



International
Labour
Office

Training Guide on Wooden Furniture (Sala Set Making)



**ILO-USDOL Project
Training for Rural Economic Empowerment (TREE)
Philippines**

Foreword

Since the Inauguration of the International Labour Organization (ILO) and US Department of Labor (USDOL) Training for Rural Economic Empowerment (TREE) Project in Mindanao in 2003, there has been a high demand for training and developing the skills of poor people in region. While it is an obvious fact that the poorest people are those with the lowest level of skills, it is often overlooked by development projects and poverty alleviation strategies. The TREE methodology brings together training with pre- and post-training support in an integrated approach to livelihood development and economic empowerment.

TREE builds on the experience gained in earlier Community Based Training (CBT) projects in Mindanao and in many other countries. These earlier CBT projects proved to be very successful at creating livelihood opportunities by providing assistance through training.

In order to address the demand for high-quality training, this training guide was developed by the TREE Project together with the Technical Education and Skills Development Authority (TESDA-ARMM) based on the actual implementation of the training component of the Project. The training guide was the result of series of consultation workshops with trainers from TESDA-ARMM. With the assistance of the Project, each trainer produced a guide based on their field of expertise. The Guides are intended to be user-friendly and contain all the necessary information needed to plan and conduct the training. The guide is also designed to assist trainees to develop their Transition Enterprise Plans (TEPs). Thus, both trainer and its trainees will benefit from this guide.

This training guide is applicable to all forms of community-based training programmes and, in particular, for training in rural communities.

May I take this opportunity to congratulate the TESDA-ARMM instructors and the TREE project team for their excellent collaboration on the development of this training guide.

Trevor Riordan
Project Director
ILO/USDOL TREE Project in
Pakistan and the Philippines

TABLE OF CONTENTS

I. Brief Account of Sala Set Making

II. Skills Training Syllabus

III. Training Design

- Familiarization of Tools and Their Uses
- Measuring/Lay-outing
- Cutting
- Squaring Stock
- Portable, Circular and Meter Saw
- Portable Planer
- Portable Jigsaw
- Portable Router
- Portable Electric Sander
- Circular Saw (Slicer)
- Radial Saw (Electric Power Saw)
- Wood Cuts
- Smoothing
- Assembling/Fabrication
- Re-Matching
- Sanding
- Varnishing/painting

IV. List of Training Tools and Equipment

- Training Power Tools
- Training Handy Tools
- Training Wood Working Materials
- Training Office Supplies

V. Test Questionnaire

- Progress Check
- Answer Key

VI. Transition Enterprise Plan (TEP)

Training for Rural Economic Empowerment (TREE)

(Brief account of Sala Set “French” Making (Sala Set “French” Making))

Wood products are most versatile, most useful in furniture and cabinet making. General knowledge of the physical characteristics of various woods used in furniture operations is important for carpenter and handyman alike.

Sala set making is one of the most challenging job for everyone who works with wood in making joints. The problem is to cut two pieces of woods so that they meet without gaps or with very little space, so that the joint can do the job it is intended to do.

Before modern glues and clamps, many joints relied on various wedges and stresses to hold the joint together. Today, through, with tenacious glues and proper clamping procedures and equipment plus the availability of special fasteners, as well as nails, screws and bolts – the job can be done with relative ease.

Indeed, most carpenters get by with just a few joints such as butt, rabbet, dado, and miter, but in sala set making, most joints are use as follows: stab mortise and tenon, mitered stub tenon; haunched or rabbeted mortise and tenon; haunched and mitered mortise and tenon, long and short shoulder mortise and tenon; pinned mortise and tenon; halved cross joint, blind dovetail helved joint; oblique dovetail halved joint and cross lap joint.

This training guide can be a ready reference in the conduct of training and in the process of improving product designs and quality.

SKILLS TRAINING SYLLABUS

Name of Project	: Wood Products
Title of Training Course	: Sala Set Making
Training Objective	: At the end of the training, The trainees will be able to enhance their knowledge and skills on Sala Set making.

Minimum Trainer's Qualification : The trainer's should have knowledge and skills in wood working (Sala Set Making) and At least two year course college graduate with certificate of competency in General Carpentry.

Minimum No. of Trainees	Ten (10)	Maximum No. of Trainees	Twenty (20)

Block 6:

Portable, circular and meter saw	5.1 Operation of portable	How to operate a portable circular saw	Explain the principle of operation identify the different types of saws and their uses	Portable circular saw, miter saw, water, accessories and manual of instructions	lecture	SPEQS	8 hours
	5.2 Operation of Circular saw	How to use a portable saw in cross cutting, ripping, labeling across the grain of along the grain dadoing, bevelling, mitering, adjusting depth of cut	Enumerate the parts and explain the function of each identify tools/accessories used in setting and operating portable saw				

Block 6:

Portable Planer	6.1 Power planer	How to prepare the portable power planer for use	Discuss the principle of operation of a portable planer	Portable planer, wood	lecture and demonstration	SPEQS	8 hours
	6.2 Cutter	How to operate a portable power planer to satisfy the instruction checklist in the progress check	Identify the parts and their functions				
	6.3 Depth and bevel						

Block 7:

