

**7-day workshop on
‘New designs, Tools and Techniques’
at
Sampoorna Bamboo Kendra,
Lawada, Melaghat**

**BAMBU STUDIO
INDUSTRIAL DESIGN CENTRE
IIT- BOMBAY**

**7-day workshop on
'New designs, Tools and Techniques' at
Sampoorna Bamboo Kendra(SBK)**

A workshop was conducted at SBK, Lawada from 17th to 23rd Nov. 2002, as a part of the project commitment made in the UNDP-KVIC project on 'Design Intervention in Bamboo Craft' taken up by IDC (Industrial design Centre), IIT Bombay. SBK is one of the MCFCs (Micro common Facility Centres) chosen in the project. This report gives the



Sampoorna Bamboo Kendra(SBK)

SBK is situated in Melghat, a tiger reserve Forest area. The nearest railway station is Badnera. From there one has to go by Bus or taxi to Lawada. We went in a vehicle which took about 4 hours. Dharani town which has the facilities like phone, Rest House and Hotels to stay is about half an hour drive from Lawada. Our team stayed in Dharani except for Gangamma who stayed at SBK campus.

SBK has a small Campus with a large workshop and few living quarters. Shri Sunil Deshpande and Shrimati Nirupama Deshpande, founders of SBK and Sunil's parents stay on Campus. SBK is a Change Agent in the Area, influencing the bamboo craft workers in the surrounding villages significantly. Sustainable employment generation





Sampoorna Bamboo Kendra has been organising the village workers in the Region for many years in helping them to get raw bamboo as well as arranging for the marketing of bamboo products outside Melghat. A Karigar Panchayat is held every year. Villagers participate in the Karigar

preparations for Karigar Panchayat





A workshop was conducted at Sampurna Bamboo Kendra, for 7-days by the design team from Industrial Design Centre IIT-Bombay, Mumbai.

Team members : Prof A. G. Rao,
S.Sundara Mohan,
Niranjan Rudrapaul,
Gangamma Gowda ,
Krishna Sutar.

from
17th to 23rd November 2002.

SBK took a major initiative in organising the workshop bringing the support of NABARD as well as local Rotary club. Thus 34 persons attended the workshop out of which **5** were traditional craftspersons **17** had some training in Bamboo craft before **12** were unemployed youth who had studied upto 10th class



The workshop was aimed at introducing new designs with a focus on

- Proper use of new toolkit tools and machines
- Use of moulds, jigs and fixtures
- Use of New techniques for making and finishing
- Introduction of 4 products with variations resulting in 10 new designs



Prof A.G.Rao giving a talk showing product images from a laptop

Interactive sessions supported with visual presentations from a lap-top computer were conducted on following topics:

1. Use of new tool kit
2. Maintenance of tools and machines
3. Use of hand operated machines
4. Dyeing with Natural dyes
5. Introduction to coil technique
6. Use of moulds, jigs and fixtures



Use of Tool kit, Tool maintenance and use of Machines

Use of toolkit tools and Machines were introduced through talk and demonstration.

Emphasis was given to their use for the required operation.

There is a danger of class room learning which does not get translated into actual use unless it becomes meaningful in terms of getting better products and better earning.

It is important to introduce the new tools and machines with new product designs which demand such tools and machines.





Demonstration of natural dyeing of bamboo strips using katha, as Dr. Priti Joshi looks on.

Dyeing with Natural Dyes

Dyeing bamboo with Natural dyes gives a new dimension to bamboo products. Bambu Studio has been verifying, testing and innovating in dyeing of bamboo systematically over two years. Dyeing with Katha and Tea leaves was demonstrated in the workshop. Participants dyed the strips which they later used in their products.



Gangamma explaining how to use a simple mould to

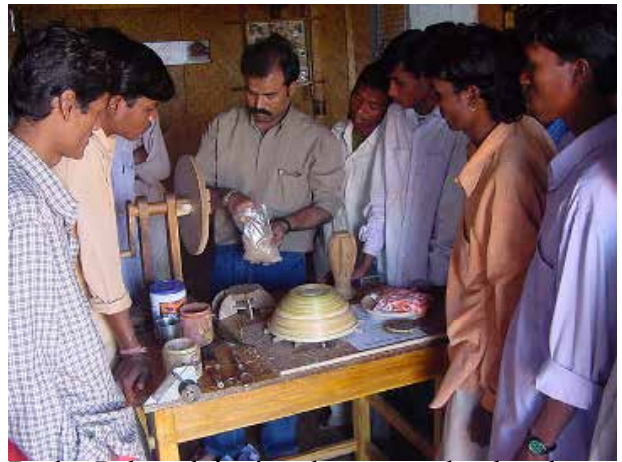
A strategy of learning basics through making products was adopted in the workshop to make learning more meaningful

Use of Moulds, Jigs and Fixtures

Use of moulds, jigs and fixtures was explained in a lecture session with visual examples. The practical use of templates and simple 2D and 3D

Use of 2Dmould for making new design of waste paper basket with a square shape..





