

# INNOVATIVE WITH FIBRES

FIBROUS INNOVATION/ THE ECO JOURNEY OF A FIBRE >>> 21 SWATCHES

## **Peels/skins of fruits-**

Drumstick, Banana-stem, pineapple skin, orange, lime, raw mango, sweet lime, onion, potato, garlic, sugarcane, spring onion

## **Additional materials -**

Gelatin, glycerine solution (palm leather solution), oil  
(Adhesive explorations)

**URSULA UDAY**



>>>

Peeled off potato & raw mango with skin, so that flesh can be removed off cleanly after boiling.



>>

Boiling potato peels in salt water (to increase boiling point) for 20 mins.  
\*Potato peel overpowers the smell after boiling with mango skin



Scratching out the flesh from peels was **tearing** the skin



>>>

Boiling raw mango peels in salt water for 25 mins.  
\*Mango flesh became slimy  
\*At boiling green skin turns yellow



>>>

Scratching out the flesh from peels with spoon.  
\*Skin bendable, smooth, fibrous from inside.  
Can tear if pulled.



Peeled of drumstick skin and lightly washed in water.

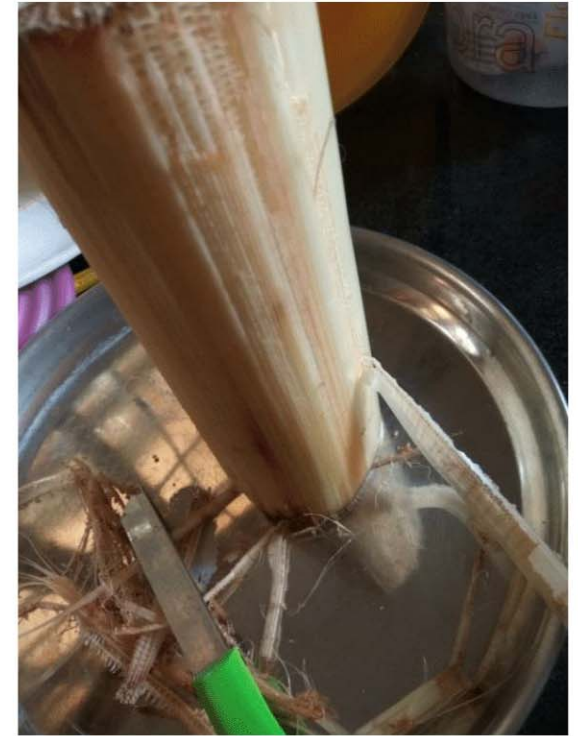




Banana stem peeled in three ways-  
 \*Gridded skin (water content); just the grids layer; dry fibrous skin



Cross-sectional view of the stem



Pulling out the skin  
 \*When you bend the skin: cracking sound concludes water content. At the folds, skin gets brown faster with striations.



Drying out the peels in shaded sun



Boiling potato to peel out the skin easily



Drying out with other skins





Soaked sugarcane waste strands into palm leather solution (20 % glycerine and 80% water) for 6 hours and then let it dry in shaded sun.



Dried raw mango peel



Dried potato skin and drumstick skin



Spring onion



Dried banana stem

**After 3 hours, the peels are dried out.**

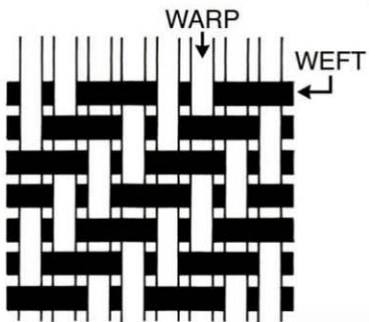
Drumstick peels have hardened.  
Mango peels have curled to wrinkle and have hardened that it can be snapped to break.  
Potato peels have become papery thin.  
Banana stem skin- water content peels have wrinkled and hardened and the ones with just the skin are soft.  
Spring onions leaves are still soft and smooth.  
Sugarcane was softer to smoothly weave than the other materials.





