

Natural Dyeing

Information, production and exercise



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Natural dyeing, information, production, exercise - training manual

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Introduction

Environment is now concern of the World. We are also bound to think about that for our survival. The chemical waste that we throw away in every moment is pushing this beautiful world to doom. As so, not only in international level, at national level every government is also trying hard to save their environment from pollution. Because our environment is our life in fact.

In this context, whatever we do for economic development and sustainable social advancement has to be environment friendly.

If we look back, we will see that tribal weavers of our country used natural elements in dyeing even only a few years ago. But with the evolution of time and influence of surroundings those practices are almost disappearing now. Presently, in Chittagong Hill Tracts using of natural colour in dyeing is very rare. They do not dye thread using natural elements or materials. Therefore, they buy fabrics or thread dyed with chemical color, which is very low standard.

Because of huge demands of natural dyeing, we believe 'Training on Natural Dyeing' will enhance application of the dyeing. What only needed is to create opportunities for rural weaving industry in Non-traditional market

This training will provide rural weavers such an idea of using natural color in dyeing that will increase their income and make them self dependent

Through this training on natural dyeing, a dyeing worker could be a key to change.

Introduction to the course

Title: Dyeing with natural color, production and exercise

Participants: This training is for 180 persons of 18 sub-groups who are under 6 groups set by UNDP in three CHT areas. Participants of this training are used to in weaving with rayon and Korean thread. The aim of this training is to provide them quality training so that they can be capable of winning the Award of Excellence (UNDP-AE) by UNDP as well as making more profit by manufacturing quality product.

Duration: 10 days, 8 hours everyday.

(Time for different parts can be changed keeping the duration for a session unaffected. Yet, time for more than one session can be rescheduled if needed.)

Participants: 10 persons

Language: Bangla or language of local tribal (language that both trainer and participants feel comfortable)

Method: Mainly participatory method will be followed. Approach of the training will be specific; lecture, discussion, introduction to the materials, practical knowledge gained by trainer, practice.

Training materials: Brown paper, pen or marker, candle, matches, materials for natural dyeing, oven, cooking pot of different size, steel spoon, wood stick, strainer, gloves, bucket, plastic mug etc.

Training evaluation: At the completion of training, trainer will raise some questions on theoretical issues and evaluate participants by doing some practical exercise.

Purpose of the training: Objective of the training is to introduce the weavers of Chittagomg Hill Tracts with natural color and teach them method of dyeing and as well as:

- How to collect dyeing materials from nature
- To teach the process of cotton treatment with material or mordant before dyeing
- To teach the process of dyeing with natural color and dyeing in different shades
- To teach the process of dyeing thread
- To teach how to store materials of natural dyeing
- To provide the participants a knowledge base on natural dyeing
- To create a color chart of natural dyeing

Introduction to Training manual

This manual contains objective of the course, contents, titles of sessions, guidelines for the facilitators, list of essential materials, and training evaluation method. Each session will have content given below:

Session:

For convenience of the trainers each session is specified with separate number so that trainers can identify the instructions.

Objective:

The expected knowledge, skills and views of each session of the training are mentioned specifically. These objectives will work as guidelines for trainers in conducting sessions.

Training Materials:

List of materials needed for particular session have been mentioned. Trainer/ facilitator will take necessary steps for collecting, producing or photocopying the materials before the session starts. Issues assemble in each session are:

Training Guidelines:

Activities of each session are divided in a number of steps. To achieve the targeted objective of each session, activities of trainers and participants have been mentioned step by step.

Method:

The methods to conduct activities for desired objective of each session have been described here. This will work as guidelines for the facilitator.

Process:

Process or activities the trainer and participants have to complete for desired goals of each session and order of the activities have been mentioned. This will guide the trainer in conducting session.

Materials that the participants and facilitator will require for conducting session have been mentioned here. This will help trainer to select right material and use.

What Trainers should know

For using this manual trainers should know few things below:

- Objectives of the session have been mention at the first page of that session. As a facilitator your major responsibility is to conduct the session through participatory method. Therefore, objectives of the session should be comprehended thoroughly.
- Materials needed for conducting the session have been mentioned. Collect or prepare those materials. Otherwise it could create adverse situations.
- It will be more attractive if you can write down concerning issues in brown paper before the session gets started.

- In the guidelines of session, method, time, process and list of materials have been described. Before opening the session, read the guidelines carefully and prepare related materials. Because, if you conduct sessions looking on manual, confidence of the participants on you could decrease.
- Follow steps of the session one by one otherwise continuity of the session will be disturbed.
- Take preparation earlier and ensure required materials in hand before discussion of any topic.

Selection of trainee:

Eligibility and competence of the participants are:

- Tribal, who has 2-5 years experience in loom weaving
- Eager to get information and knowledge
- Enthusiastic to learn new tactic and concept
- Interested in new method of weaving beyond traditional method
- Committed to increase income by weaving

Session Plan:

Day	Subject wise session plan	Time
Day-one	Session 1.1: Introduction of participants Session 1.2: Objective of the training Session 1.3: Rules of Workshop Session 1.4: Developing Safe and Healthy working environment Session 1.5: Team building	2:00 hr 45:00 min 30:00 min 1:00 hr 2:00 hr
Day -Two	Session 2.1: Review Session 2.2: Importance of water in dyeing process Session 2.3: importance of testing water in dyeing and discussion on testing process Session 2.4: Various source of water Session 2.5: What is hard water? Discussion on the testing process of hard water Session 2.6: What is soft water? Discussion on the testing process of soft water Session 2.7: Process of water purification Session 2.8: Exercise	30:00 min 15:00 min 30:00 min 30:00 min 30:00 min 1:00 hr 1:00 hr 2:00 hr
Day -Three	Session 3.1: Review Session 3.2: Introduction to natural color Session 3.3: What is mordant ? Necessity of mordant in dyeing Session 3.4: Washing as preparation of thread dyeing Session 3.5: Instrument used in thread dyeing and washing Session 3.6: Exercise	30:00 min 30:00 min 1:00 hr 1:30 min 45:00 min 2:00 hr
Day - Four	Session 4.1: Review Session 4.2: Introduction of myrabalan as an ingredient of dyeing Session 4.3: Sample of thread dyed with myrabalan Session 4.4: Preparation before dyeing Session 4.5: Method of dyeing Session 4.6: Exercise	30:00 min 15:00 min 30:00 min 1:00 min 2:00 min 2:00 min
Day - Five	Session 5.1: Review Session 5.2: Introduction of tea as an ingredient of dyeing Session 5.3: Sample of tea leaf color Session 5.4: Preparation for dyeing and process of dyeing Session 5.5: Method of dyeing Session 5.6: Exercise	30:00 min 15:00 min 30:00 min 1:00 hr 2:00 hr 2:00 hrs
Day - Six	Session 6.1: Review Session 6.2: Introduction to betelnut as an ingredient of	30: 00 min

