

Design Resource

## Collapsible Bamboo Furniture - Nagpur

Cane Craft

by

Prof. Bibhudutta Baral and Srikanth B.  
NID Campus, Bengaluru

Source:

<https://dsource.in/resource/collapsible-bamboo-furniture-nagpur>



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2. Tools and Raw Materials
3. Making Process
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## Introduction

The history of bamboo crafts traces back to 12th century Beppu when the private chef of Japanese emperor Keiko illustrated the use of this eco-friendly wood for basket making. Mentions about this are also found in Nihon-shoki, the second oldest book of classical Japanese history. According to legends, the name bamboo is derived from the word 'Bambu' of the Malay language from Malaysia, where it is believed to be called after the sound bamboo makes while exploding in an open fire. Bamboos are the largest members of the grass family, belonging to the subfamily Bambusoideae. Here due to the absence of secondary growth, the stems tend to grow columnar rather than tearing, causing it to grow to exceptional heights. Certain species of bamboo would grow up to 91 cm within 24 hours, at a rate of almost 4 cms an hour, unlike the growth of other grass varieties. Being one of the fastest-growing species, it matures in almost 2 years, while other timbers take up to 40 to 60 years for maturation. The plant itself possesses an anti-bacterial property hence needless of pesticides during cultivation. Regions of South Asia, Southeast Asia, and East Asia hold strong the economic and cultural significance of the plant and this reflects in their culture. Nowadays, the use of bamboo stems can be found in construction works, food cuisines, furniture makings, and even in manufacturing fabrics, bed sheets, towels, and purses. Bamboo fabrics make a softer alternative to cotton counterparts. The edible bamboo shoots or sprouts are an active ingredient in many Asian dishes and broths.

Bamboo craft is a traditional art practiced in various parts of the world. With time, it grew to become one of the strongest pillars of the Indian rural economy. Assam, Tripura, and West Bengal with the largest number of bamboo forests make the most notable variety of the craft, traded within the country as well as to foreign lands. The products include mugs for rice beer, hookahs, musical instruments, floor mats, fishing devices, handles, etc. The crafts also come in a wide variety, ranging from showpieces to furniture to home decor products, the style, and design of which differs from region to region, according to the artisan's choice or cultural influence of the place. Above all, it is a low investment industry and has built the potential over time to employ many families making a reliable livelihood for them.

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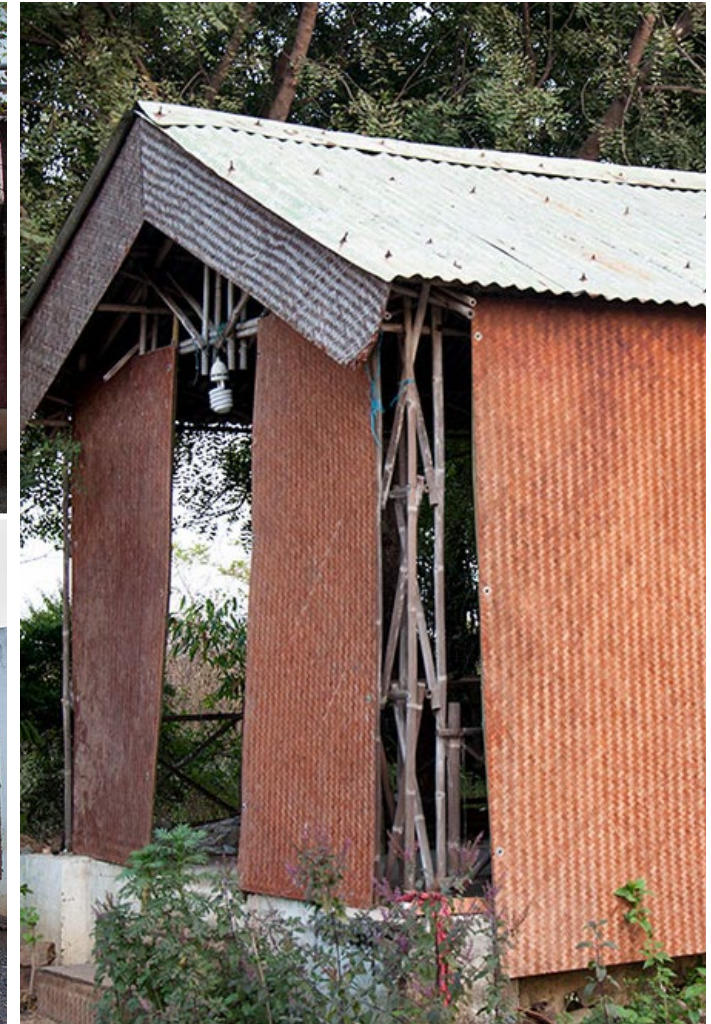
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The outside view of the Vedha India factory building, also known as the Institute of Village Interments Development for Artisan, is based in Nagpur.



The research lab is set inside the factory premises where new experiments on designs and products take place.



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Mr. Deepak Sune working as a Manager at the workshop for 20 years.