Portable Jigsaw	7.1 Principle of operation	How to set and operate a jigsaw for: ripping and crosscutting	Describe the principle of operation of a jigsaw	Portable jigsaw (both light and heavy duty), chart of portable jig saw,	Lecture and Demonstration	SPEQS	8 hours
	7.2 Functions of the parts of a jigsaw	cutting / circles	Identify the parts and their functions	Blades of various types, transparency/			
	7.3 Types of blades and their uses		Identify the types of blades and their uses	Poster on blade selection guide, wood			

2. Training Design

Title of Training Course : **Sala Set Making**

Blocks or Task	Steps per Block or Tasks	Skills Requirements	Related Knowledge	Teaching Aids Materials	Teaching Methods	Key Points	Training Schedule
Block 1:							
Familiarization of tools and their uses	1.1 Identification of tools.	How to identify the tools and equipment and their uses	Knowledge to identify the tools and their uses	Wood/Working tools and equipment	lecture		8 hours
	1.2 Uses of tools						
Block 2:							
Measuring/Lay-outting	2.1 Length	How to measure the length, width, height of wood	knowledge to determine measurements of wood	Pieces of wood and measuring tools	Lecture and Demonstration	SPEQS	8 hours
	2.2 Width						
	2.3 Height						
Block 3:							
Cutting	3.1 Length	How to cut wood	Correct use of saw by cutting along or after the marking	Pieces of wood and cutting tools	Lecture and Demonstration	SPEQS	8 hours
	3.2 Width						
	3.3 Height						
Block 4:							
Squaring stock	4.1 Planning the working surface	How to select the better surface, How to lay the board flat on working table, How to adjust the cutting depth of the plane	Knowledge of face of the board and note the direction of the grain, Knowledge of smoothing correct use of adjusting plane	Pieces of wood, planning tools	lecture and demonstration	SPEQS	8 hours

	7.4 Accessories	Pocket cutting, compound cutting	Identify a ripping guide of a jigsaw and its uses			8-12
Block 8:						
Portable Router	8.1 Principle of operation	How to install cutters bits; and operate machines in routing with: straight edge	Discuss the principle in operating a portable power route	Portable power router with accessories,	lecture and demonstration	8 hours
	8.2 Principal parts and functions	Irregular/circular edge (using template or freehand)	Identify its principal parts and their functions	Catalogs of different manufacturers of power routers		
	8.3 Router bits	Cutting: dado, mortise, groove, dovetail, practice, safety precaution	Identify the different router accessories and their uses			
	8.4 Fluting and beading					
	8.5 Electric plane attachment					
	8.6 Template routing					
	8.7 Dovetail template					
Block 9:						
Portable Electric Sander	9.1 Selection of a belt sander	How to set and operate a portable belt sander	Identify the different types of portable electric sanders, their operations and uses	Portable electric sanders, belt sander pad, sander finishing, sander abrasive belt, abrasive sheet wood	lecture discussion	8 hours
	9.2 Sanding with a finishing sander	How to set and operate a finishing sander	Identify the parts of the different types of portable electric sanders, identify the safety rules in using the different types of portable electric sanders	trash can, tool box, supply racks, chairs and tables	Demonstration	should be observed

[illegible]

Wood Cuts	Cutting different wood cuts	How to identify the various types of wood cuts and application of each	Knowledge of face of the board and note the direction of the grain Knowledge of smoothing correct use of adjusting plain	Piece of wood, chisel, hammer, saw, marking gauge, pencil and tri-square	Lecture and Demonstration	SPEQS	8 hours
Block 13: Smoothing	Smoothing wood edges & curves using hand tools	How to develop skills in smoothing edges & curves using common hand tools	Identify the uses & application of different edge and tooth cutting tools set and adjust the cut of such tools when used for smoothing wood edges & curves	Pieces of wood, draw knife, spokes have, circular plane, wood rasp files, hand scrape & sand paper	Lecture and Demonstration		
Block 14: Assembling/Construction	14.1 Common wood joints	How to construct wood joints using hand tools	Correct use of assembling wood joints knowledge to determine its dimension of mortise & tennon, groove & rabbit, dado, dovetail & distinct types of miter joints knowledge or gathering all materials tools & supplies needed, mixing, lay/out/mark the location	Wood, saw, scribe, pencil, hammer, L-ruler, chisel, drill, tri-square, c-clamp, screw driver, anger brace, glue & gauge	Lecture and Demonstration	SPEQS	16 hours
	14.2 Compound wood joints	How to assemble wood joints, parts and component with a metal fastener or glue using assembling tools and devices with proper procedure					

Block: 15	14.3 Parts and components with metal fastener and gluing							
	15.1 Applying wood powder with glue	How to re-match the holes/cracks of the wood to make plain and smoother	Knowledge or identifying different glue or silicon to be applied	Wood powder, glue, thinner,	Lecture and Demonstration	SPEQS		
Block 16:								16 hours
	16.1 Sanding parts of chairs and table making	How to apply sanding by using sand paper and electric sander	Knowledge to determine the different numbers of sand paper and its application.	Wood and paper, chair and table	lecture and demonstration	SPEQS		
Block 17:								16 hours
	17.1 Applying Varnished	How to apply varnish paint	Knowledge of identifying different types of varnish/paint	Wood, clear glass, lacquer thinner paint, brush, spray gun, paint & wax	lecture and demonstration	SPEQS		16 hours