**Warp-** Drumstick peels  
**Weft-** Banana-stem peels

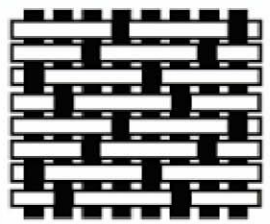
**Twill weave 2/2**



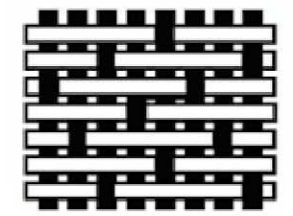


**Warp-** Drumstick peels  
**Weft-** Banana-stem peels

**Twill weave 3/1**



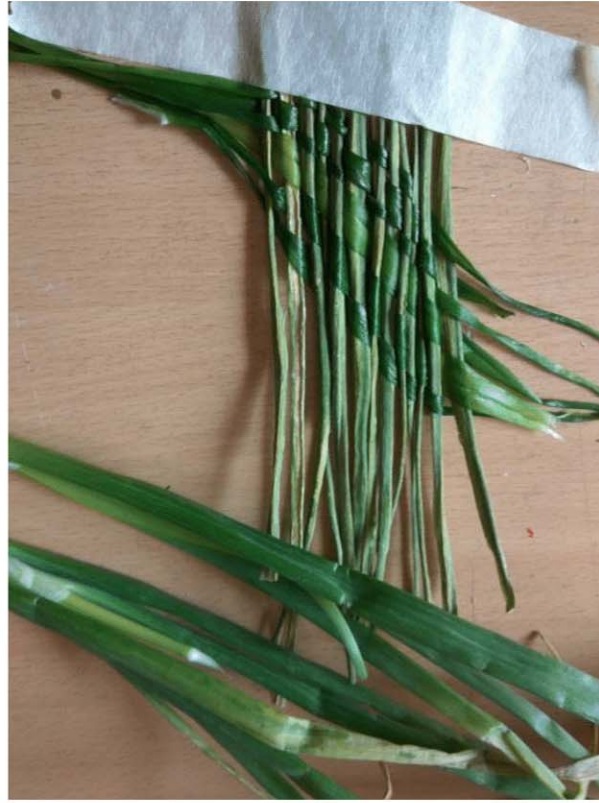
**5-harness satin weave**







Can't use dried mango skin as weft, it breaks



Springs onion leaves slant weft



Used rubber bands opposite slant weft



## Tumbling blocks Madweave

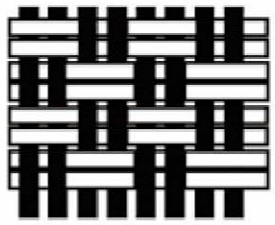
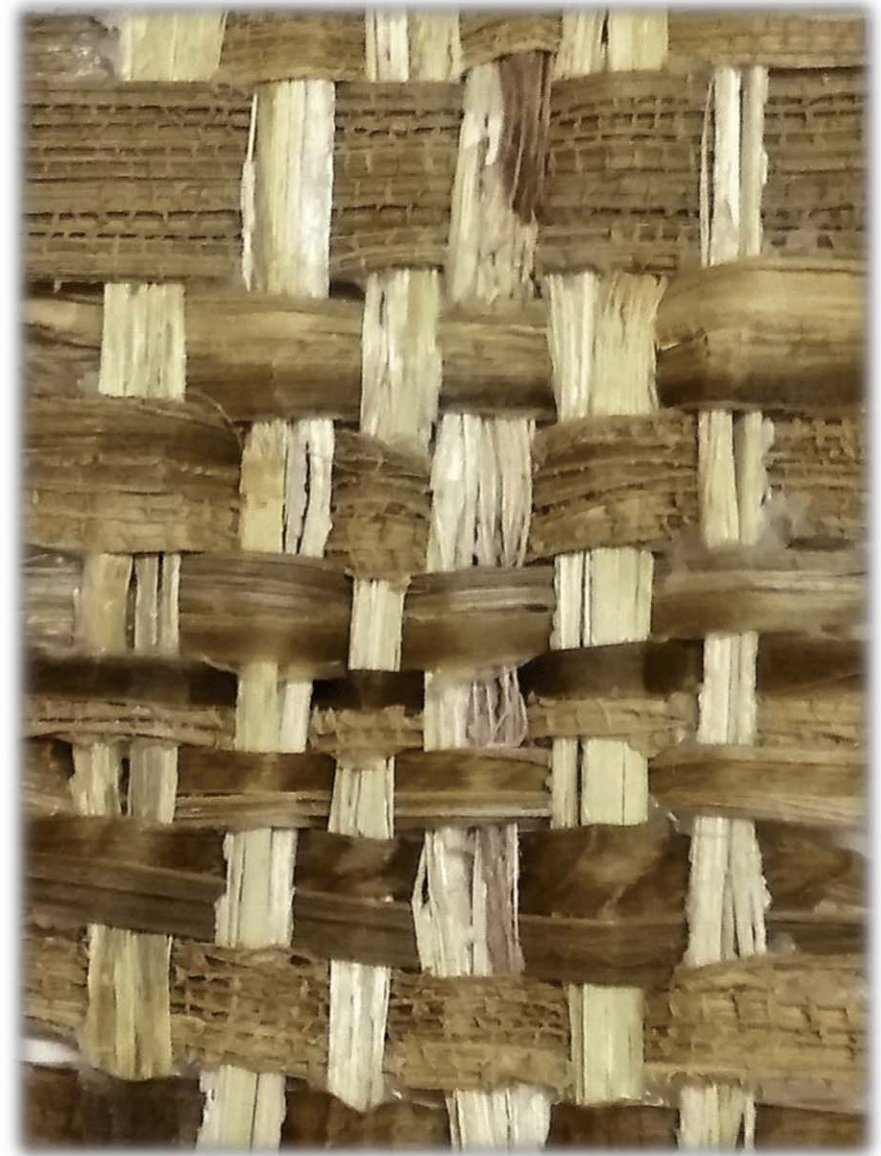
**Warp-** Drumstick peels