Rudra Pal explaining how to make the glue

Coil Technique

Coil Technique adopted from Thailand and developed further at IDC offers a new avenue for bamboo craft. The technique is simple. It consists of coiling bamboo strip on a plain board or on a mould and applying a glue paste mixed with clay and saw dust. A spindle like 'Charkha' can also be used to



Kailash trying coil technique on spindle machine

Sundar Mohan telling the importance of even application of glue paste





Clinic on SBK products

Comprehensive approach to design and technology was adopted throughout the workshop. Design clinic was held on Sampurna Bamboo Kendra's products with the craftpersons, and suggestions were given to improve the quality of each product.

Craftpersons have been using this technique to make the cart wheels after the workshop



The craftsmen were finding it difficult to make the wheel of Bullock cart in bamboo and were using wood as substitute. Coil technique was suggested by which the wheel making in bamboo becomes easy .

Finishes and Treatment of Bamboo: Smoke Chamber

Finishes and Treatments play an important role in Bamboo craft.

Alum treatment was demonstrated in the workshop. Bamboo in the Melghat region is more prone to Fungus growth but resistant to insect attack.

Alum treatment with 10% alum gives adequate protection.

Borax boric acid treatment for prevention from insect attack was also introduced.

Staining was demonstrated in one of the sessions.

The most attractive treatment is by Smoking of

Bamboo which gives golden yellow to brown colours in addition to increasing the protection from Fungus and Insects.

A Smoke chamber was constructed during the workshop. The steel doors were made lo-



Bottom door being fixed for ease of move-



Sunil Deshpande overseeing the smoke chamber construction

Sundar Mohan explaining how the fungus infected baskets can be cleaned for smoking



Smoking provides an excitement like pottery. Traditional items kept as rejections due to Fungus can also be smoked to give an attractive brown colour. Smoking after 6 to 8 hours gives golden yellow colour. After 14 hours a rich brown can be seen.



Smoke finish can bring new life to Products affected with



Rudrapal giving instructions for loading the smoke Chamber



Joy of Learning and making finished prod-

There was a joy in the workshop.

A bowl in coil technique

Waste paper basket in new shape

Newspaper basket with new hanger design

Double weave basket

Circular plate with moulded rimall

were made in a finished form with a new confidence to be able to sell to urban markets

A new confidence was created to sell the products in the urban markets with help coming from the active leadership of Sampoorna



Conclusion

The workshop involved thorough training, paying individual attention. 34 persons were divided into 3 groups with one resource person dealing with each group. The groups were rotated once they finished the products. Every day review session was held at the end to assess what each person has learnt. Shri Sunil Deshpande facilitated the review sessions ensuring full communication with each participant. Participants got confident when they made more than 30 finished products with their own hands in a short workshop. Smoke finish obtained in the Smoke Chamber added to their delight. Video of their work was shown to them on the T.V. in the end, which motivated them further.

Design and Technology adaptations are long processes. Continuity is the key in this endeavour. SBKs long standing commitment can provide to this experimental intervention a road to success.

Technology support to SBK was given in terms of giving several

moulds, standard tools, specially made tools and small machines which are listed in Annexure 3.

An attempt was made to involve the craftpersons in making tools locally. The craftpersons were taking one-day to finish one bowl using normal chisel. A round shaped tool was the requirement.

A new tool was made by sharpening the reverse side of 'Kathi', locally used small knife. Later 15 of these were made and distributed by SBK to craftpersons.