A group of artisans was employed at the bamboo factory.

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Pieces of bamboo were transported to the other side of the workshop by two artisans.

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## Tools and Raw Materials

The following are the tools and raw materials used for Collapsible Bamboo Furniture:

- **Bamboo:** The prime raw material for the craft.
- **Hammer:** It is used to hold the bamboos together by nailing them.
- **Nails:** It is used to hold two bamboos intact.
- **C-clamp:** A tool used to hold a wood piece or a workpiece in place.
- **Vice:** It is a mechanical apparatus used to secure an object firmly while labor is being performed on it.
- **Measuring Tape:** It is a metal strip with linear-measurement markings, used as a tool to measure great lengths, curves, and even corners.
- **Sandpaper:** It is made of sheets of paper or cloth with an abrasive material glued to one side, used to smoothen rough surfaces or blunt, sharp edges.
- **Power Sander:** It is a grinding tool composed of an abrasive compound used for various grinding operations.
- **Saw Table:** It is used as a woodworking tool, with a sharp blade protruding through the table surface, providing base and support to the material being cut.
- **Lathe Machine:** It helps create a wooden model with symmetry about a set axis, here it is used to straighten the bamboo pieces.



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Bamboo stems used in the making of bamboo furniture.



Iron nails, bolts, nuts, and Allen keys used to join different parts of bamboo pieces into a furniture item.



Measurement tape is used to measure the bamboo stems.



The sandpaper is used to smoothen the outer surface of the bamboo pieces.

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A handsaw is used to trim a bamboo stem as per the required shape or size.



Hammer used to fix nails at the joints of the bamboo pieces.



A power sander used to grind roughness from the raw bamboo stem.

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A lathe machine is used to straighten the bamboo.



A table saw is used to cut large bamboo stems.



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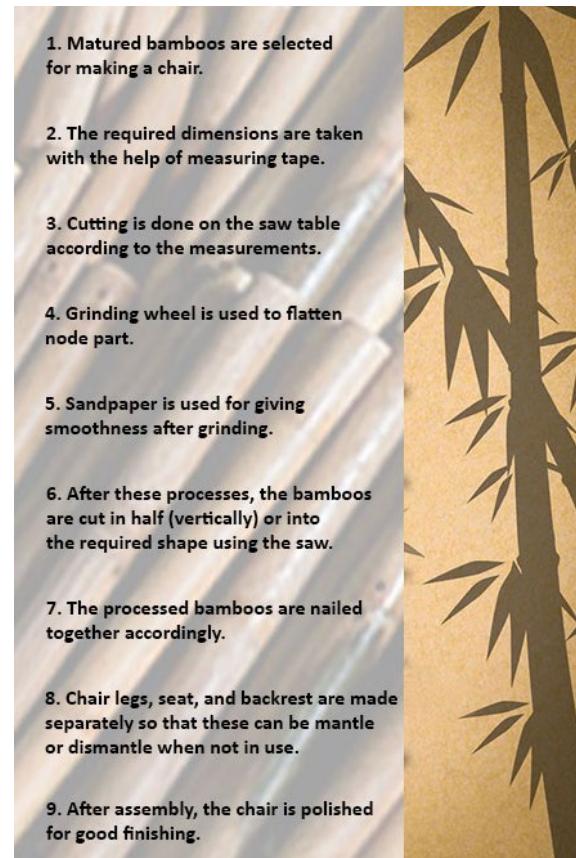
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## Making Process

Firstly the harvested bamboo is cut into long pieces and hardened by soaking in water for days and drying in strong sunlight. This step helps the woodshed starch that the insects generally feed on. Once hardened the dimensions for the intended shape are measured with a tape and noted with a marker. Then according to the dimensions, major cuttings are performed with a table saw, followed by leveling off the node area using a grinding wheel. After grinding, sandpaper is rubbed over the model for smooth finishing and then they are either cut vertically or as per the required shape, using a saw. All these processed bamboos are nailed together to form various parts of the product like the foot, seat, and the backrest of the chair. Once the parts are ready, they are mantled together well and coated with a wood polish for a good finish.

### Flow Chart

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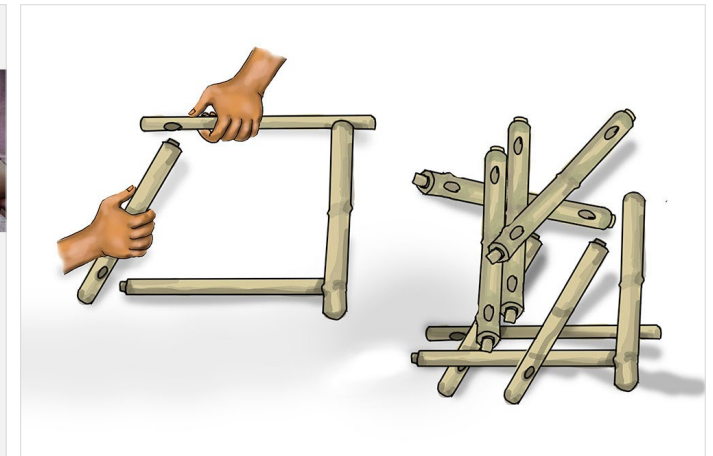
Raw bamboo stems arranged at the storage place.