**Weft-** Spring onion leaves and used or worn off rubber bands





**Warp-** Waste sugarcane strands  
**Weft-** Banana-stem peels



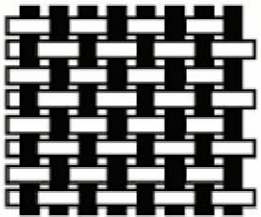
**Basket weave**





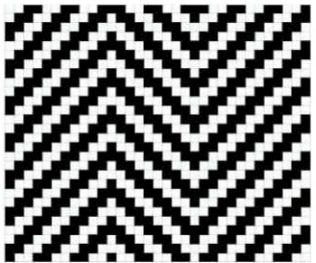
**Warp & Weft-**  
Waste sugarcane strands

**Plain weave (uniform)**

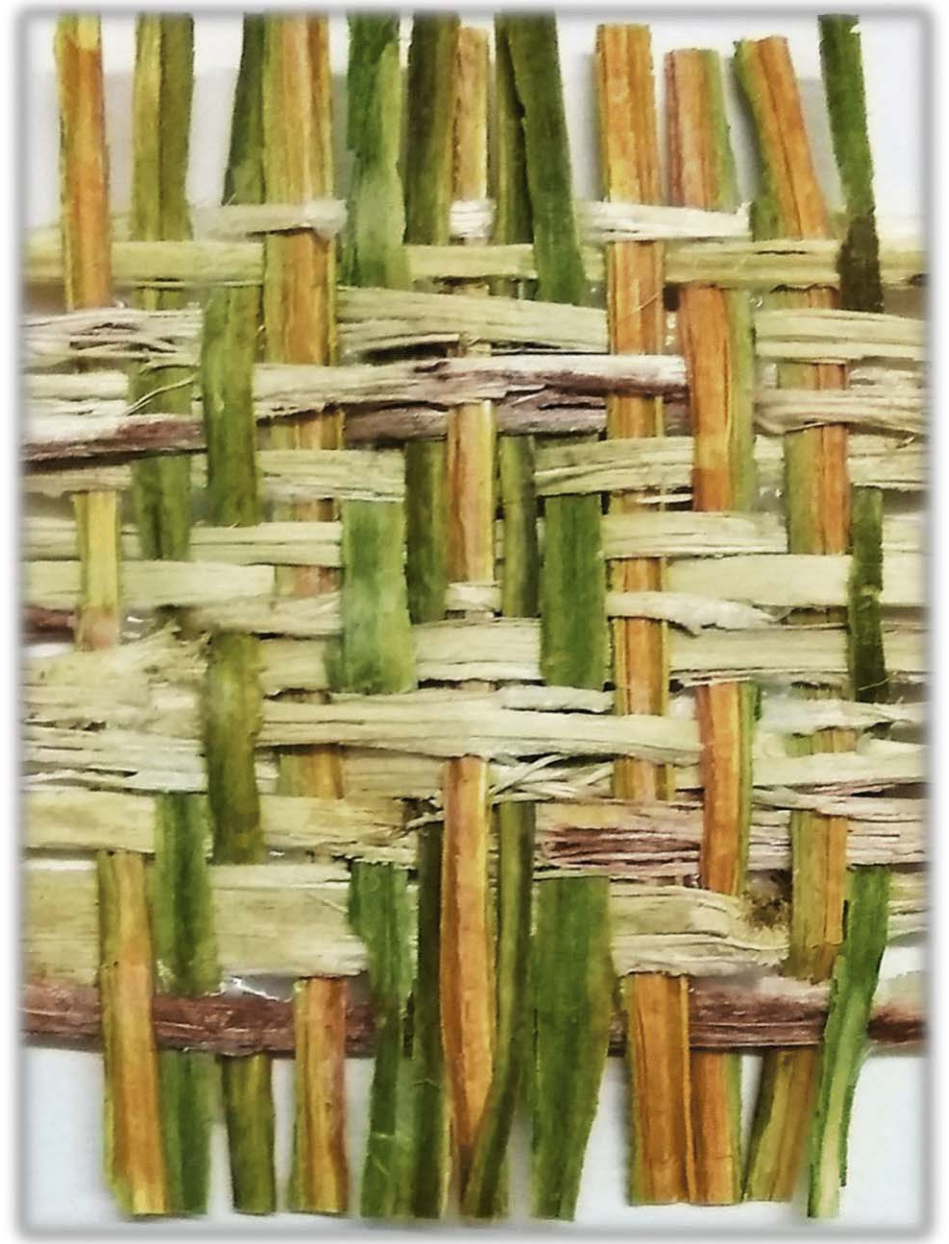




## Chevron weave 2/2



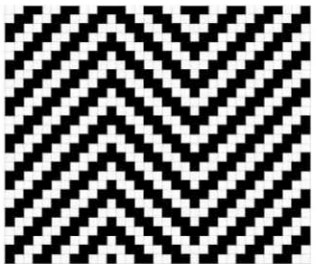
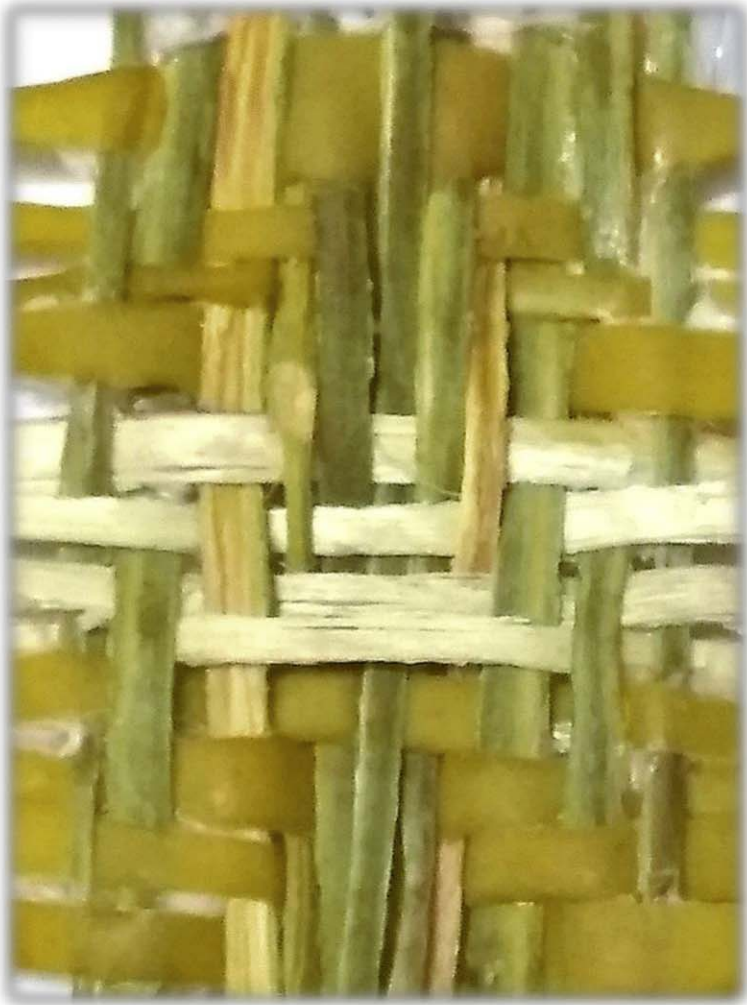
