

OCCUPATIONAL PROFILE FOR TRADITIONAL CARPENTER (ZOW)

Workers Behaviour		General Knowledge and Skills	
<ul style="list-style-type: none"> Calm Creative Economical use of materials Energetic Environment conscious Hard working Honest Kind and cheerful Open minded Patient Quality conscious Responsible Safety conscious Self disciplined Sober Team worker Time conscious 		<ol style="list-style-type: none"> Basic knowledge of Bhutanese traditional architecture Basic knowledge of estimation and costing Basic knowledge of different species of timber Basic knowledge of timber size and measurement Knowledge of tools and equipment Knowledge of traditional house construction Knowledge of different components of house Knowledge of occupational health and safety Knowledge of sequence and method of work Skills of reading, drawing and sketching Skills of work planning and management Skills of marking and measurement Skills of cutting, sawing and chiselling Skills of drilling, joining, levelling, aligning and finishing Skills of clamping, nailing and screwing Skills of fitting, laying and straightening Skills of testing Skills in delegation of work Skills and capacity to use judgement 	
TOOLS AND EQUIPMENT		CONCERNS AND FUTURE TRENDS	
<ul style="list-style-type: none"> Auger Bangki Chisel Glass cutter Grinder Groover Hand drill machine Power plane Khagom, Tsherim, Woubji, Zouji, Pemji, Chatapjili Pencil Saws, planes, axe and knife Sharpening stone Triangular file Try square Tsheycho 		<ul style="list-style-type: none"> Centre punch Hacksaw Mallet Pincer Plier Power chain Router Safety gear Sander Screw driver Template Tin cutter Water level pipe 	
		<ul style="list-style-type: none"> More responsibilities Lack of standard wage Low payment / incentive Need more safety gear No dignity of labour No training opportunities More demand for carpenters More literate carpenters in future More women carpenters 	

Endorsed by Technical Advisory Committee (TAC) for Zorig Chusum sector (TAC – ZC) on 14th May 2008
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Occupational Profile for TRADITIONAL CARPENTER Level 2

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 Royal Government of Bhutan

Produced for

**Training Providers, Employers, Employees,
 Trainees and Interested General Public.**

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 Thimphu**

04 - 05 January 2008

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TRADITIONAL CARPENTER : Duties & Tasks