	dyeing Session 6.3: Sample of betelnut color Session 6.4: Preparation for dyeing and process of dyeing Session 6.5: Method of dyeing Session 6.6: Exercise	15:00 min 30:00 min 1:00 hr 2:00 hr 2:00 hr
Day - Seven	Session 7.1: Review Session 7.2: Introduction of catechu as an ingredient of dyeing Session 7.3: Sample of catechu color Session 7.4: Preparation for dyeing and process of dyeing Session Session 7.5: Washing Session 7.6: Exercise	30:00 min 15:00 min 30:00 min 1:00 hr 2:00 hr 2:00 hr
Day - Eight	Session 8.1: Review Session 8.2: Introduction of marigold as an ingredient of dyeing Session 8.3: Sample of marigold color Session 8.4: Preparation for dyeing and process of dyeing Session 8.5: Method of dyeing Session 8.6: Exercise	30:00 min 15:00 min 30:00 min 1:00 hr 2:00 hr 2:00 hr
Day - Nine	Session 9.1: Review Session 9.2: Introduction of skin of onion as an ingredient of dyeing Session 9.3: Sample of onion color Session 9.4: Preparation for dyeing and process of dyeing Session 9.5: Method of dyeing Session 9.6: Exercise	30:00 min 15:00 min 30:00 min 1:00 hr 2:00 hr 2:00 hr
Day - Ten	Session 10.1: How to prepare portfolio Session 10.2: Closing session	4:00 hr

Day-one

Session-1.1

<u>Subject</u>	:	Introduction of participant
<u>Objective</u>	:	Participants will know each other
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Ball Throwing
<u>Material</u>	:	Ball made of paper

Process :

Step- A

In this part the facilitator will throw a paper-ball to participants. The person on whom the ball will be thrown or who catches the ball will answer the question given below in his introduction:

- Name and where he is from?
- How many years he is involved in dyeing and weaving?
- Does s/he sell the product in market?
- What is his expectation from the training?

Session 1.2

<u>Subject</u>	:	Objective of the training
<u>Objective</u>	:	Participants will know about the objectives of the workshop
<u>Duration</u>	:	45:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper and marker pen

Process

Step- A: The facilitator will write down the objectives on brown paper and read those for the participants.

- How to collect dyeing materials from nature
- To teach the process of cotton treatment with material or mordant before dyeing.
- To teach the process of dyeing with natural color and to dye in different shades
- To teach the process of dyeing thread
- How to store materials of natural dyeing
- To provide the participants a knowledge base on natural dyeing
- To create a color chart of natural dyeing.

Session 1.3

<u>Subject</u>	:	Rules of workshop
<u>Objective</u>	:	Participants will be informed about the rules of workshop
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper and marker pen

Process

Step-A: The facilitator will write down nine workshop rules on brown paper and read them for the participants and request them to abide by the rules.

Rules of the workshop:

- ✓ Participants must register their name everyday at 9 am before entering the training room.
- ✓ **Training schedule**

Training starts	9:00 am
Tea break	11:00 am to 11:30 am
Lunch	1:00 pm to 2:00 pm
Tea break	3:00 pm to 3:15 pm
Closing	5:00 pm

- ✓ Participants will not be allowed to go outside the room without permission.
- ✓ Mobile should be switched off during training period.
- ✓ Participants have to write down class notes in supplied notbook or khata and use them carefully.
- ✓ Participants should use the training materials carefully.
- ✓ Participants have to maintain discipline in every practical class.
- ✓ Authority should be informed if participants have any problem regarding training.
- ✓ To make the training more effective, opinion of participants should be taken into consideration.

Session 1.4

<u>Subject</u>	:	Safe and healthy working environment
<u>Objective</u>	:	Participants will know about the safe and healthy working environment and they will also know how to stay healthy doing few easy physical exercises.

<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper and Marker pen.

Process

Step-A: The facilitator will explain the issues below to make the working environment safe and healthy and read those to the participants. S/he will also request participants to abide by the rules.

Keep healthy, nice and pleasant

- Wash hands with soap or ash every time before taking meal
- Whatever the amount, you should take your meal with pleasure
- Keep your nails short. This will lessen your stomach disorder.
- To keep your mind cheerful you have to wear neat and clean dress always.
- Keep your food dirt free to escape from disease
- Use sanitary latrine to be relieved form disease
- Use pure water for drinking and household works to be free from disease.

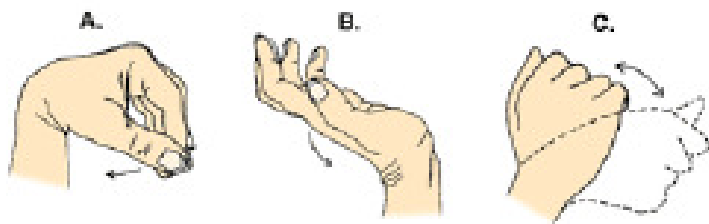
Security and store management

- The machine used in your work should be kept in a secure place
- Use gloves when you paint
- When you work with cotton fiber or thread you can use clean fabric around your face if necessary
- Your working place/room should be such as where you can work comfortably
- Always keep your work palce clean
- In storehouse or warehouse, products should be arranged in rows and layers according the types of cotton and fabrics so that they can be found easily.

Step-B: In this part, the facilitator will demonstrate the exercises seen in attached photograph and request the participants to practice regularly.

Exercises of wrist

1.



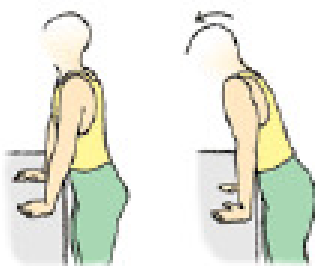
Wrist: Active range of motion

2.



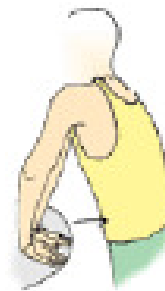
Wrist stretch

3.



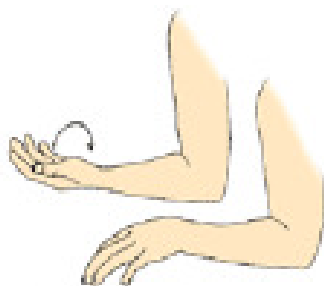
Wrist extension stretch

4.



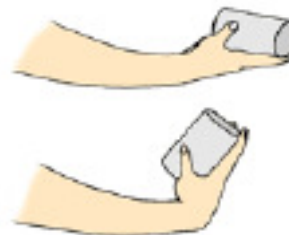
Wrist flexion stretch

5.



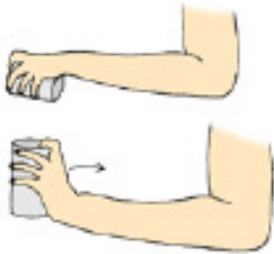
Pronation and supination of the forearm

6.



Wrist flexion exercise

7.



Wrist extension exercise

8.



Grip strengthening

Exercises of neck

Those who have neck pain since long are strongly recommended **not to do the exercises:**

A.