**Warp-** Drumstick peels  
**Weft-** Waste sugarcane strands





# Chevron weave 2/2

*(having Raw mango scent)*



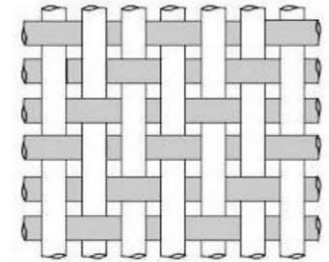
**Warp-** Drumstick peels  
**Weft-** Raw mango peels (used while it was moist and wet) & Waste sugarcane strands







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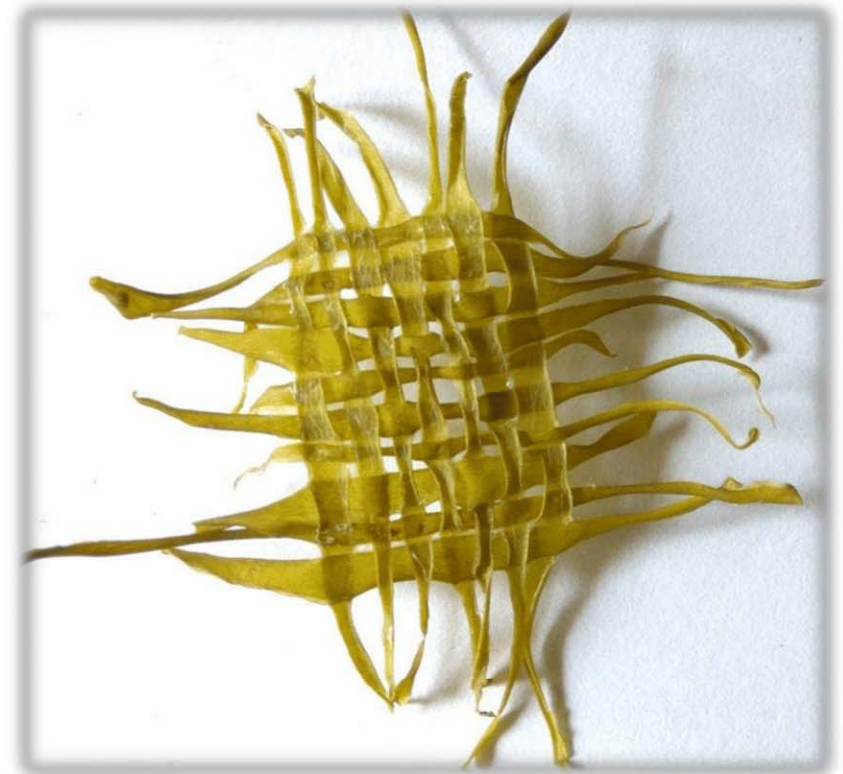
**Twill weave 2/1**  
*(having Raw mango scent)*

### **Warp & Weft-** Raw mango peels

The peels were soaked into palm leather solution (20 % glycerine and 80% water) for 45 mins.