04 - 05 January, 2008

Duties		Tasks									
A Prepare for work	A1 Obtain instruction from supervisor	A2 Identify manpower requirement	A3 Prepare site for work shed	A4 Prepare list of raw materials required	A5 Collect required materials	A6 Construct temporary work shed	A7 Prepare work bench	A8 Identify tools and equipment required	A9 Set-up tools and equipment	A10 Assign task to subordinate	A11 Season wood at construction site
	A12 Stack timber according to sizes	A13 Select good quality wood	A14 Plan sequence and method of work	A15 Plan and lay out jobs from drawings or verbal instructions	A16 Perform demolition work						
B Maintain tools and equipment	B1 Sharpen saw	B2 Set saw	B3 Sharpen plane blade / chisel	B4 Sharpen axe and knife	B5 Test sharpened tools	B6 Set plane blade	B7 Prepare case for cutting tools	B8 Store tools / equipment safely	B9 Unroll chalk line after use	B10 Grind tools	B11 Apply oil on cutting tools to avoid rusting
C Ensure accurate measurement and sizes	C1 Discuss specification with supervisor	C2 Refer drawing for dimensions	C3 Re-confirm dimensions	C4 Mark according to dimensions	C5 Prepare timber according to dimensions	C6 Inspect components according to specification	C7 Pre-assemble finished products	C8 Mark components to ensure correct fittings	C9 Store finished product properly		
D Perform timber joints	D1 Prepare timber for joints	D2 Perform door joints	D3 Perform window joints	D4 Perform door panel and window sash joints	D5 Perform Buden and Dhoong joints	D6 Perform Pema Chhoetseg, Bagum and Hozhu joints	D7 Prepare floor, ceiling and wall panel joints	D8 Perform beam and partition wall joints	D9 Perform Rabsel and Kazhi Dungyed joints	D10 Perform Bja da Tazi joints	D11 Perform roofing joints
	D12 Check squareness of joints	D13 Chisel joints to required angle	D14 Ensure tight fitting of joints	D15 Ensure load carrying capacity of joints	D16 Plane wood using power plane	D17 Drill holes using hand drills	D18 Cut timber using circular saw				
E Fabricate wooden structures and fittings	E1 Cut timber to required size	E2 Plane timber to required size	E3 Prepare template for intricate curves	E4 Prepare Dzing	E5 Prepare Kachung	E6 Prepare Tshegye	E7 Prepare Dhoong	E8 Apply glue on joints	E9 Assemble wooden structures	E10 Clamp window and doors	E11 Nail wooden structure
	E12 Drill holes for wooden dowels	E13 Prepare wooden dowels	E14 Fasten joints using wooden dowels	E15 Apply sawdust	E16 Apply sandpaper on finished products	E17 Apply wood finishes	E18 Cut glass	E19 Fit glass on frames	E20 Install hardware fittings and locks		
F Construct Goma Rabsel and Kazhi Dungyed	F1 Prepare Gyeltshen and Tsheychung	F2 Prepare Drey Zhu and Dhoong	F3 Prepare Pema Chhoetseg	F4 Prepare Tshechu - Khanym	F5 Prepare Bagum	F6 Prepare Bou and Ka	F7 Prepare Phana	F8 Prepare Phakheb and Daayab	F9 Prepare Zhu and Phue	F10 Prepare Kaachen	F11 Prepare Norbu Hozhu
G Perform roofing works	G1 Determine roofing angle	G2 Prepare Heychu Kou	G3 Prepare Dingree and Zhu	G4 Prepare Sharing and Shathung	G5 Prepare Lungzey, Tsim and Dham	G6 Prepare Jamtho	G7 Lay shingles	G8 Cut CGI sheet	G9 Lay CGI sheet	G10 Fasten CGI sheet with screws / L hook	G11 Fasten roof truss with clamps
H Erect and align wooden structures, fixtures and fittings	H1 Divide spacing for erection	H2 Level Chiden	H3 Check vertical alignment	H4 Check squareness of structures	H5 Provide temporary support	H6 Adjust horizontal alignment of different structures	H7 Fasten structures using nails and dowels	H8 Maintain tolerance in wooden structure with reference to wall	H9 Coordinate work with other trades		
I Ensure safety at workplace	I1 Prepare fencing at construction site	I2 Prepare scaffolding for erection	I3 Wear safety gear	I4 Provide safety ladders	I5 Handle tools, materials safely while working at heights	I6 Check safety devices	I7 Report unsafe conditions to colleagues / supervisors	I8 Dispose unwanted materials	I9 Replace defective tools and equipment	I10 Display safety sign board	I11 Observe safety rules
J Upgrade knowledge and skills	J1 Seek advice from seniors	J2 Share ideas with colleagues	J3 Participate in training and workshops	J4 Observe different works and activities	J5 Refer books and manuals	J6 Participate in skills competition				I12 Maintain first aid kit	I13 Supervise work at construction site
Dzongkha terminologies	Buden - ཐུག་གཞི། Dhoong - ལྷོང། Pema Chhoetseg - ཡུལ་ཚོལ་མཚམས། Bagum - བ་གཤམ། Hozhu joint - རྩེ་གཞུ་མཚམས། Rabsel - ར་བ་གཤམ། Kazhi Dungyed - ཀ་མཚེ་གཞུ་མཚམས། Bja da Tazi - ཐུག་དང་ཉུག་ཟེ་གཤམ། Dzing - ལེན། Kachung - ཀ་ཅུང། Tshegye - ཚེ་གཤམ་ཚུན། Gyeltshen - རྒྱལ་མཚོན། Tsheychung - བཅོམ་ཅུང། Drey Zhu - རྩེ་གཞུ། Tshechu- Khanym - བཅོམ་ཅུང་ལ་ཀྱི་མཚམས། Bou and Ka - རོ་ཀ་དང་ཀ་ག། Phana - ཕག་ཕུ། Phakheb - ཕག་ལེམས། Daayab - མདལ་ལམ། Zhu - རྩེ། Phue - ཕུ། Kaachen - ཀ་ཅེན། Norbu Hozhu - རོ་མུ་ལྷོ་གཞུ། Heychu Kou - རྩེ་གཞུ་ཀུ། Dingree - ལྷོ་རྩེ། Sharing Shathung - ཤ་རིེ་ཤ་ཅུང། Lungzey - ལུང་ཟེན། Tsim Dham - ཐུམ་མཚེ་གཞུ་མཚམས། Jamtho - རྩེ་མཚེ། Shingles - ཤིང་ལེམས། Goma Rabsel - རྩེ་མཚེ་ར་བ་གཤམ། Chiden - རྩེ་གཞི།										