B.



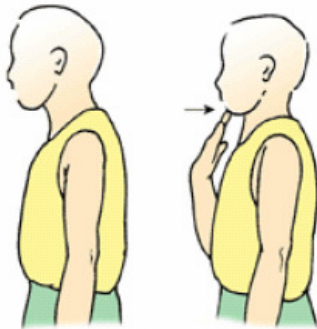
C.



D.

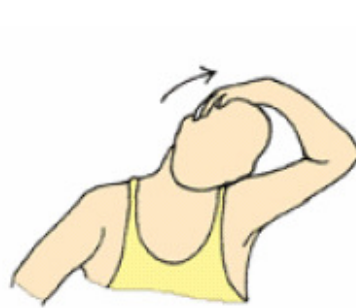


E.



Chin tucks

F.

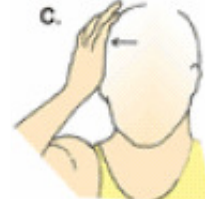
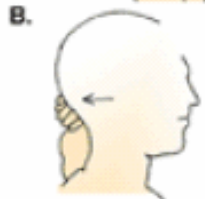


Upper trapezius stretch

G.



Scalene stretch



Session 1.5

Subject _____ : Team Building

Objective _____ : Group presentation, exercise etc. and such other works can be accomplished with discipline and therefore enthusiasm and achievement will be greater

Duration _____ : 2:00 hr

Method _____ : Discussion and selection

Materials _____ : Brown paper and marker pen

Process

Step-A: The facilitator will make a list of participants with a number for each name. Then he/she will build a team by calling serial number from 1 to 4/5 (it will depend on the total number of participants) and another team by calling next numbers.

Day- Two

Session-2.1

<u>Subject</u> _____ :	Review
<u>Objective</u> _____ :	To form a clear concept and recall important lessons from The discussion of day –1
<u>Duration</u> _____ :	30 min.
<u>Method</u> _____ :	Team no.1 will present the review
<u>Materials</u> _____ :	Brown paper and Marker pen

Process

Step - A: Facilitator will begin the workshop welcoming every one

Step – B: Members of the team-1 will review the lessons of Day- 1 with the help of facilitator.

In this part, the facilitator will read the description below step by step and will give some examples related to the issues.

Session : 2.2

<u>Subject</u> _____ :	Importance of water in thread dyeing process
<u>Objective</u> _____ :	To know about the importance of water in dyeing
<u>Duration</u> _____ :	
<u>Method</u> _____ :	Discussion
<u>Materials</u> _____ :	Brown paper and Marker pen

Process

Step A: Facilitator will read the description below and share the practical experience (if any) of water purification with participants.

Water Purification

Pure water is very essential to dyeing and washing. But it is not easy to get pure water.

Therefore, every dyeing worker should have the knowledge that when and what kind of water should be used in which method and what will be the harm if not the method followed.

Usually, water contains various contaminants. These contaminants are divided in two categories such as, Floating and Melted. Floating contaminants can be removed by filtering but melted one is not at all possible to eradicate. Therefore, to dye thread, purified water is extremely needed to get the desired color and its perfect tone or shade.

Session 2.3

<u>Subject</u>	:	Importance of testing water in dyeing thread and process of testing
<u>Objective</u>	:	To get idea on importance of testing water and process of testing
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper and marker pen

Process

Step-A

Importance of testing water

In this part the facilitator would say that, we must test water before dyeing. Because, we will not get the desired tone or shade of the color if the water used in dyeing contains any chemical in melted condition. It would rather bring harm than profit. So we have to test the water before dyeing.

Process of testing water

In this part the facilitator would say that, there are some chemical methods for testing water in our country. Such as, if adding few drops of ammonium chloride with boiled water produces white insoluble substance; it would mean that there was calcium in that water. Besides, the hot water should be nearly dried up by adding few drops of hydrochloric acid. Then, if adding few drops of potassium ferrosyanide leaves blue colored stuff at the bottom, it would be understood that there was iron in the water.

As all of the above-mentioned tests require chemicals, we would not follow any of those methods.

The method that we will employ to test the water is through litmus paper. This litmus paper looks like any normal paper except that it is very small and light red in color. If we find these papers unavailable in stationary shops, we would easily make them ourselves.

The following ingredients are needed for making litmus paper:

1. Few petals of deep-red colored china-rose (Joba)
2. Few pieces of newsprint paper measuring 1 inch height and ½ inch width.

Process:

The petals of china-rose to be rubbed well so that color of the paper would become red. After sometime drying that paper in the sun would make it a red litmus paper.

If color of the water would become red after putting the litmus paper in that, it should be understood that the water contains quite alkali. So, this kind of water can never be used for dyeing.

Session 2.4

<u>Subject</u>	:	Different sources of water
<u>Objective</u>	:	The participants will know about different sources of water to be used in dyeing
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step A:

In this part, facilitator would ask the participants, what are the sources of water? Some would say river; some might say spring, someone could answer tube well. Then facilitator would describe the sources of water and chemical objects that could exist in that water with the help of following note.

Note:

- Rain water – It can be used for dyeing even if it contains little amount of sulfuric acid
- River water - As river water contains calcium sulphate and dirt, we have to filter water.
- Spring water- Spring water contains acid, iodine, iron etc. so, it also should be filtered
- Pond water – As mentioned above
- Sea water – Sea water contains huge amount of different harmful elements and it is completely unusable as it has excessive salt or alkali.

Session 2.5

<u>Subject</u>	:	What is hard water ? Process of examine hard water
<u>Object</u>	:	Participants would identify inappropriate water easily.
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker pen

Process

Step A:

In this part the facilitator would say that the water that does not produce lather with soap is called Hard Water. Therefore Hard Water is not suitable for dyeing and washing. Since it bears chemical elements like, calcium, magnesium and metallic elements of iron, naturally, thread cannot be cleaned with soap. This water is damaging for the pot that uses for boiling. In addition, mixed with soap the above mentioned chemicals become sticky and attached with thread in such a way that it becomes very hard to remove. That is why thread does not look dazzling white after washing.

Session 2.6

<u>Subject</u>	:	What is soft water ? Process of testing soft water
<u>Object</u>	:	Participants would be able to identify the water suitable for dyeing easily
<u>Dutation</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown Paper, Marker or Pen

Process

Step- A:

In this step, facilitator would say that the water that produces lather with soap, is called Soft Water. This kind of water is specially suitable for dyeing. Therefore, dyeing and washing with Soft Water is suitable for desired shades of color and thread will be dazzling bright after washing.

Session 2.7

<u>Subject</u>	:	Process of water purification
<u>Objective</u>	:	Participants would be able to make the water collected from local sources suitable for dyeing.
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper

Process

Step A :

Facilitator would say we will follow the methods that described below to purify water :

(If necessary, facilitator will write down the following methods on brown paper)

- A.keeping 1gm alum in 4kg would sink down the floating dirt at the bottom.
- B. if the water contains calcium, it should be boiled for few times after adding lime or soda.
- C. if the water contains magnesium that has to be boiled with caustic.
- D. If the water contains iron that should be boiled with soda.