Quantity	Description	Quantity	Description
15 pcs.	Notebooks	15 pcs.	Protractor 90 degrees
15 pcs.	Ballpens	6 pcs.	Pentel Pens (Black or Blue)
15 pcs.	Rulers (Plastic) 12"	50 pcs.	Bond paper (Substance 20)
15 pcs.	Pencils # 1	15 pcs.	Sharpeners
1 box	Chalk	15 pcs.	Folder Kits
15 pcs.	Pilot Pens # 0.3 or 0.5		

JTPUT:
ets of Cabinet
et of Hanging Cabinet

Training Tools & Equipment:

Quantity	Description	Quantity	Description
2 pcs.	Electric Planer (4") (Makita)	2 pcs.	Carbon Brass (Electric Grinde
1 pc.	Electric Router (Makita)	3 pcs.	Vise or Table Vise
1 set	Electric Drill w/ Bits (Makita)	5 pcs.	Chisel # 1/4" (original)
2 pc.	Electric Sander (Makita)	5 pcs.	Chisel # 1/2" (original)
1 pc.	Electric Grinder	5 pcs.	Chisel # 3/4" (original)
1 pc.	Electric Router Bit (Corner Round)	5 pcs.	Chisel # 1" (original)
3 pcs.	Tri-/Framing Square (Big) 24"	4 pcs.	Bar Clamp
1 pc.	Claw Bar	2 pcs.	Oil Stone (Carborandum)
1 set	Planner Blade #4 (Makita)	3 pcs.	Wooden Marking Gauge
2 pcs.	File (sharpening of Cross cut saw)	9 pcs.	Cross Cut Saw (original)
2 pcs.	Carbon Brass (Electric Planer)	9 pcs.	Tri-square (Small) 12"
1 pc.	Carpenters Level (Spirit Level)	9 pcs.	Metal Rule (Pull Push Rule)
10 m.	Extension wire w/ male & female plugs (4 holes)	9 pcs.	Spoke Shave (Original)
2 pc.	Electric Bund saw, Handy (Makita)	9 pcs.	Claw Hammer (Original)
1 set	Air Compressor w/ Spray Gun and Extra Rubber Cap	2 pcs.	Hatchet (Ax)
1 set	Slicer w/ Electric Motor	1 set	Electric Power Saw
3 pcs.	Sarform Tool	3 pcs.	Divider (Compass)
5 pcs.	Dovetail Saw	3 pcs.	Compass Saw
3 pcs.	Keyhole Saw	3 pcs.	Rip Saw
3 pcs.	Sliding T-Bexel	9 pcs.	Smooth Plane

SUPPLIES & MATERIALS

Quantity	Description	Quantity	Description
1 qrt.	Stikwel (Glue)	12 pcs.	Lumber (Egim) 1x2x6 (Smooth S4S
1 qrt.	Wood Glue	12 pcs.	Lumber (Narra) 1x8x10
1 kl.	Finishing Nails # 1"	18 pcs.	Lumber (Narra) 1x2x8
1 kl.	Finishing Nails # 1 1/2"	18 pcs.	Lumber (Narra) 1x10x8
1 kl.	Finishing Nails # 2"	4 pcs.	Flyboard (Marine) 3/4x4x8
1 kl.	Finishing Nails # 2 1/2"	4 gal.	Lacquer Thinner
1 kl.	Finishing Nails # 3"	4 pcs.	Steel Cabinet Handles
1/4 qrt.	Tinting Color in Oil (Red)	5 qrt.	Putty (Masilya) Duthboy
1/4 qrt.	Tinting Color in Oil (Black)	6 kls.	Yellow Powder
1/4 qrt.	Tinting Color in Oil (Yellow)	6 bots.	Paint Thinner
2 gal.	Sander Sealer	8 pcs.	Cabinet Inside Hinges
2 gal.	Clear Gloss Lacquer (Varnish)	4 ft.	Sand Paper # 100
2 pairs	Putty Plate (Masilya)	30 pcs.	Sand Paper # 120
2 pcs.	Plywood (Narra)	25 pcs.	Sand Paper # 220
6 pcs.	Paint Brush #3	20 pcs.	Sand Paper # 280
6 pcs.	Paint Brush #2	24 pcs.	Wooden Handle
1/4 kl.	Concrete Nails # 3	1/4 qrt.	Epoxy

Training Power Tools and Equipment:

Quantity	Description
2 sets	Electric Planer (4") (Makita)
1 set	Electric Drill w/ sets of Bit (Makita)
1 set	Electric Grinder
2 pairs	Planer Blade #4 (Makita)
1 set	Air Compressor with Spray Gun & extra Rubber Cup
10 meters	Extension Wire with male & female plugs (Duplex)
1 set	Electric Band Saw (Handy) (Makita)
1 set	Electric Router with complete sets of Bit
2 sets	Electric Sander (Makita)
1 set	Electric Portable Circular Saw
6 pcs.	Carbon Brass (Plainer, Grinder, Drill, Sander)
1 set	Slicer with Electric Motor
10 meters	Air Compressor Hose