The artisan is using a power sander to remove the roughness of the raw bamboo.



Artisan smoothing the corners of the trimmed bamboo using a power sander.



The bamboo stems from being fixed to the joints for making a frame for the chair.

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A set of three frames being fixed and arranged.



Another set of bamboo stems being sliced into four pieces.



The newly sliced bamboo pieces being arranged on the ready frames.



Artisan is measuring equal gaps between bamboo pieces.

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After measuring the difference, the artisan nails bamboo pieces over the frame.



Artisan smoothing the nailed bamboo pieces using sandpaper.



Artisan applying varnish coating over the completed wooden frame.

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A set of three wooden frames set aside for drying after applying varnish.



After the bamboo frames dry, the artisan fixes them together to form a strong chair.



A glimpse of the final product that can be dismantled when not in use.

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## Products

Collapsible furniture is the type that can be folded and stored in smaller spaces. Bamboo chairs also come under this category with versatile and innovative features that are currently in high demand in the market. The chairs made from organic and eco-friendly bamboos are designed in such a way that they can be attached and dismantled easily, making them an easily portable utility item. Bamboo products carry great potential even for the future as it puts nature to use while being cost-effective.



A relaxing chair made of a bamboo stem.



A bamboo shade is used to cover open spaces and walls, to protect against harsh climate.



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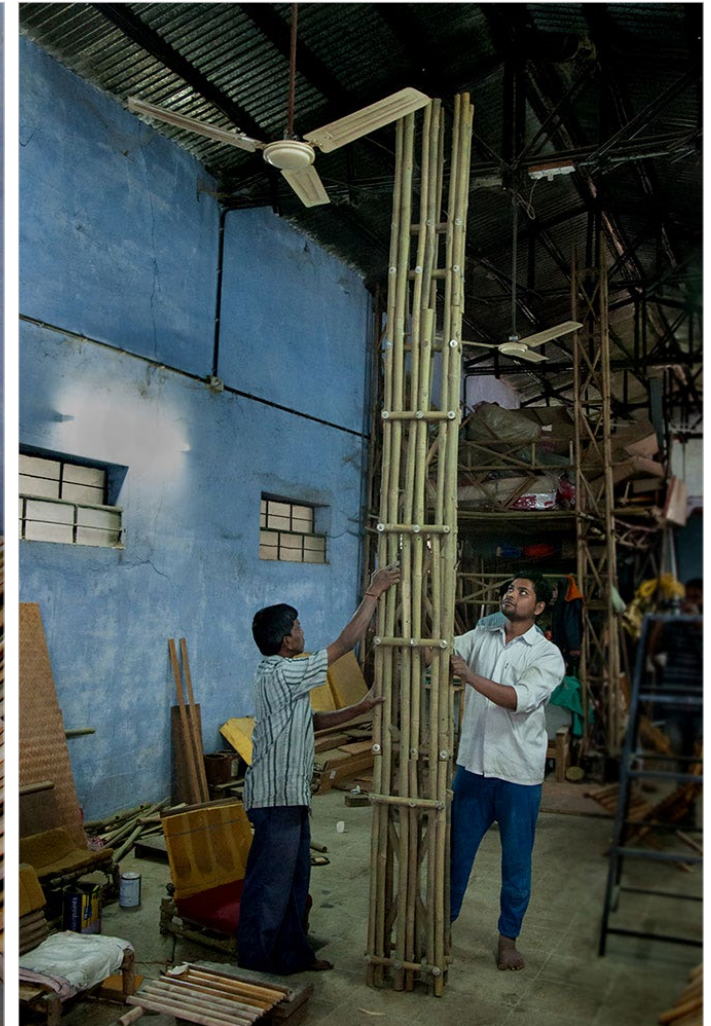
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A compact ladder made of bamboo stems.



A bamboo pillar is widely used for construction purposes.

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## Video



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## Contact Details

This documentation was done by Prof. Bibhudutta Baral and Srikanth B. at [NID, Bengaluru](#).

You can get in touch with him at [bibhudutta\[at\]nid.edu](mailto:bibhudutta[at]nid.edu)

You can write to the following address regarding suggestions and clarifications:

### Key Contacts:

Mr. Sunil Joshi

Vedha (Institute Of Village Enterprise Development For Handicraft Artisans)

Rajyog, 172C, Trimurti Nagar, Ring Road,

Nagpur - 22(MS)

India

Phone: 0712-2225594

Mobile: 09823176472 / 0721-2225594

### Helpdesk Details:

Co-ordinator

Project e-kalpa

R & D Campus

National Institute of Design

#12 HMT Link Road, Off Tumkur Road

Bengaluru 560 022

India

Phone: +91 80 2357 9054

Fax: +91 80 23373086

Email: [dsource.in\[at\]gmail.com](mailto:dsource.in[at]gmail.com)

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