In addition to that, for transforming the parmanent or temporary hard water into soft water it should be boiled with common soda including caustic soda.

Session 2.8

<u>Subject</u> :	Exercise
<u>Objective</u> :	Skill development through exercise
<u>Duration</u> :	2:00 hr
<u>Method</u> :	Practical work
<u>Materials</u> :	Water, Bowl, Soap,Soda,Mug,Stove, Match, Gloves etc

Process

Step A:

In this step, if posible, participants will test alkali of water by litmus paper. Then, participants will mix soap with the water collected from different sources to check whether it produces lather or not. Thus they will identify Hard water and Soft water. Finally, participants will exercise the process of transforming Hard water to Soft using necessary amount of soda.

Day – Three

Session 3.1

<u>Subject</u>	:	Review
<u>Objective</u>	:	To get a clear concept and recall important lessons that Discussed on Day –Two
<u>Duration</u>	:	30 min.
<u>Method</u>	:	Team no.2 will present the review
<u>Materials</u>	:	Brown paper and Marker or pen

Process

Step- A: Facilitator will begin the workshop welcoming every one

Step – B: Members of the team-one will review the lessons of Day- one with the help of facilitator.

Session 3.2

<u>Subject</u>	:	Introduction to natural color
<u>Objective</u>	:	Participants will get primary concept on natural color
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper and marker or pen

Processes

Step- A :

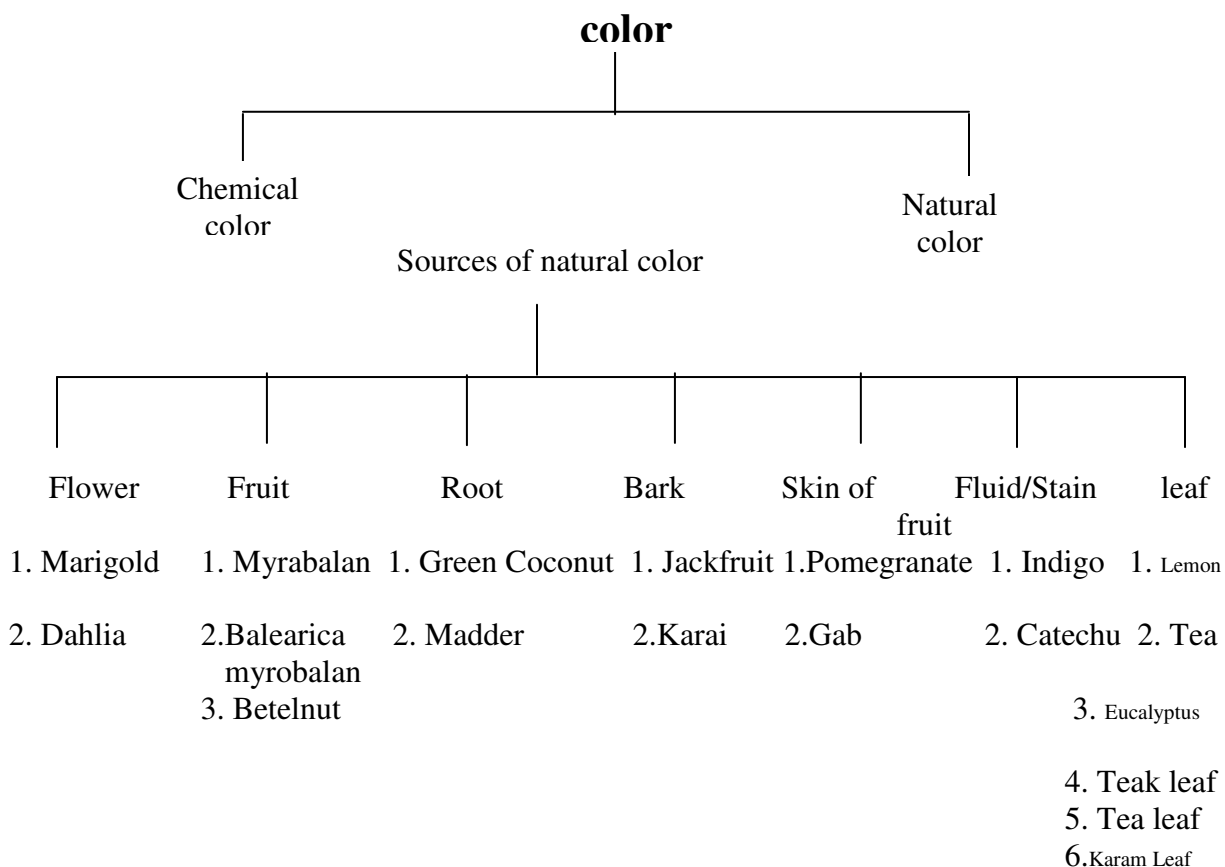
In this step, facilitator will read the following note on natural color:

Natural color means such a few elements that are collected from nature or environment using this color creates no harm or pressure to the environment.

Step – B:

Now, to understand the introduction of natural color, facilitator will draw the following graph on brown paper.

Following way facilitator would explain source of color



Finally drawing the following graph on brown paper, facilitator will write few plant's name that uses as natural color and try to find them in surround places.

Plants that produce color

Serial no	Local name	English name	Plant name	Used part	Produced color
01	Khoir	Catechu	Acacia Catechu	Ragin	Brawn
02	Lotkon	Annatto	Bixa Orellana	Seed	Orange
03	Dalim	Pomegranate	Punica grantum	Fruit Cover	Khaki
04	Hortoki	Myrabalan	Terminalia chebula	Fruit	Rray, Golden
05	Monjit	Madder	Rubia cardifolia	Root	Red, Turkey
06	Nil	Indigo	Indigofera tinctoria	Ragin	Blue, Green
07	Supari	Betel nut	Areca catechu	Fruit	Deep Pink
08	Payaj	Onion	Allium cepa	Skin	Golden
09	Cha	Tea	Camellia sinensis	Fruit	Light Khaki
10	Ganda	Marigold	Tagetea erecta	Flower	Golden

Session 3.3

<u>Subject</u>	:	What is mordent? Usefulness of mordant and its variations
<u>Objective</u>	:	To learn about mordent and its usefulness
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Processes

Step- A:

In this step facilitator will read the following note so that the participants can understand what is mordant.

This kind of dye is almost permanent. It cannot stick into the thread without the help of any metallic element. So, before dyeing the thread must get a layer outside of it. This layer is called 'Mordent' in English.

Step- B:

In this step, facilitator will read the following points to explain the necessity of mordant in dyeing:

- Mordent is needed for four different shades of base color
- To make the color long lasting mordant is very much needed

Step – C:

In this step, after writing on brown paper, facilitator will read the following names of mordents and make them understand of what ratio of different mordents to be mixed with materials in proportion.