Training Handtools:

Quality	Description
3 pcs.	Steel Framing Square (24")
2 pcs.	File (Sharpening of cross cut saw)
5 pcs.	Dovetail Saw
3 pcs.	Sliding T-Bevel
6 pcs.	Chisel # 1/4" (original)
6 pcs.	Chisel # 1/2" (original)
6 pcs.	Chisel # 3/4" (original)
6 pcs.	Chisel # 1" (original)
9 pcs.	Tri-Square (Small) 12"
9 pcs.	Spoke shave (Original)
9 pcs.	Mallet
3 pcs.	Divider (Compass)
9 pcs.	Wooden Smooth Plane
1 pc.	Claw Bar
3 pcs.	Sorform Tool
3 pcs.	Keyhole Saw
3 pcs.	Vise or Table Vise
4 pcs.	Bar Clamp
2 pcs.	Oil Stone (Carborandum)
3 pcs.	Wooden Marking Gauge
9 pcs.	Cross Cut Saw

9 pcs.	Metal Rule (Pull Push Rule)
9 pcs.	Claw Hammer
2 pcs.	Hatchet (Ax)
3 pcs.	Rip Saw
3 pcs.	Chalk Line

Wood Working Materials:

Quality	Description
1 qt.	Stikwel (Glue)
2 gal	Sanding Sealer
2 pairs	Putty Plate (Masilya)
6 pcs.	Paint Brush #3
6 pcs.	Paint Brush #2
1 qt.	Wood Filler
4 ft.	Sand Paper # 100
20 pcs.	Sand Paper # 120
15 pcs.	Sand Paper # 220
15 pcs.	Sand Paper #280
¼ qt.	Tinting Color in Oil (Red)
¼ qt.	Tinting Color in Oil (Black)
¼ qt.	Tinting Color in Oil (Yellow)
2 pcs.	Clear Glass (2"x4')
1 qt.	Wood Glue
2 gal.	Clear Gloss Lacquer (Varnish)
¼ kl.	Concrete Nails #3
4 gal	Lacquer Thinner
½ qt.	Epoxy
2 kls.	Carpenter's Rug
1 kl.	Finishing Nails # 1"
1 kl.	Finishing Nails #1 ½"
1 kl.	Finishing Nails #2"
1 kl.	Finishing Nails #2 ½"
12 pcs.	Lumber (Egim) 1x2x6 (Smooth)S4S
10 pcs.	Lumber (Narra) 1x8x10
16 pcs.	Lumber (Narra) 2x2x10
2 pcs.	Lumber (Narra) 2x3x10
14 pc.	Lumber (Narra) 1x2x10

Supplies

Quantity	Description
15 pcs.	Notebooks
15 pcs.	Ballpens
15 pcs.	Pencils # 1
15 pcs.	Sharpeners
6 pcs.	Pentel Pens (Black or Blue)
6 pcs.	Cartolina (Yellow)
15 pcs.	Protractor 90 degrees
15 pcs.	Rulers (Plastic) 12"
15 pcs.	Pilot Pens # 0.3 or .05
15 pcs.	Folder Kits
1 box	Chalk
50 pcs.	Bond Paper (Substance 20)

PROGRESS CHECK

In the presence of the Instructor, perform planing stock square using the same kind and size of board. Your instructor will record your level of competency on the instructor's Checklist. (Time Allotment: 1 hour and 10 minutes.)

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Selection of Tools	_____	_____
Handling of Tools	_____	_____
Adjusting Plane Iron Blade	_____	_____
Surface Flatness	_____	_____
Surface Smoothness	_____	_____
Accuracy of Square ness	_____	_____
Dimension Accuracy + 1mm	_____	_____
Safety Measures	_____	_____
Planing End Grain	_____	_____

PROGRESS CHECK

I. Matching Type

Match the column on the left with the illustrations on the right. Write your answers on the blank space preceding the items on the left hand column. You should get 100% correct answers.

- _____ 1. Reverse ogee
- _____ 2. Bevel cut
- _____ 3. Quarter round
- _____ 4. Groove Cut
- _____ 5. Rabbet
- _____ 6. Ship lap
- _____ 7. Tenon cut
- _____ 8. Dado cut
- _____ 9. Cove cut
- _____ 10. Dove Tail
- _____ 11. Miter splinded cut
- _____ 12. Chamfer

PROGRESS CHECK

You will be provided with complete tools, materials, and equipment for making various wood cuts that the instructor will tell you to make, following the procedure discussed in this Learning Element. Your performance will be evaluated on the basis of the checklist provided below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Selecting and using hand tools	_____	_____
Making rabbet cut	_____	_____
Making dado cut	_____	_____
Making groove cut	_____	_____
Making chamfer	_____	_____
Making bevel cut	_____	_____
Making quarter rounded edge	_____	_____
Making half rounded edge	_____	_____
Observing safety	_____	_____
Good Housekeeping	_____	_____

PROGRESS CHECK

With the presence of your instructor you will be required to perform the following operations and evaluated in accordance with the criteria set.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Smoothing curved surfaces Using draw knife	_____	_____
Smoothing curved edges using Spokes have	_____	_____
Smoothing edges using Circular plane	_____	_____
Smoothing curve edges using sandpaper	_____	_____
Smoothing flat surface Using hand scraper	_____	_____
Smoothing flat surfaces Using cabinet scraper	_____	_____

Progress Check (cont.)