A marketing link and continuous support from an urban centre like

Annexure 1: Workshop timetable

**7-day Workshop on ‘New Designs with Weaving Techniques’
held at
Sampoorna Bamboo Kendra, Lawada, Melaghat, Maharashtra.**

Day-1 (17.11.02):

9.30 to 10.30 am AGR	General Talk	
10.30 to 11.30 am	Design translation 3D / 2D representation	
11.30 to 1.00 pm	Combining materials Planning, preparation of material	
1.00 to 2.00 pm	Lunch	
2.00 to 5.00 pm	News Paper Basket / Coil Technique (Bowl)	NRP G KS SSM

Day-2 (18.11.02):

9.30 to 1.00 pm	Practice Session on - News Paper Basket / Coil Technique (Bowl)	NRP G KS SSM
1.00 to 2.00 pm	Lunch	
2.00 to 3.30 pm	Practice session on - News Paper Basket / Coil Technique (Bowl)	NRP G KS SSM
3.30 to 5.00 pm	Preparation of dyed strips	

Day-3 (19.11.02):

9.30 to 10.30 am	Mould Making, Slide talk	AGR
10.30 to 11.30 am	Mould making Demo	KS SSM
11.30 to 12.00	NRP	Colouring with stain
12.00 to 1.00		Practice Session - Waste Paper Basket
1.00 to 2.00 pm	Lunch	
2.00 to 5.00 pm	Practice Session - Waste Paper Basket	G NRP

Day-4 (20.11.02)

9.30 to 10.30 am	Finishing	AGR
10.30 to 11.30 am	Coil Technique / Double Weave Basket	NRP G KS
11.30 to 1.00 pm	Practice Session	NRP G KS
1.00 to 2.00 pm	Lunch	
2.00 to 5.00 pm	Practice Session - Coil Technique / D.W.B.	NRP G KS SSM

Day-5 (21.11.02):

9.30 to 1.00 pm	Coil Tech. / D.W.B.	AGR NRP G KS SSM
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1.00 to 2.00 pm	Lunch	
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2.00 to 3.30 pm	Practice Session - Coil Technique / D.W.B.	NRP G KS SSM
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3.30 to 5.00 pm	Review	AGR NRP SSM G KS
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Day-6 (22.11.02):

9.30 to 1.00 pm	Concluding discussion	AGR/NRP/G/ KS /SSM
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1.00 to 2.00 pm	Lunch	
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2.00 to 5.00 KS/	Completing the products	NRP/ G/ SSM
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Annexure2: List of Participants

Traditional Craftsmen:

1. Mr.Kiran S. Achare,
Kota Dist.
2. Mr.Prabhu Das B.
Kota Dist.
3. Mr.Kishorlal Khale
Lawada, P.O.Duri, Tal. Dharani, Dist.Amaravati.
4. Mr.Santhosh K. Kade,
P.O.Nanduri, Tal. Dharani, Dist. Amaravati.
5. Mr.Dhasrath S. Methkar,
P.O.Nanduri, Tal. Dharani, Dist. Amaravati.

Following Participants had earlier training:

1. Mr.Suresh B. Dharva,
P.O.Hariyal, Tal. Dharani, Dist. Amaravati.
2. Mr.Kailash A. Dahilkar,
Lawada, P.O.Duri, Tal. Dharani, Dist. Amaravati.
3. Mr.Jaganlal R. Dhurove,
Lawada, P.O. Duri, Tal.Dharani, Dist. Amaravati.
4. Mr.Vijay Kakde,
Lawada, P.O. Duri, Tal.Dharani, Dist. Amaravati. .
5. Mr.Satish R. Mavaskhur,
P.O.Kotal, Tal. Dharani, Dist. Amaravati.
6. Mr.Mahendra R. Powar,
P.O.Bothara, Tal. Dharani, Dist. Amaravati.
7. Ms. Praveena Shaikh,
P.O.Lawada, Tal. Dharani, Dist. Amaravati.
8. Mr.Vaibhav R. Moharir,
P.O.Lawada, Tal. Dharani, Dist. Amaravati.
9. Mr.Shyamkumar Ram Dahikar,
P.O.Lawada, Tal. Dharani, Dist. Amaravati.

10. Mr.Dayaram B. Jambekar,
Dhakana, Tal. Dharani, Dist. Amaravati.
11. Mr.Kulaji G.Bedhekar,
Chunkadhe, P.O. Mehariaam, Tal.Chikhaldhara, Dist.
Amaravati.
12. Mr.Dinesh Arjun Patel,
Jutpanee, P.O. Bisupavadi, Tal & Dist. Amaravati.
13. Mr.Saheblal B. Jambhekar,
Jutpanee, P.O.Bisupavadi, Tal. & Dist. Amaravati.
14. Mr.Hasanlal S. Uke,
Jutpanee, P.O.Bisupavadi, Tal.Dharani, Dist.Amaravati.
15. Ms. Prabhavati S. Pore,
Achalpur, Tal. Achalpur, Dist. Amaravati.
16. Ms. Deepali R. Gawade,
Achalpur, Tal. Achalpur, Dist. Amaravati.
17. Ms. Shobha Bhutkar,
Lawada, P.O.Duni, Tal. Dharani, Dist. Amaravati.