\*soaking in glycerine solution for such short time doesn't have softening effect but the scent of the mango was potent after soaking in water.

The peels were weaved while it was moist and wet, which was then let to dry.





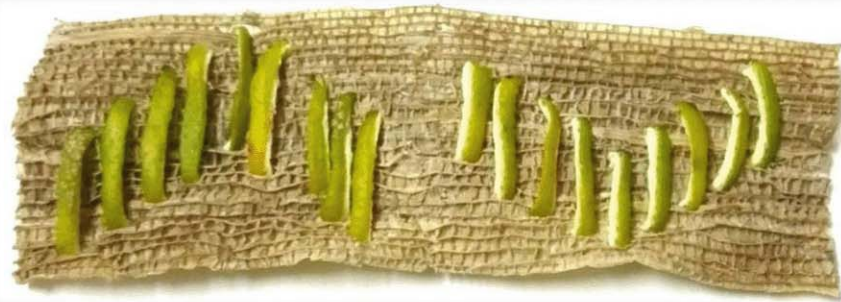


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\* The scent of the sweet lime (mosambi) was potent after soaking in water.

The peels were weaved while it was moist and wet, which was then let to dry.



**Embedding weft into warp platform**  
*(having Sweet lime scent)*

**Warp platform-** Banana-stem bark  
**Weft-** Sweet lime peels

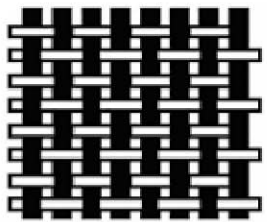






**Warp-** Waste sugarcane strands

**Weft-** Sweet lime peels



\*The scent of the sweet lime (mosambi) was potent after soaking in water.

The peels were weaved while it was moist and wet, which was then let to dry.

**Plain weave (directional)**

*(having Sweet lime scent)*







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**Dried peels-** onion, potato, spring onion, garlic

**Adhesive mix (process)-**

2 and half tablespoon of gelatin +1 and half tablespoon water.

Boil the mix

Heat the mix constantly

Add one teaspoon of vinegar when gelatin becomes clear liquid.

The vegetable-gelatin sheet takes one night to dry.





The dried vegetable-gelatin sheets are **translucent**.

### **Composition-**

<<< Random layers of onion, potato, spring onion peels

*Dotted composition:*

Base and top layer onion and potato skin respectively >>>



*Composition of lines:*

<<< Base layer- garlic and spring onion skin

Top thin layer- onion peel

Random layers of potato, garlic, spring onion peels with top thick layer of onion peels >>>







>>



The peels were soaked into **palm leather solution** (20 % glycerine and 80% water) for 45 mins.

\*soaking in glycerine solution for such short time doesn't have softening effect but the scent of the orange and lemon peel was potent after soaking in water.

The peels were then left to dry for 6 hours.



>>



>>>



Dried pineapple skin leaves





**Dried peels-** orange, lime and pineapple skin leaves

**Adhesive mix (process)-**

2 and half tablespoon of gelatin +1 and half tablespoon water.

Boil the mix

Heat the mix constantly

Add one teaspoon of vinegar when gelatin becomes clear liquid.

The fruit-gelatin sheet takes one night to dry.







*Having pineapple scent*



## Activating fruit scent

<http://www.houseofcaress.com/article/3000000596/7-scents-that-boost-happiness>

The dried gelatin smell takes one day to fade off.  
The respective fruit smell is then potent.



*Having orange scent*



>>>



*Having lime scent*





ADDITIONAL EXPLORATIONS

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**Skin-** Raw mango peels, egg shells and pineapple skin outer leaves

**Adhesive mix (process)-**

3 tablespoon Flour with equal amounts of water.

Heat slightly.

Use after it cools.

Takes 2 days to completely dry.





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\*Flour paste acted as a pretty good binding agent. Even after falling on the floor it didn't break but its smaller thin layers can easily crack.