II. Identify the type of joints used in the following projects by writing The letter of the type of joint shown in the space provided.

- a. Dovetail joint
- b. Finger joint
- c. Mortise and tenon
- d. Rabbet joint
- e. Miter joint
- f. Dado joint

PROGRESS CHECK

CALL THE INSTRUCTOR who will ask you to construct simple wood Joints. He will check your ability to construct simple wood joints according To the standards listed below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Construct butt joints	_____	_____
Construct dado joints	_____	_____
Construct cross – lap Joints	_____	_____
Construct end-lap Joints	_____	_____
Construct rabbet joints	_____	_____

PROGRESS CHECK

CALL THE INSTRUCTOR who will ask you to construct compound wood Joints. He will check your ability to construct wood joints in accordance With the standards listed below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Joint the mortise and tenon	_____	_____
Joint dado and rabbet	_____	_____
Using hand tools	_____	_____
Observing safety	_____	_____

PROGRESS CHECK

CALL YOUR INSTRUCTOR, who will ask you to perform various Assembling operations. Your performance will be evaluated based the Checklist provided below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Selecting and using hand tools	_____	_____
Assembling butt joint with nail	_____	_____
Assembling miter joint with nail	_____	_____
Installing top board with corner Butt metal fastener	_____	_____
Installing top board with wood screw	_____	_____
Installing top board with wooden block And screw	_____	_____
Installing wooden corner brace to Support side rails	_____	_____
Observing safety	_____	_____
Good housekeeping	_____	_____

PROGRESS CHECK

- I. Identify the parts listed below and write the matching number in the Empty circle.

1. Handle
2. Switch
3. Fixed guard
4. Motor
5. Blade
6. Telescopic guard
7. Shoe or base plate
8. Angle adjusting knob

PROGRESS CHECK (Cont.)

- II. Given the illustration of attachments below, identify each by Encircling the letter opposite the correct answer.

1.

- a. rough cut combination blade
- b. carbide – tipped blade
- c. crosscut blade

2.

- a. rough cut combustion blade
- b. carbide-tipped blade
- c. crosscut blade

3.

- a. rip blade
- b. crosscut blade
- c. standard combination

4.

- a. rip blade
- b. crosscut blade
- c. standard combination or miter blade

PROGRESS CHECK

Performance test.

At the end of this L.E. CALL YOUR INSTRUCTOR and give him This booklet. Set your tools and you will be given an exercise to Work on. You will be observed and graded according to the criteria Below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Setting and operating portable Circular saw	_____	_____
Crosscutting with portable Circular saw	_____	_____
Ripping with portable Circular saw	_____	_____
Dadoing with portable Circular saw	_____	_____
Bevelling with portable Circular saw	_____	_____
Mitering with portable Circular saw	_____	_____
Observance of safety	_____	_____

PROGRESS CHECK

Matching type. Match column A with column B by writing the letter of the Correct answer inside the circle.

Column A

Column B

- A. Body
- B. Depth adjustment
- C. D-handle
- D. Trigger Switch
- E. Front shoe
- F. Back shoe
- G. Fence

PROGRESS CHECK

CALL YOUR INSTRUCTOR who will test and evaluate you according to
The criteria listed below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Set the planer cutter to zero.	_____	_____
Adjust planer cutter to a cutting Depth specified by the instructor	_____	_____
Set bevel adjustment assembly To cut a certain angle specified by the instructor	_____	_____
Hold the planer properly.	_____	_____
Position the body to correct planing posture	_____	_____
Observes safety precautions.	_____	_____

PROGRESS CHECK

I. Identify the parts of a portable electric drill by writing the letters of
The letters of the correct answer in the space provided.

- a. Housing
- b. Motor
- c. Gear reduction
- d. Pistol –shaped handle unit
- e. Chuck
- f. Handle
- g. Trigger switch
- h. “D” – shaped handle

PROGRESS CHECK

At the end of this L.E., CALL YOUR INSTRUCTOR and give him this Booklet. Get the tools and materials you need. You will be asked to Perform certain skills and be evaluated based on the following checklist:

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Selection of proper size drills.	_____	_____
Checking drills for straightness	_____	_____
Setting of drills for straightness	_____	_____
Operating the portable drill	_____	_____
Laying out of holes and center points	_____	_____
Selection of speed	_____	_____
Accuracy of drilled holes	_____	_____
Observance of safety	_____	_____

PROGRESS CHECK

Within ten minutes, identify all the parts of a portable jigsaw correctly by Writing the number of the corresponding functions in the appropriate Empty circles.

1. Is designed for easy handling and for guiding the setting action.
2. Is the driving power unit.
3. Holds the blade. It can be adjusted to four positions.
4. The part that guide the blade and prevent jigsaw from jerking.
5. Extra side handle or knob.
6. For starting control. It is designed into the handle for easy access.
7. Specified accessory, which serves a guide for ripping as well as for cutting circles.
8. The cutting part of the machine
9. The part that use for handling the machine.