For any amount of thread

No.1	=	20%	Alum
No.2	=	5%	Mulberry (Copper sulphate)

Lastly, facilitator would say to the participants that at the time of dyeing we should remember which one is No.1, No.2 mordent? And those numbers will never be changed.

Names of mordent and ratio of use:

After the description, facilitator will check the notes of participants whether the notes have been written properly and sign on notes after the necessary correction.

Session 3.4

<u>Subject</u>	:	Method of washing thread before dyeing
<u>Object</u>	:	To teach the method of washing as the preparation of dyeing
<u>Duration</u>	:	1:30 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, Marker or Pen

Process

Step-A:

Facilitator will read the following note:

It is not a matter of just to buy clothes from market and plunge into water. It would rather bring loss than benefit. Because if we do not wash clothes or threads before dyeing or make it suitable for dyeing then preferred shades of color couldn't be produced. Thus, we have to wash the thread in following method:

Materials for washing

Thread (cotton) – 100 gm

1. Sinapol N = 4% or gm
2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min.

Method of washing

After washing with soap the thread should be stirred for 10 - 15 min in 2% to 4% bleaching water. Then it should be washed repeatedly in plain water and take smell to check whether it gives smell of bleach. Thus, have to keep washing until that smell exists.

Session 3.5

<u>Subject</u>	:	Different equipments uses in thread dyeing and washing
<u>Object</u>	:	To introduce with different traditional equipments uses in thread dyeing and washing
<u>Duration</u>	:	45:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step- A:

In this part, facilitator will write down the following list of equipments and explain its necessity and request them to collect these equipments before dyeing or washing.

List of materials needed for making natural color

1. Stove – fuel wood or gas
2. Two / Three big cooking utensils made of steel – that can hold at least 20 liters of water
3. Four medium sized bowls made of steel
4. Two Glass or enamel mugs
5. Two Plastic mugs
6. Two jugs that can be used for measuring
7. One balance/ weight to weigh 1 to 100 gm
8. Four big spoons for measuring key materials and four table spoons for measuring mordant that should be used separately.
9. Four big sticks and four small sticks (for stirring hot water)
10. Four big bowls and bucket
11. One strainer

Session 3.6

<u>Subject</u>	:	Exercise
<u>Objective</u>	:	Participants will become more skilled and gain experience doing practice
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Bucket, Mug, Melted soap, Thread, Bleaching powder etc

Step – A:

In this part, facilitator will give practical lessons step by step about how to wash thread with soap and bleaching powder.

Day –Four

Session 4.1

Subject : Review

Objective : To form a clear concept and recall important lessons those were discussed on Day –3

Duration : 30 min.

Method : Team no.1 formed on Day- 1 will present the review

Materials : Brown paper and Marker or pen

Process

Step- A: The facilitator will begin the workshop welcoming every one

Step – B: Members of Team- 1 will review the lessons was discussed on Day- Three with the help of facilitator.

Session 4.2

Subject : Introduction of myrabalan as an ingredient of dyeing

Objective : To be well informed about the myrabalan as ingredient of dyeing.

Duration : 15:00 min

Method : Discussion

Materials : Brown paper, marker or pen

Process

Step- A:

In this step, the facilitator will read the following notes :

Myrabalan is a popular medicinal fruit of our country. Extract of myrabalan is usually used as a medium for blood filtration and treatment of stomach problems. Myrabalan plant or fruit vastly available in the forest of our village and tribal areas. After collecting ripen myrabalan from plant, dried it up under sun and preserved, the medicine is used as single piece or powder as needed.

After reading the above description, if facilitator already had a piece of myrabalan he could show it as sample. Some myrabalan could be bought from stationery shop if needed.

Session 4.3

<u>Subject</u>	:	Sample of thread dyed with myrabalan color
<u>Objective</u>	:	To give participant an idea on the color that they would have after dyeing thread with myrabalan, a natural ingredient
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion and exhibition
<u>Maerials</u>	:	Sample of thread diyed with myrabalan color

Process

Step: A

In this step, facilitator will present the sample of thread dyed with myrabalan that should be collected before.

Session 4.4

<u>Subject</u>	:	Preparation before dyeing
<u>Objective</u>	:	To provide the knowledge of method to be followed before dyeing .
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	555 gm cotton, 200 gm sinapol, 200 gm soda, water, 2 Buckets or Bowls, 2 plastic mugs.

Process

Step A:

In this step, the facillitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing

For 100 gm of cotton:

1. Sinapol N = 4% or gm

2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min.

Session 4.5

Subject : Method of dyeing
Objective : To teach the process of dyeing with myrabalan , a natural ingredient.
Duration : 2:00 hr
Method : Discussion
Materials : Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: myrabalan

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to '%'	Other materials	Amount of water	Duration	No of Shade
01	Myrabalan (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
02	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent(555/2)= 277.50gm

Session 4.6

Subject : Exercise
Objective : To develop skill and gain experience through practice

Duration _____ : 2:00 hr

Method _____ : Hands- on practice

Materials _____ : 555 gm grind of 555gm myrabalan,thread
(cotton,reyon,silk)2types of mordent (proportionately), stove, match, strainer,
sauce pan, bucket or bowl, mug, weight for weighing material and mordant and
other things as required.

Process

Step A :

In this step, the facilitator will make them practice of dyeing with myrabalan following the process that has been described below.

The amount of major element myrabalan will be 100% which is the same amount of thread (the amount of thread and myrabalan will be the same). But one has to be careful that when grind of myrabalan will be boiled, a pinch of soda to spread in it to get the stain hundred percent. Then the thread to plunge into the made color and to wash into cold water with Manopal Soap for brightness. After that facilitator will ask the participants to mix grind of myrabalan into water as equal amount of thread. This time have to wait for 1 hour 40min.

After getting the grind of myrabalan boiled, mordant should be added in water as above mentioned percentage and boiled it again for 10 minutes. Then the thread to be plunged into that mordant mixed hot water. Now, 2 teams will share evenly the stain of boiled myrabalan and wash the thread thoroughly into that water. Afterward, thread to be plunged into melted soap very well so that it looks brighter. Thus the participants will gain experience of dyeing cotton with myrabalan.

Day –Five

Session 5.1

<u>Subject</u> :	Review
<u>Objective</u> :	To get a clear concept and recall important lessons those were discussed on Day –4
<u>Duration</u> :	30:00 min
<u>Method</u> :	Team no.2 formed on Day- 1 will present the review
<u>Materials</u> :	Brown paper and marker or pen

Process

- Step- A:** Facilitator will begin the workshop welcoming every one
Step – B: Members of Team- 2 will review the lessons were discussed on Day- 4 with the help of facilitator.