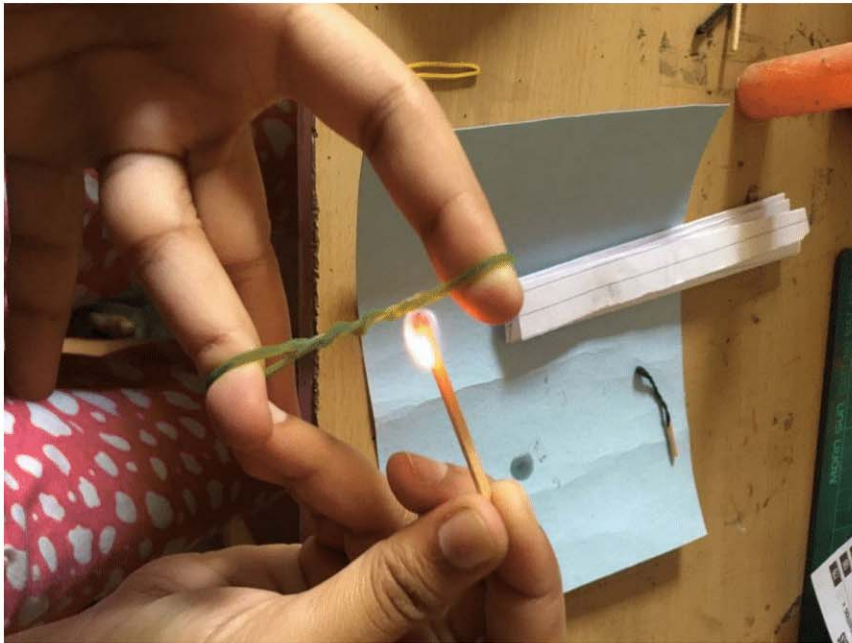
Using match sticks to melt and make rubber bands sticky



Using iron to soften the rubber bands



Using candle wax to heat the rubber band



Using match sticks to melt and make synthetic rubber bands sticky

**Failed- Wanted to make a surface by using these sticky rubber bands in arranged horizontal order.**

\*rubber band either burns off as it catches fire easily or after melting, when pulled breaks off.

After constant heat from iron, rubber bands get pressed- shape changed very bit.

Rubber band faced no significant changed after heating, this shows i.e. highly processed rubber latex.



## Note:

### PRE-TREATING VEGETABLES

Blanching is the process of heating vegetables to a temperature high enough to destroy enzymes present in the tissue. It stops the enzyme action which causes loss of colour and flavour during drying and storage. It also sets the colour and shortens the drying and rehydration time by softening the tissue walls so moisture can escape or re-enter more rapidly. In water blanching, the vegetables are submerged in boiling water. In steam blanching, the vegetables are suspended above the boiling water and heated only by the steam. Not all vegetables require blanching. Onions, green peppers and mushrooms can be dried without blanching.

### DETERMINING DRYNESS OF VEGETABLES

Vegetables are sufficiently dried when they are hard and brittle or tough and leathery, depending on the vegetable. Edges will be sharp. Beans, corn and peas are hard and will shatter when hit with a hammer. Leafy thin vegetables should be brittle. Larger chunks or slices of vegetables should be leathery.

### PACKAGING & STORING DRIED VEGETABLES

Dried vegetables are susceptible to insect contamination and moisture reabsorption. First, cool completely. Properly package and store dried vegetables immediately. Warm food picks up moisture from the atmosphere which could provide enough moisture for mold to grow. Pack vegetables in clean, dry, insect-proof containers (Glass jars or moisture-vapour resistant freezer containers) as tightly as possible without crushing.

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### PALM LEATHER SOLUTION

It is a solution of glycerine to water in 1:4 concentrations. This solution is a softening agent. Natural materials like Areca leaves are soaked in this glycerine solution for long periods of time (minimum 48 hrs). The material is left to dry in sun. After drying, soft/flexible/smooth property of leaf remains behind due to glycerine which makes it a bendable leathery structure permanently. The material that is soaked becomes water-resistant.

### References:

<https://www.youtube.com/watch?v=6xlUirFsOKg>

<http://lancaster.unl.edu/factsheets/115-94.htm>

<https://snappyliving.com/11-recipes-to-make-your-own-glue/>

<http://textilebd-fabric.blogspot.in/2011/05/weave-and-its-types.html>

<https://www.reference.com/science/make-homemade-super-glue-aa1c1f65755fa0c1>

[http://www.vikingage.org/wiki/wiki/Cloth\\_Weaving\\_Patterns](http://www.vikingage.org/wiki/wiki/Cloth_Weaving_Patterns)



# INNOVATE WITH FIBRES:

THE EXHIBITION 7/4/17

*De-skinning*

- URSULA UDAY





The De-skinning Ruckus

- Ushala Uday



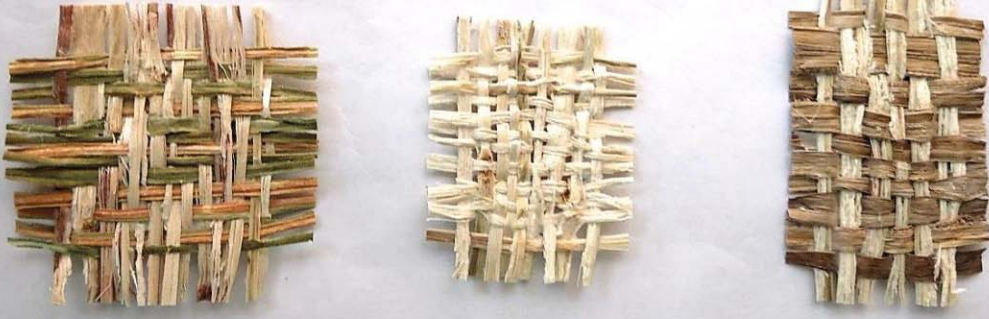


SET UP ON THE TABLE (swatches)