PROGRESS CHECK

You will be provided with the machine, tools and materials for setting and operating a portable jig saw for various operations. In the presence of your instructor you will perform the setting and operating the machine following the steps discussed in this learning element. Your performance will be evaluated on the basis of the checklist provided below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Selecting blade	_____	_____
Installing Blade	_____	_____
Installing and adjusting guide	_____	_____
Installing pin	_____	_____
Tilting base	_____	_____
Securing the stock on the bench	_____	_____
Crosscutting	_____	_____
Ripping	_____	_____
Cutting Circle	_____	_____
Compound Cutting	_____	_____
Pocket Cutting	_____	_____

PROGRESS CHECK

- I. Identify the parts of the router by matching the part of machine with The provided numbers.

1. Motor
2. Base
3. Guide knob
4. Micrometer depth adjustment
5. Ball bearing
6. Trigger switch
7. Aluminum housing
8. Locking handle
9. Motor cooling fan
10. Chuck

- II. Match Column A with Column B by writing the number on the space Provided in Column B.

- | | |
|--------------------------------|---|
| 1. Micrometer depth adjustment | _____ holds the bit of router |
| 2. Straight gauge | _____ cast aluminum adjusted to determine the depth of cut. |
| 3. Chuck | _____ help cool the bit |
| 4. Base | _____ attachment used when dadoing and grooving |
| 5. Motor cooling fan | _____ for precise depth setting |

PROGRESS CHECK

After studying the types, uses and principles of operation of a portable router, CALL YOUR INSTRUCTOR who will evaluate your competency on what you Have learned. He will record your proficiency by using the checklist provided Below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Discussing the principle of operation	_____	_____
Enumerating the principal parts and explaining Functions of each	_____	_____
Describing the types of bits and explaining their uses	_____	_____
Explaining the operation of template routing And making templates	_____	_____
Practicing correct work attitudes and observing Safety precautions	_____	_____

PROGRESS CHECK

Shown below are illustrations of portable electric pad sanders and belt sanders. Identify their parts by writing the letter corresponding to the name of each part in the circles provided. When you have completed this check, you may continue with progress check II.

PAD SANDER

- a. switch
- b. pad
- c. spring clips
- d. motor
- e. handle

BELT SANDER

- a. dust bag
- b. switch
- c. sanding belt
- d. belt adjusting knob
- e. carrier roller
- f. V-belt
- g. Driven pulley
- h. Handle
- i. Motor

PROGRESS CHECK (CONT.)

Within ten (10) minutes, answer the following questions by selecting the Correct answer from the choices given below. Encircle the letter only of your Choice. When you have completed the check, CALL YOUR INSTRUCTOR.

1. Which of the following statements best describes a portable electric belt sander.
 - a. it has a circular sanding action
 - b. it is used to sand edges
 - c. it is used to sand small end grain surfaces
 - d. it has an endless cloth belt driven by two wheels
 - e. it has spring clips which hold sandpaper
2. What will happen if you hold the belt sander in one place only while it is being used?
 - a. the sander will dig a hole
 - b. the sander will be turned off
 - c. the sander will cause a gouge
 - d. the sander will be thrown off the work bench
 - e. the sander's belt will be coated with abrasives
3. To prevent the cloth belt from slipping, the roller is coated with
 - a. wax
 - b. paint
 - c. abrasive
 - d. rubber
4. The wheel roller is being supported on the other end by the
 - a. pulley
 - b. paint
 - c. carrier roller
 - d. none of the above
5. A little downward pressure is applied when using a
 - a. belt sander
 - b. pad sander
 - c. on both pad and belt sander

PROGRESS CHECK

CALL YOUR INSTRUCTOR who will check on your level of competency. He will ask you to perform the skills required and record your performance based on the Instructor's Checklist below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Select proper abrasive	_____	_____
Installs an abrasive belt	_____	_____
Sanding using belt sander	_____	_____
Installs an abrasive of finishing sander	_____	_____
Sanding using finishing sander	_____	_____
Safe handling of tools	_____	_____

PROGRESS CHECK

CALL YOUR INSTRUCTOR who test and evaluate you according to the Criteria listed below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Set the planer cutter to zero	_____	_____
Adjust planer cutter to a cutting Depth specified by the instructor	_____	_____
Set bevel adjustment assembly To cut a certain a angle specified by the instructor.	_____	_____
Hold the planer properly.	_____	_____
Position the body to correct planning posture	_____	_____
Observes safety precautions.	_____	_____

PROGRESS CHECK

1. Match the parts of the circular saw, by writing the corresponding number of the of the part in the circle provided. Time allotted: 20 minutes.

- | | |
|----------------|---------------------|
| 1. Table | 7. Tilting Wheel |
| 2. Base | 8. Switch |
| 3. Fence | 9. Stop Rod |
| 4. Guard | 10. Splitter |
| 5. Miter gauge | 11. Hold Down Clamp |
| 6. Hand wheel | 12. Adjust Lever |

PROGRESS CHECK (CONT.)

II. Identify the different kinds of circular saw blade by writing their name in the space provided. (Time Alloted: 20 minutes)

1. _____

4. _____

2. _____

5. _____

3. _____

6. _____

PROGRESS CHECK (CONT.)

