purpose of safety measure is to prevent fatal accidents and provide emergency help. Therefore, it is very important that the rules and guidelines are followed.

It is not possible for this section to cover every conceivable situation and therefore staffs who have management or supervisory responsibilities must also establish and enforce safety rules to cover specific hazards in their workshops. The laws that govern occupational health and safety in a bamboo processing workplace is very important to each and every learner. The learner should be able to identify typical workplace hazards and follow procedures that will control the risks associated with those hazards to prevent injury, illness and death. The knowledge of workshop safety measures will enable the learners to respond and act appropriately in an emergency situation.

The trainer should explain the warning or reporting procedures of unsafe situations in the workplace. In case of an emergency situation, the trainer or the trainee should inform the nearest hospital for treatment.

There are various safety measures followed in a bamboo processing working environment. The following are some of the important safety clothing and equipment one should strictly wear while working with bamboo in the workshop.

### **a) Safety glass**

Safety glass is glass which has safety features to protect eyes while working in the workshop. There are many types of glass available in the market like toughened glass, laminated glass and wire mesh glass for workshop safety.

### **b) Mask**

When working in the bamboo workshop, you can breathe in lot of dusts that can cause serious respiratory diseases. In such a condition, it is advised to use dust mask to protect oneself. A dust mask is a pad held over the nose and mouth by elastic or rubber straps to protect against dusts encountered during workshop activities.

### **c) Apron**

An apron is an outer protective garment that covers primarily the front body. It is worn for various safety reasons in the workshop to protect oneself from many hazards. Aprons are available in a variety of materials and the learner should wear a thick cloth apron for bamboo activities in the workshop.

#### d) Hand gloves

Hand gloves is worn to protect hands from cuts and abrasions, chemicals, heat and most work environments. Hand gloves are made from leather, cotton, synthetics, nitrile, latex etc. to offer maximum protection and comfort.

#### e) First aid kit

A first aid kit consists of equipment for treating minor injuries by an individual. Typical contents include adhesive bandages, crepe bandage, finger bandage, scissors, hypo allergic tape, disposable gloves, regular pain medication, gauze and disinfectant. It is important to keep all kits in a clean condition and waterproof container to keep them safe and aseptic. The contents of the kit should be checked regularly and replaced if any items are damaged or expired out of date. Other than the above mentioned safety measure one should keep in mind the following strictly.

- No casual attitude in the workshop premise.
- Wear suitable personal clothing to the workshop conditions.
- Appropriate footwear should be worn.
- Never run in the workshop.
- Label safety equipment and maintain in good condition.
- Keep all fire-escape routes completely clear at all times.

- Ensure that all safety equipment remains accessible to the workshop personnel at all times.

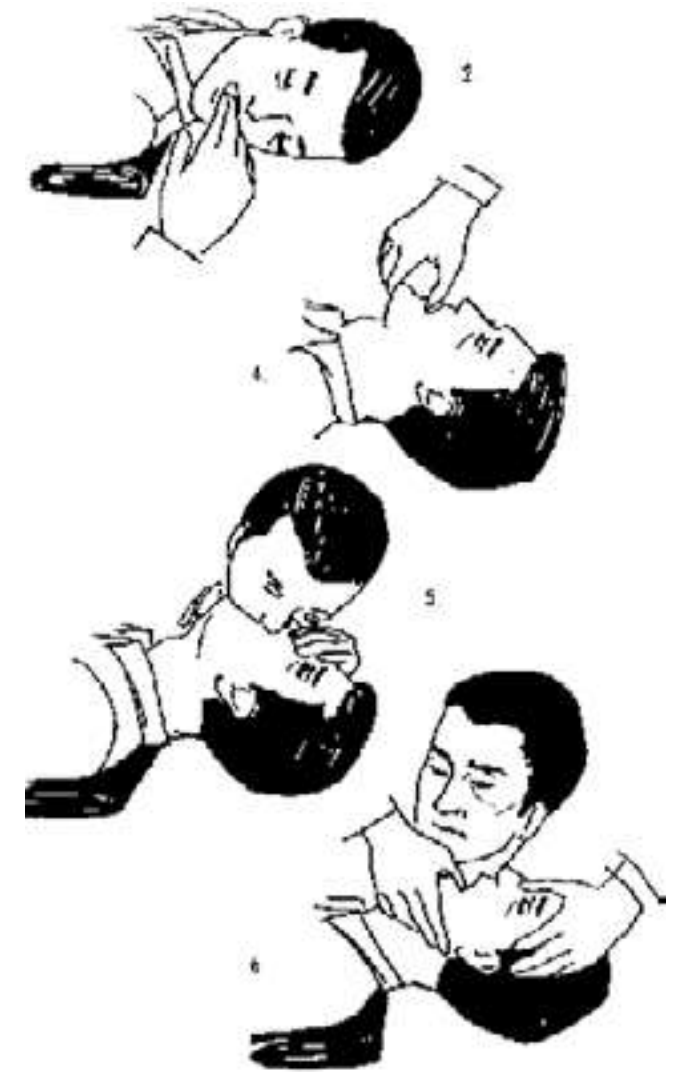
#### Artificial Respiration

Artificial respiration is a procedure used to restore or maintain respiration in a person who has stopped breathing due to drowning,



electric shock, choking, gas or smoke inhalation, or poisoning. This method uses mechanical or manual means to force air into and out of the lungs in a rhythmic fashion. In emergency situations, however when no professional help is available rescuers undertake the natural method mouth-to-mouth or nose-to-nose for artificial respiration.

In the first place to perform this method, any foreign material is swept out of the mouth with the hand. The patient is placed on his/her back with the head tilted backward and chin pointing upward just to avoid the tongue blocking the throat. The rescuer's mouth is then placed tightly over the victim's mouth or nose with the victim's mouth or nostrils shut. The rescuer then takes a deep breath and blows into the victim's mouth, nose or both. The breathing should be vigorous at the rate of 12 breaths per minute. Breathing exercise should be continued until natural breathing resumes or until professional help arrives.





## Foundation for MSME Clusters

FMC is a non-government, not-for-profit Public Charitable Trust, registered under India Trust Act set up in the year 2005. It was conceived in the year 2004 at the suggestion of the then Ministry of Small Scale Industries (SSI) and now renamed as Ministry of MSME, Govt. of India. United Nations Industrial Development Organisation (UNIDO) helped to draw up its business plan and Entrepreneurship Development Institute of India (EDII) gave legal birth to FMC. The Foundation is an apex national body known worldwide as a pioneer organization for the development of MSMEs through cluster development approach. FMC has rich experience of working with MSMEs and has provided services in the areas of advocacy, implementation and coordination, training and research to more than 150 clusters nationally and globally across 10 countries. It has its head office located in New Delhi and regional/project offices in Hyderabad, Phagwara, Ludhiana, Jaipur and Kolkata

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