Session 5.2

<u>Subject</u> :	Introduction of tea as an ingredient of dyeing
<u>Objective</u> :	To be well informed about the tea as an ingrediant of dyeing.
<u>Duration</u> :	15:00 min
<u>Method</u> :	Discussion
<u>Materials</u> :	Brown paper, marker or pen

Process

Step- A

In this step, facilitator will read the following notes :

In Bangladesh, tea is cultivated in hilly areas of Sylhet and Chittagong Hill Tracts. Although the tea plant is look like a bush, it is kept short by trimming its branches artificially. In a certain time of year freash leaves starts to grow in that branches.After plucking the new leaves, they are dried up and ground by machine. We buy this tea product from market and drink after boiling into water for refreshment.

Session 5.3

<u>Subject</u>	:	Sample of thread dyed with grind tea
<u>Objective</u>	:	To give participant a prior idea on the color that they would have after dyeing thread with tea, a natural ingredient.
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion and exhibition
<u>Materials</u>	:	Sample of thread dyed with tea

Process

Step- A:

In this step, the facilitator would already collect the sample of thread dyed with tea color and show to the participants.

Session 5.4

<u>Subject</u>	:	Preparation before dyeing
<u>Objective</u>	:	To provide the knowledge of method to be followed before dyeing .
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	555 gm cotton(cotton, reyon,silk), 200 gm sinapol, 200 gm soda, water, 2 Buckets or Bowls, 2 plastic mugs.

Process

Step A:

In this step, the facilitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing

For 100 gm of cotton

1. Sinapol N = 4% or gm
2. Soda = 8 gm

3. Water 20 times or as necessary
4. Duration 10 min.

Session 5.5

Subject : Method of dyeing

Objective : To learn the process of dyeing with myrabalan

Duration : 2:00 hr

Method : Discussion

Materials : Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: Tea

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to '%'	Other materials	Amount of water	Duration	No of Shade
	Tea (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
01	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1
02	Mulberry/ copper sulphate mordent	138.75 gm	5%	6.74 gm	X	20 times of key ingredient	10 mins	No.2

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent(555/2)= 277.50gm

Session 5.6

<u>Subject</u>	:	Exercise
<u>Objective</u>	:	Participants will become more skilled and gain practical experience
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Hands-on practice
<u>Materials</u>	:	555 gm grind tea, 555gm cotton (cotton, reyon,silk) 2 types of mordant (proportionately), burner, match box, strainer, sauce pan or pot, bucket or bowl, mug, weight or balance to weigh ingredients or mordant, and besides whatever is needed.

Process

Step : A

In this step, the facilitator will make the participants practice the following process of dyeing thread with tea, a natural ingredient.

Next, the facilitator would say, the steps to be followed for dyeing with grind tea are :

To dye the threads-that have been washed- with tea color, 100 gm grind tea to be boiled for 100 gm thread . Participants will do this by their own. After boiling the grind tea, mordant to be applied into hot water as the proportion mentioned before.

Team-1 and team -2 will wear gloves and dye the thread into mordant mixed hot water. After blending with mordant properly , the thread to be squeezed. Then, 2 teams will evenly share the stain of boiled tea and keep it in separate container, plunge into water and stir untill the thread take on color. Finally, washing with clean cold water, the thread to be squeezeed and dried under sun.

Thus the participants will gain practical experience of dyeing with grind tea and making 2 different shades of color.

Day – Six

Session 6.1

<u>Subject</u>	:	Review
<u>Objective</u>	:	To form a clear concept and recall important lessons that was discussed on Day –5
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Team no.1 formed on Day- 1 will present the review
<u>Materials</u>	:	Brown paper and Marker or pen

Process

Step- A: Facilitator will begin the workshop welcoming every one

Step – B: Members of Team- 1 will review the lessons discussed on Day- 5 with the help of facilitator.

Session 6.2

<u>Subject</u>	:	Introduction of betel nut as an ingredient of dyeing
<u>Objective</u>	:	To be well informed about the betel nut as an ingredient of dyeing.
<u>Duration</u>	:	15:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step- A

In this step, the facilitator will read the following notes:

Betel nut is a popular fruit of our country. The tree of betel nut is found almost everywhere in the country. The unripe fruit is green. When the fruit is ripen it gets reddish yellow color and the older people take the fruit with betel leaf.

The facilitator would collect some betel nuts beforehand to show the participants in this session.

Session 6.3

<u>Subject</u>	:	Sample of thread dyed with betel nuts
<u>Objective</u>	:	To give participant an idea on the color that they would have after dyeing thread with betel nuts, a natural ingredient.
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion and exhibition
<u>Materials</u>	:	Sample of thread dyed with betel nuts

Process

Step- A:

In this step, the facilitator would collect the sample of thread dyed with betel nuts and show the participants.

Session 6.4

<u>Subject</u>	:	Preparation before dyeing and dyeing process
<u>Objective</u>	:	To provide the knowledge of method to be followed before dyeing.
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	555 gm thread (cotton, reyon, silk), 200 gm sinapol, 200 gm soda, water, 2 buckets or bowls, 2 plastic mugs

Processes

Step A:

In this step, the facilitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing

For 100 gm of cotton

1. Sinapol N = 4% or gm
2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min.

Session 6.5

<u>Subject</u>	:	Method of dyeing
<u>Objective</u>	:	To learn the process of dyeing with betel nuts, a natural ingredient.
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: Betel nut

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to `%`	Other materials	Amount of water	Duration	No of Shade
	Betel nut (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
01	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1
02	Mulberry/ copper sulphate mordent	138.75 gm	5%	6.74 gm	X	20 times of key ingredient	10 mins	No.2

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent(555/2)= 277.50gm

Session 6.6

<u>Subject</u>	:	Exercise
<u>Objective</u>	:	Participants will become more skilled and gain practical experience
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Hands-on practice
<u>Materials</u>	:	555gm Unripe betel nut, 555gm thread (cotton, reyon, silk) 2 types of mordant (proportionately), burner, match box, strainer, sauce pan or pot, bucket or bowl, mug, weight or balance to weigh ingredients or mordant, and besides whatever is needed.

Process

Step – A:

In this part, the facilitator will make them practice how to dye threads with natural element betel nut through the following process.

The process of dyeing threads with betel nuts:

In this context, the facilitator will tell: Betel nut is a very well-known fruit in our country. It mostly grows in many parts of Teknaf and Barishal districts. The betel nut that is used for dyeing is ripe, deep yellow-colored. The ripe betel nut would be cut into 4 pieces including skin of the fruit. Then the betel nut would be ground in a pot. This ground betel nut would be 200 gm which is double of thread.

Now, the ground betel nuts would be poured into required amount of water for boiling. Then the mordents would be collected following the mentioned percentage and put them into bowls numbered 1 and 2 according to the groups. Then the bowls would be put in the burners and the water would be boiled for more or less 40 minutes until all the mordents are melted down. Now, based on the groups the threads would be plunged into the water boiled with betel nuts. In mean time the water with mordent would be cold. The threads would be plunged in that water. Now, these threads would be squeezed well and put under sun to dry. In this way, participants will get practical experience of dyeing threads with betel nut.