III. Matching type

Match Column A with Column B by placing the letter of your choice on the Space provided before each number. (Time Alloted: 15 minutes)

	COLUMN A	COLUMN B
_____ 1.	A round shaft to which the saw blade is mounted	a. tilt handle
_____ 2.	It provides the power for the machine	b. base
_____ 3.	Controls the width of the cut being made	c. table
_____ 4.	It is used for clamping the stock	d. hand wheel
_____ 5.	For fine adjustment of blade	e. miter gauge

- | | | | |
|-----------|--|----|-----------------|
| _____ 6. | Used to protect the fingers | f. | guard |
| _____ 7. | It is used as a guide for cross cutting | g. | adjusting lever |
| _____ 8. | Regulates the height of the saw blade or the table | h. | hold down clamp |
| _____ 9. | Used to tilt the saw blade | i. | Ripping fence |
| _____ 10. | Supports the miter gauge, rip fence, and stock to be cut | j. | motor |
| _____ 11. | It supports the table and other parts of the machine | k. | arbor |
| | | l. | switch |

PROGRESS CHECK

You will be provided with the machine tools and materials for setting and operating a circular saw for ripping and cross cutting. In the presence of your instructor you will perform the setting and operating of the machine following the steps discussed in this Learning Element. Your performance will be evaluated on the basis of the checklist provided below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Adjusting height of blade	_____	_____
Adjusting guide fence	_____	_____
Ripping Stock	_____	_____
Installing and adjusting miter gauge	_____	_____
Adjusting stop rod	_____	_____
Cross cutting stock	_____	_____
Using safety measure	_____	_____

PROGRESS CHECK

When you have mastered the procedure in the various operations of a stationary circular saw machine, perform the various operations discussed in the presence of your instructor. Your proficiency will be evaluated based on The checklist provided below.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Changing blades	_____	_____
Ripping	_____	_____
Cross Cutting	_____	_____
Miter Cross Cutting	_____	_____
Grooving	_____	_____
Dadoing	_____	_____
Ripping taper	_____	_____
Tenoning	_____	_____
Observing safety precautions	_____	_____
Using a push stick	_____	_____
Using a miter gauge	_____	_____
Using a tapering jig	_____	_____

PROGRESS CHECK

- I. Encircle the letters opposite the correct answers to the following Questions.
 1. The radial saw is capable of doing many operations because:
 - a. the saw blade is operated from above the work.
 - b. It is a precision machine
 - c. It can be used with other attachments
 - d. It varies in motor capacity
 2. The types of radial saw is dependent upon:
 - a. the height of the machine
 - b. the design and action of the over arm
 - c. the design of the table
 - d. the height of the table
 3. A series of boards held in place with a guide fence controls for cross cutting and ripping.
 - a. anti-kickback
 - b. guide fence
 - c. base
 - d. table
 4. Made of pressed metal and supports the table and column.
 - a. base
 - b. yoke
 - c. track arm
 - d. over arm
 5. Raises or lowers the saw blade and the entire radial Assembly above the table.
 - a. bevel clamp handle
 - b. miter latch
 - c. elevating crank handle
 - d. swivel latch

PROGRESS CHECK (Cont.)

- II. Identify the parts of a radial saw and its accessories by placing the numbers opposite the correct answers in the spaces provided in the illustration.

1. Anti-kickback
2. Elevating handle
3. safety guard
4. Miter latch
5. Over arm
6. Table
7. Guide fence
8. Motor yoke
9. Column

10. Base
11. Swivel latch assy.
12. saw blade
13. Boring tool
14. Drum, sanders and discs
15. Router bit and adapter
16. Motor tilt controls

ANSWER KEY

- I.
- | | |
|----|----|
| 1. | b |
| 2. | b |
| 3. | d |
| 4. | a. |
| 5. | a |

- II.
- | | |
|----|----|
| a. | 5 |
| b. | 4 |
| c. | 11 |
| d. | 9 |
| e. | 3 |
| f. | 10 |
| g. | 6 |
| h. | 7 |
| i. | 2 |
| j. | 5 |
| k. | 8 |
| l. | 16 |
| m. | 1 |
| n. | 12 |

PROGRESS CHECK

After studying the procedures and steps in using a radial saw for complicated operations, CALL YOUR INSTRUCTOR who will evaluate Your competence on what you learned. He will record your performance using a checklist.

INSTRUCTOR'S CHECKLIST

	ACCEPTABILITY	
	YES	NO
Performing the following Operations on:		
Installing the saw blade	_____	_____
Setting the radial saw adjustment	_____	_____
Ripping	_____	_____
Cutting miter	_____	_____
Cutting bevel	_____	_____
Cutting a groove	_____	_____
Cutting a rabbet	_____	_____
Cutting a dado	_____	_____
Cutting with attachment	_____	_____
Observing proper maintenance of the machine		

**Training for Rural Economic Empowerment
ILO-USDOL Project**

Transition Enterprise Plan

Name of proposed Transition Enterprise Project

Sala Set Making
Product Description: Chair (Sala set "French"), and
Table

Location of Transition Enterprise Project:

Brgy. Pinguaman, Datu Odin Sinsuat, Maguindanao

Duration of Transition Enterprise Project

Six (6) Months

Name of Trainee / s preparing the TEP Plan & their Signatures

Larry Ackala
Mohammad Sali Tundin
Akhiron H. Awalon
Samuel V. Magsipoc

1. Our plan immediately after training

After this training program we will immediately implement this transition enterprise Plan (TEP) for Six (6) months. We will start it on January 5, 2006 until July 5, 2006.