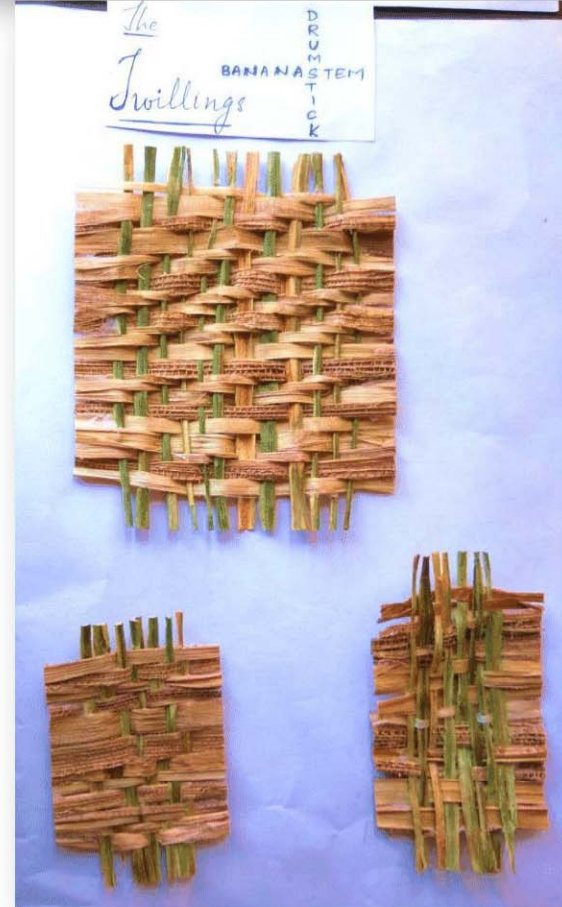
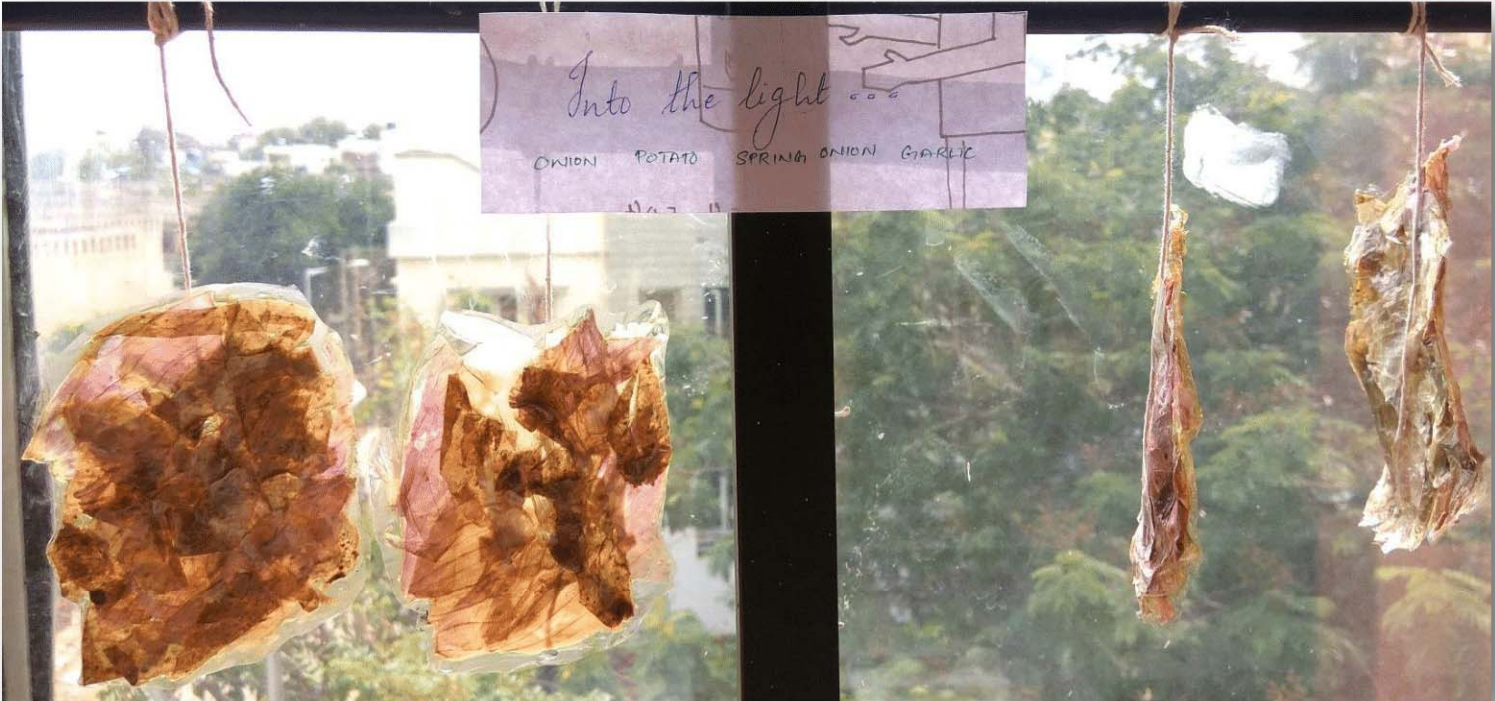