Day –Seven

Session 7.1

<u>Subject</u>	:	Review
<u>Objective</u>	:	To form a clear concept and recall important lessons that was discussed on Day –6
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Team no. 2 formed on Day- 1 will present the review
<u>Materials</u>	:	Brown paper and marker, pen

Process

Step- A: Facilitator will begin the workshop welcoming every one

Step – B: Members of Team- 2 will review the lessons was discussed on Day- 6 with the help of facilitator.

Session 7.2

<u>Subject</u>	:	Introduction of catechu as an ingredient of dyeing
<u>Objective</u>	:	To be well informed about the catechu as an ingredient of dyeing.
<u>Duration</u>	:	15:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step- A:

In this step, facilitator will read the following notes:

Catechu is stain of one kind of tree. There are commercial plantations of this tree at some places in Tangail and Mymensigh districts in Bangladesh. In general, this stain is used as herbal medicine or with betel leaf by making it liquid with water.

Session 7.3

<u>Subject</u>	:	Sample of thread dyed with catechu
<u>Objective</u>	:	To give participant an idea on the color that they would have after dyeing thread with catechu, a natural ingredient
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion and exhibition
<u>Materials</u>	:	Sample of thread dyed with catechu

Process

Step – A:

In this step, the facilitator would already collect the sample of thread dyed with catechu and show the participants.

Session 7.4

<u>Subject</u>	:	Preparation before dyeing and process of dyeing
<u>Objective</u>	:	To provide the knowledge of method to be followed before dyeing.
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	555gm Thread (cotton, reyon, silk), 200 gm Sinapol, 200 gm Soda , water, 2 buckets or bowls, 2 plastic mugs.

Process

Step A:

In this step, the facilitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing

For 100 gm of cotton

1. Sinapol N = 4% or gm
2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min.

Session 7.5

<u>Subject</u>	:	Method of dyeing
<u>Objective</u>	:	To learn the process of dyeing with catechu, a natural ingredient.
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: catechu

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to '%'	Other materials	Amount of water	Duration	No of Shade
	Catechu (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
01	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1
02	Mulberry/ copper sulphate mordent	138.75 gm	5%	6.74 gm	X	20 times of key ingredient	10 mins	No.2

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent($555/2= 277.50\text{gm}$)

Session 7.6

<u>Subject</u>	:	Exercise
<u>Objective</u>	:	Participants will become more skilled and gain practical experience
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Hands-on practice
<u>Materials</u>	:	555 gm Catechu, 555gm Thread (cotton, reyon, silk) 2 types of mordent (proportionately), burner, match box, strainer, sauce pan or pot, bucket or bowl, mug, weight or balance to weigh ingredients or mordant, and besides whatever is needed.

Process

Step: A

In this part, the facilitator will make them practice how to dye threads with natural element catechu through the following process.

Catechu

Cotton/Fabric- for 100 gm

Catechu 50% =	50 gm
Alum 20 % =	20 gm
Potassium 20% =	5 gm
Mulberry (Copper) 5% =	5 gm
Potassium 5% =	5 gm
Pherus 2%-4% =	2-4 gm
Soda 8% =	8 gm
Water	20 times

At the time of dying, if 5 gm copper is mixed with catechu water and boiled, the color would be deeper.

The elements for practical class would be collected proportionately with the mentioned ingredients.

Amount of ingredients (proportionately) to dye 555 gm threads are as follows:

50% or 280 gm catechu for 555 gm thread
20 % or 17 gm alum for 555 gm thread
20% or 5 gm potassium for 555 gm thread
2% -4% or 3 gm pherus for 555 gm thread
8% or 22 gm soda for 555 gm thread

For practical class, the participants would collect raw materials and put 20 times water (8 mugs) in the burner. Afterwards, they would give catechu (280 gm) and copper (17 gm) in the boiled water and wait until they melt down (Apprx. 30 mins).

When the water containing catechu will be boiled, 4 groups will distribute that among themselves (2 mugs of water for each group). Now they will stir *hanks* of the thread (cotton, silk, rayon) that have been treated in catechu mixed water. After well stirring they will squeeze the threads. At this time they will wash the squeezed threads in hot water mixed with soda. According to the above mentioned proportions the threads will be plunged in the liquid of 2 mordents and stirred. After washing them in cold water they will be squeezed and dried under sun. In this way the participants will acquire practical experience.

Day –Eight

Session 8.1

<u>Subject</u>	:	Review
<u>Objective</u>	:	To form a clear concept and recall important lessons that was discussed on Day –7
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Team no. 1 formed on Day- 1 will present the review
<u>Materials</u>	:	Brown paper and marker, pen

Process

Step- A: Facilitator will begin the workshop welcoming every one

Step – B: Members of Team- 1 will review the lessons discussed on Day- 7 with the help of facilitator.

Session 8.2

<u>Subject</u>	:	Introduction of marigold as an ingredient of dyeing
<u>Objective</u>	:	To be well informed about the marigold as an ingredient of dyeing.
<u>Duration</u>	:	15:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step- A:

In this step, facilitator will read the following notes:

Marigold is a very well-known flower in our country. Usually in winter this flower is found enhancing the beauty of almost every house or garden. But presently as they are commercially grown, they are available throughout the year. This deep yellow colored flower with lots of petals is used in many herbal products.

Session 8.3

<u>Subject</u>	:	Sample of thread dyed with marigold
<u>Objective</u>	:	To give participant a prior idea on the color that they would have after dyeing thread with marigold, a natural ingredient
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Discussion and exhibition
<u>Materials</u>	:	Sample of thread dyed with marigold

Process

Step- A:

In this step, the facilitator would already collect the sample of thread dyed with marigold and show the participants.

Session 8.4

<u>Subject</u>	:	Preparation before dyeing
<u>Objective</u>	:	To provide the knowledge of method to be followed before dyeing.
<u>Duration</u>	:	1:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	555 gm thread(cotton, reyon, silk), 200 gm sinapol, 200 gm soda, water, 2 buckets or bowls, 2 plastic mugs

Process

Step A:

In this step, the facilitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing
For 100 gm of cotton

1. Sinapol N = 4% or gm

2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min

Session 8.5

<u>Subject</u>	:	Method of dyeing
<u>Objective</u>	:	To learn the process of dyeing with marigold, a natural ingredient.
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: marigold

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to '%'	Other materials	Amount of water	Duration	No of Shade
	marigold (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
01	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1
02	Mulberry/ copper sulphate mordent	138.75 gm	5%	6.74 gm	X	20 times of key ingredient	10 mins	No.2

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent($555/2= 277.50$ gm):

Session 8.6

<u>Subject</u>	:	Exercise
<u>Objective</u>	:	Participants will become more skilled and gain practical experience
<u>Duration</u>	:	2:00 hr
<u>Method</u>	:	Hands-on practice
<u>Materials</u>	:	555 gm marigold petals, 555gm thread (cotton, reyon, silk) 4 types of mordant (proportionately), burner, match box, strainer, sauce pan or pot, bucket or bowl, mug, weight or balance to weigh ingredients or mordant, and besides whatever is needed.