Following participants had not received any prior training in
Bamboo Craft:

1. Mr.Sawanth Kumar B. Jambhekar,
Kota, P.O. Naduri, Tal. Dharani, Dist. Amaravati.
2. Mr.Deepak R. Kasdekar,
Ramteen, P.O.Badnapur, Tal. Chikaldara, Dist. Amaravati.
3. Mr.Rajkumar S. Chilatre,
Zingapur, P.O.Popatkhedha, Tal.Chikaldara, Dist. Amaravti.
4. Mr.Sanjay R. Chilatre,
Zingapur, P.O.Popatkhedha, Tal.Chikaldara, Dist. Amaravti.
5. Mr.Manohar R. Chilatre,
Zingapur, P.O.Popatkhedha, Tal.Chikaldara, Dist. Amaravti.

6. Mr.Jayram K. Savalkar,
Khalimal, P.O.Mehribhau, Tal.Chikaldara, Dist.Amaravati.
7. Mr.Jayram B. Chikar,
Khalimal, P.O.Mehribhau, Tal.Chikaldara, Dist.Amaravati.
8. Mr.Arun S. Jambhekar,
Jutpanee, P.O.Bisupavadi, Tal.Parani, Dist.Amaravati.
9. Mr.Mungilal B. Savalkar,
Khalimal, P.O.Mehribhau, Tal. Chikaldara, Dist.Amaravati.
10. Mr.Ramchandra T. Dahikar,
P.O.Badanapur, Tal. Chikaldara, Dist. Amaravati.
11. Mr.Bandhu M. Chilatre,
P.O.Zingapur, Tal.Popatkhedha, Dist. Amaravati.
12. Mr.Prakash S. Nagapure,
Khalimal, P.O. Mehribhau, Tal. Chikaldara, Dist. Amara-

Annexure 3

ITEMS GIVEN TO SAMPOORNA BAMBOO KENDRA:

- | | | | |
|-----|--------------------------------|---|----------|
| 1. | Photo cutter | - | 1 no. |
| 2. | Strip Roller | - | 1 no. |
| 3. | Drill Bits | - | 3 sets |
| 4. | Sand papers | - | 200 pcs. |
| 5. | Hacksaw blades | - | 100 pcs. |
| 6. | Sander belts | - | 10 nos. |
| 7. | Hole saw set | - | 2 pcs. |
| 8. | Moulds for Waste Paper Basket: | | |
| | - Square rim checking mould | - | 2 nos. |
| | - Top Rim Mould | - | 2 nos. |
| | - Middle Mould | - | 2 nos. |
| | - Bottom mould | - | 2 nos. |
| 9. | Round Waste Paper Basket: | | |
| | - Rim Mould | - | 2 nos. |
| | - Outer Rim Mould | - | 2 nos. |
| 10. | Double Weave Basket: | | |
| | - Ext. Rim Mould | - | 2 nos. |
| 11. | Small News Paper Basket | - | 2 nos. |
| | - Big Mould | - | 2 nos. |
| 12. | Circle Tray | - | 2 nos. |
| | - Mould | - | 2 nos. |
| | - Rim | - | 2 nos. |

13. Square Tray Mould:		
- External Rim Mould	-	2 nos.
- Internal Rim Mould	-	2 nos.
14. Elliptical tray mould:		
- External Rim Mould	-	2 nos.
- Internal Rim Mould	-	2 nos.
15. Split Mould	-	1 no.
16. Spindle machine	-	1 no.
17. Fret work	-	3 nos.
18. Sander block set with 20 pcs	-	1 no.
19. Stain Thinner	-	1 ltr. bottle
20. Stain (small bottles)	-	9 colours
21. Linseed oil	-	1 sample tin
22. Natural dye:		
a Hardener	-	1 kg.
b Ferrous Sulphate	-	200 gms.
c Harithaki	-	360 gms.
d Copper sulphate	-	100 gms
d Potassium dichromate	-	180 gms.
e Turmeric powder	-	50 gms.
f Alta powder	-	50 gms
g Alum	-	200 gms.
23. News Paper Basket (N.P.B.)		
Anchor mould	-	1 no.