DRUM STICK  
 UGAR  
 CARCANA  
 BANANA STEM  
 E

*Sugar free*



Please note that with every named item, the materials used are written simultaneously. The materials written horizontally become weft and the ones written vertically become warp.







Smelly sheets → BANANA STEM PLATFORM + SWEET LIME  
WEAVES → FRUIT JELLY  
- DRUMSTICK      ORANGE  
- SUCUPRONE      LIME + GELATIN  
- RAW MANGO      PINEAPPLE







Materials Used



SET UP ON THE TABLE (materials used)



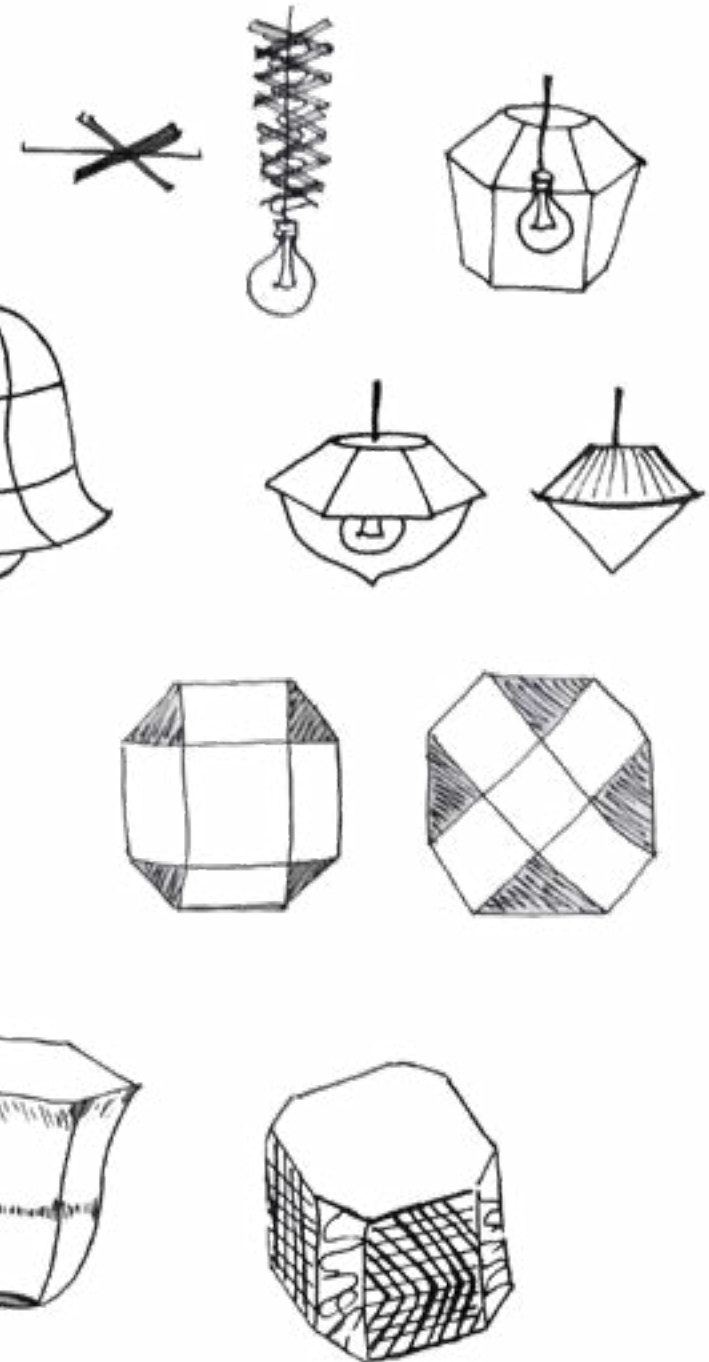


# MAKING OF THE NIGHT LANTERN

*Inspiration from  
Nightshade plant >>>*



**ITERATIONS FOR SHAPE  
OF THE LANTERN >>>**



**MATERIALS:**  
Waste Sugarcane  
strands, drumstick  
skin, onion and  
potato peels; Ribbon,  
Aluminium wire, SH  
fevicol

**METHOD:**  
Chevron and Basket  
weave





## THE NIGHT LANTERN





THANK YOU.