Process

Step: A

In this part, the facilitator will make them practice how to dye threads with natural element marigold through the following process.

Natural element: marigold

100% or 555 gm marigold is needed for 555 gm threads and the ratio of thread for 4 elements is 50 gm.

20 % or 27 gm alum for 50 gm thread

20% or 7 gm copper for 50 gm thread

Time- 1 hour

The participants will collect the compound and elements; then they will put the marigolds in boiling water, 20 times of the elements. In the mean time the elements collected by 4 groups will pour them in water-bowls numbered 1, 2, 3 and 4....They need to wait until the water is boiled. When the elements will dilute in water properly, the threads will be mixed in hot mordant water. Afterwards, the threads will be plunged into water boiled with marigold until the threads take on color. Then the colored threads will be mixed in cold mordant water, squeezed and put under sun to dry. Thus, today the participants will gain practical experience of dyeing threads with marigold.

Day –Nine

Session 9.1

<u>Subject</u>	:	Review
<u>Objective</u>	:	To form a clear concept and recall important lessons that was discussed on Day –8
<u>Duration</u>	:	30:00 min
<u>Method</u>	:	Team no. 2 formed on Day- 1 will present the review
<u>Materials</u>	:	Brown paper and marker, pen

Process

Step- A: Facilitator will begin the workshop welcoming every one

Step – B: Members of Team- 2 will review the lessons discussed on Day- 8 with the help of facilitator.

Session 9.2

<u>Subject</u>	:	Introduction of onion skin as an ingredient of dyeing
<u>Objective</u>	:	To be well informed about onion skin as an ingredient of dyeing.
<u>Duration</u>	:	15:00 min
<u>Method</u>	:	Discussion
<u>Materials</u>	:	Brown paper, marker or pen

Process

Step- A:

In this step, facilitator will read the following notes:

Onion is a very well-known crop in our country. This pungently aromatic bulbous root used as spice is specially used in many herbal medicines.

Session 9.3

<u>Subject</u>	:	Sample of thread dyed with onion skin
<u>Objective</u>	:	To give participant a prior idea on the color that they would have after dyeing thread with onion skin, a natural ingredient
<u>Duration</u>	:	30:00 min

Method : Discussion and Exhibition
Materials : Sample of thread dyed with onion skin

Process

Step- A:

In this step, the facilitator would already collect the sample of thread dyed with onion skin and show the participants.

Session 9.4

Subject : Preparation before dyeing
Objective : To provide the knowledge of method to be followed before dyeing.
Duration : 1:00 hr
Method : Discussion
Materials : 555 gm thread(cotton ,reyon, silk), 200 gm Sinapol, 200 gm Soda, water, 2 buckets or bowls, 2 plastic mugs

Process

Step A:

In this step, the facilitator will teach how to wash thread with soap and soda before dyeing. At first, the facilitator will collect the following amount of materials from store or own collections. Then s/he will mix the following amount of sinapol N, melted soap and soda with required amount of water. Afterwards he will wash the threads rubbing and dry them in the sun.

Materials for washing

For 100 gm of cotton

1. Sinapol N = 4% or gm
2. Soda = 8 gm
3. Water 20 times or as necessary
4. Duration 10 min

The onion skins should be soaked in water as needed; for 2 to 3 hours approximately. Now, this water including the onion skins will be used in dyeing.

Session 9.5

Subject : Method of dyeing

Objective : To learn the process of dyeing with skin of onion, a natural ingredient.

Duration : 2:00 hr

Method : Discussion

Materials : Brown paper, marker or pen

Process

Step A:

In this part, the facilitator will draw the following graph on brown paper and ask the participants to note it down. S/he will explain the graph also.

Element: Onion

Thread: cotton/reyon/silk

No	Ingredient	Weight of thread	%	Amount of ingredient according to `%`	Other materials	Amount of water	Duration	No of Shade
	Onion (key ingredient)	555 gm	100%	555gm	X	20 times of key ingredient	1 hour	
01	Alum Mordent	138.75 gm	20%	27.75 gm	X	20 times of key ingredient	10 mins	No.1
02	Mulberry/ copper sulphate mordent	138.75 gm	5%	6.74 gm	X	20 times of key ingredient	10 mins	No.2

N.B : During the training,12 hanks thread of three types (Cotton 4 hanks,Reyon 4 hanks, Silk 4 hanks) will have to take, which is 555gm in total and 555gm thread to be divided in two parts for making 2 separate shades according to 2 mordent($555/2= 277.50$ gm

Session 9.6

Subject : Exercise

- Objective : Participants will become more skilled and gain practical experience
- Duration : 2:00 hr
- Method : Hands-on practice
- Materials : 555gm onion skin, 555 gm thread (cotton, reyon, silk)2 types of mordant (proportionately), burner, match box, strainer, sauce pan or pot, bucket or bowl, mug, weight or balance to weigh ingredients or mordant, and besides whatever is needed.

Process

Step: A

In this part, the facilitator will make them practice how to dye threads with natural element skin of onion through the following process.

Natural element : onion skin

100% or 555 gm onion skin is needed for 555 gm threads

20 % or 27 gm alum for 277.50 gm thread

20% or 7 gm copper for 277.50 gm thread

Time- 1 hour

The participants will take notes of the proportions. The facilitator will collect the compound and mordents from his assistant and will spread 555 gm of onion skin in water kept in sauce pan. S/he will wait for 40 minutes until the onion skins will lose their color. Then the water will be drained to separate the boiled onion skins. In the mean time according to the groups (1, 2, 3, and 4) the threads (cotton, silk, rayon) that have been gone through treatment will be put in the hot mordant water. Now the participants will put the threads in water boiled with onion skin in accordance with mordents (until the threads take on color properly). Finally they will be squeezed and dried under sun. In this way the participants will acquire theoretical and practical experience of dyeing threads (cotton, silk, rayon) with skin of onions. Mention should be made here if Indian red onion skin is used in dyeing; the color would deep and beautiful.

Day – Ten

Session 10.1

<u>Subject</u>	:	To prepare the portfolio
<u>Objective</u>	:	To gain knowledge on how to collect information and in future, work step by step following the note book
<u>Duration</u>	:	4 hours
<u>Method</u>	:	Hands-on practice
<u>Materials</u>	:	Paper, dyed thread, Marker or pen

Process

Step- A:

In this part, with the help of facilitator the participants will prepare a portfolio of the following information:

- Relevant information of the training
- Objectives of the training
- Improvement of healthy working environment
- Techniques of physical exercise (with photos)
- Introduction of natural color and plants that produce different colors
- Recipe and method of dyeing
- Samples of threads dyed with natural colors

Session 10.2

Process

The facilitator and the participants will invite a distinguished person from the society and can arrange a one-hour demonstration of what they have learned; such as speech, exhibition etc.