The following is the summary of our enterprise plan:

We will produce Bedding sets, Divider & Office Table.

We will sell the products to Household, Community & Public/Private Offices.

In making this product we will follow the steps and the procedures.

We were going to raise the money through contribution and fund raising, amounting P 350,000.00 in order to make them.

We will sell the product through consignment and wholesale.

We want to earn something 26% for the first four months operation..

To sustain our business activity we should have efficient management and marketing.

We will buy local materials and encourage the community to buy native products.

After the initial TEP planning period, we will evaluate our business performance against our targets and see whether we are successful or not, whether we can pursue on our own, or whether we will still need further assistance.

Henceforth this will be one of our important enterprise policy.

1. Business and Profit Forecast

Production Target : Chair (Sala set "French"), and Table
Enterprise Duration : Six (6) Months

1.2 Breakdown of Estimated Expenses

P 80,000.00 raw materials/production inputs
P 30,000.00 labor cost
P 5,000.00 cost of small tools
P 12,000.00 Rentals of venue
P 20,000.00 Rental of big equipment
P 5,000.00 Electricity, water, communication expenses
P 1,000.00 Transportation cost
P 2,000.00 Management Expenses
P 1,000.00 Other costs/expenses

P 156,000.00 Estimated expenses (Working Capital Needed)

1.3 Estimated Income & Gross Profit

Estimated Expenses (EE) : P 156,000.00
+ Desired Profit Margin : P 62,400.00 (40% of forecasted EE)
= Total expense + profit margin : P 218,400.00
Divided by No. of Products : 5 pcs.
= Unit selling price : P 43,680.00
X No. of Production Units : 5 pcs.
= Estimated Income : P 218,400.00
= Estimated Expenses : P 156,000.00
= Estimated Gross Profit : P 62,400.00

2. Marketing our Products

In order to sell our product we will apply certain marketing strategies. The following are our strategies:

2.1 Buyers\Markets

Men and women, Transportation and Businessmen, target our product.

2.2 Selling/Distribution

To sell our products we will do the following marketing strategies:

We will sell in our shop, nearby market and in all market centers, and through exporters, they can buy wholesale and retail. If possible we will make use of middlemen in our community.

2.3 Sales Promotions

To be easily identified, we will give our products TRADE MARKS or BRAND NAMES. We will call our Sala Set "WSSTCM"

In order to promote our products and achieve our sales target, we will advertise them in the following manner:

To increase production we should advertise it through radio, TV, newspapers and as well as asking the help of people and agencies to endorse the product.

3. The organizational structure of my/our Transition Enterprise

I will run our Transition Enterprise Project as a group.

The leader/manager of our group will be: Samuel V. Magsipoc

The other employees/workers will be:

Larry Akcala – who will do the marketing

Mohammad Tundin and Akhiron Awalon who will do the measuring and cutting.

Samuel V. Magsipoc who will assist/fabrication and wood working.

There will be a total of 6 persons that will be involved in the enterprise.

4. Location of my/our Enterprise

Our business enterprise will be located in: Brgy. PC Hill, Cotabato City

The place is owned by: Ferdinand S. Deroma

The place will be provided to us by the owner for P 2,000.00 rent per month.

The advantage of the place is that it is accessible to transportation, electricity, Water and Telephone. Aside from this, the place has other Advantage near hardwares , No competition, Safety area and commercial site

5. Generating the Capital that I/we need

I/we will raise our TEP working capital through the following strategies:

P 100,000.00 from my/our own savings

P 56,000.00 from friends and relatives

Other strategies will be:

- [] By entering into partnership agreements with local capitalists
- [] By asking for advance payments for job/production/service orders
- [] By acquiring production supplies through credit

6. Business Strategies

When we start operations, we will do the necessary strategies in order to be profitable and competitive such as the following:

- We will adjust our price if necessary without sacrificing the quality
- We will increase the volume of production after an estimate of the market demand.
- We will buy materials in bulk to save on discounts.
- We will pay ourselves by piecework.
- We will economize on use of electrical power, water, communication, office supplies.

In computing production costs and selling prices I/we will always remember the following strategies:

- We will keep trade costs at the minimum without sacrificing quality.
- We will question and study the advisability of all kinds of expenses.
- We will continue and examine records of income and expense.
- We will generate savings to finance our next enterprise plans.

7. Evaluating my/our Enterprise

At the end of our first TEP implementation, we will evaluate our business performance. We will see if we were able to achieve our targets in terms of the following:

- Products we made and sold
- Income and expense we projected
- Profits we earned
- Savings we generated
- Lessons we learned during the initial production period.

We hope that in the next planning or production cycle, we will already be on our own with lesser need for assistance from our benefactors.

Trainer's Name and Signature:

Samuel V. Magsipoc

