



# URVASHI & ANANDA

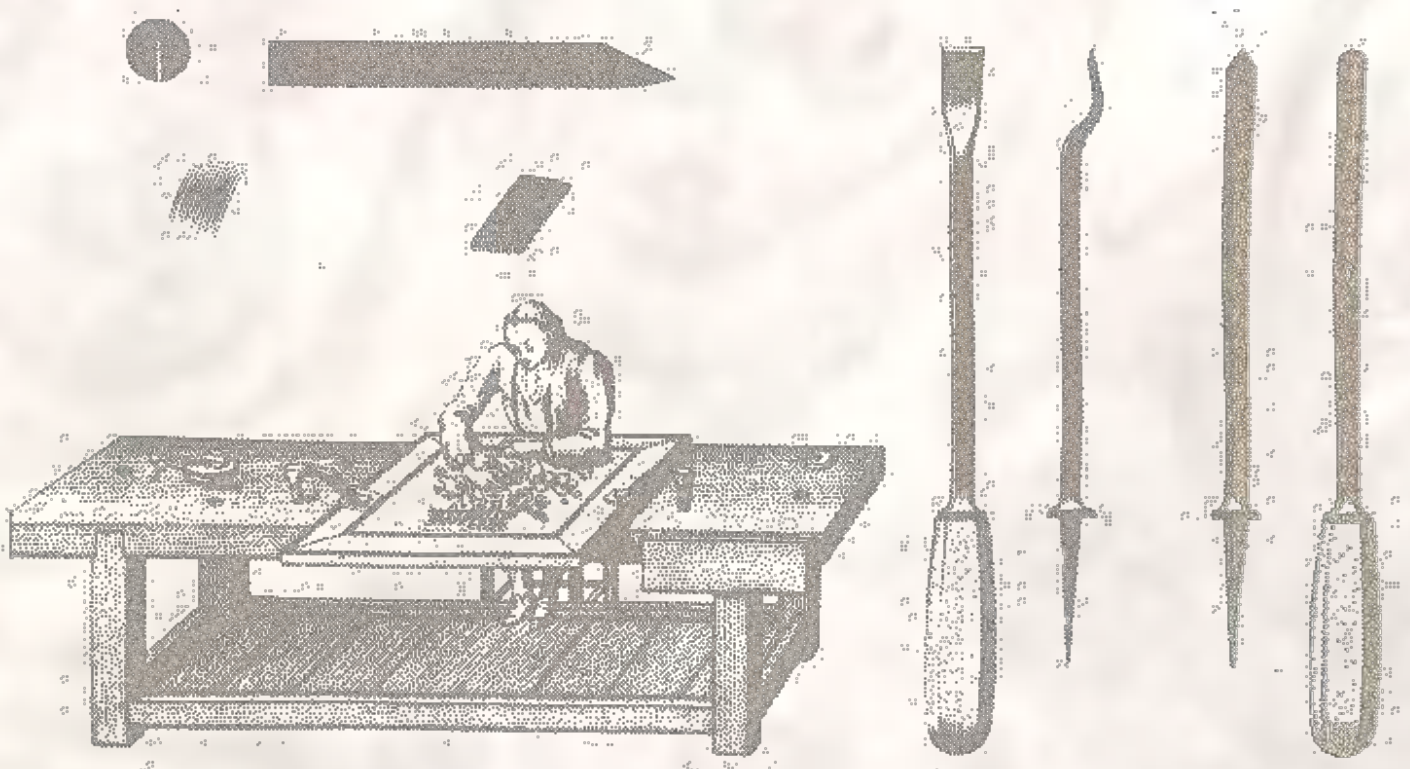
## CHAUBAS PROJECTS

*Educational Project 2026 – 2030*

Chaubas, Ward 4, Bhumlu Rural Municipality

Kavrepalanchok District, Bagmati Province, Nepal

*Sylvie Marie Louise Legouteil "Urvashi" & Philippe André Nègre "Ananda"*



## Preface — Mission and Vision

This document brings together, in a single reference, the three pillars of the personal educational initiative led by Ananda and Urvashi in Chaubas: the pine nursery dendrometric protocol, the sawmill revival and woodworking/sculpture training centre project, and the detailed training curriculum for the future Centre for Wood Trades.

This is a personal educational initiative, carried out by Ananda and Urvashi on their own initiative and expertise, independent of any organisation.

The founding project is, above all, to open a training centre for woodwork in Nepal, using European techniques adapted to Nepali styles and materials, alongside the revival of the Chaubas-Bhumlu community sawmill and an ongoing forestry stewardship programme.

This training centre will allow Ananda, as a teacher and craftsman, to share his knowledge with all those who wish to learn a wood trade. Young people who follow this technical and creative training, combined with theoretical lessons, will be able to pass on this know-how and remain established in the village.

Ananda brings his know-how, his teaching approach, and practical tools to help each young person discover their talent and find the professional path best suited to their taste and personality — developing manual dexterity, sharpening their appreciation of material and architectural surroundings, and instilling the discipline needed to see a piece of work through to completion.

The professional and personal follow-up of each apprentice is a priority. Depending on the number of young people received, and after basic exercises to test their capacity and interest, apprentices will be guided toward one of several distinct specialisations, to diversify their future opportunities and avoid concentrating too many young workers in a single trade at the local level. Giving them responsibilities, and teaching them to be trusted, is central to this approach.



# DENDROMÉTRIE

Mesure des arbres – Tree Measurement – रूड मापन क्तिान

Hauteur  
Totale  
Total Height  
शुम अपौरह



Volume  
de Bois  
Timber Volume  
खपलने बापास



Volume de Bois  
Timber Volume

खपलने बापास



Inventaire Forestier

एता पणुपों



Gestion Sylvicole

एन MANAGEMENT



Économie du Bois

ररुड उमानरामाना

खररररररररररररर



Timber Economy

खररररररररररररर



Écologie & Carbone

खररररररररररररर

Diamètre à Hauteur  
de Poitrine (DHP)

Diameter at Breast Height  
(DBH)

फररररररररररररर

1,30 m

Diamètre at Breast  
Height (DBH)

Diameter at Breast Height  
(DBH)

फररररररररररररर

1,30 m

Accroissement Annuel  
Annual Increment



# PART I — Chaubas Pine Nursery: Dendrometric Protocol

*Dendrometry — tree measurement principles (trilingual reference sheet)*

## 1. Introduction

This section sets out the official dendrometric protocol for monitoring, maintaining, and improving the quality of young pine seedlings grown in the Chaubas nursery. It aims to standardise practices, strengthen data quality, and improve the performance of future plantations. This protocol is designed and implemented by Ananda, drawing on his experience in forestry operations management and logging/pruning: maintenance of cutting tools, reading forest stands, and planning volumes and thinning.

## 2. Protocol Objectives

- Monitor growth (diameter, height).
- Assess density and survival.
- Identify the highest-quality seedlings.
- Guide thinning and weeding.
- Document nursery performance.

## 3. Setting Up Permanent Plots

- Set up 3 to 5 plots of 10 m × 10 m (100 m<sup>2</sup>).
- Distribute them across slope, exposure, and moisture conditions.
- Mark each plot (stake + painted code).
- Record a location sketch and GPS coordinates.

## 4. Dendrometric Measurement Method

For each seedling:

- Diameter: collar diameter (seedlings < 1.30 m) or DBH — diameter at breast height (seedlings ≥ 1.30 m).
- Total height (graduated pole, later a clinometer for taller trees).
- Health condition: healthy / slightly damaged / severely damaged / dead.
- Stem form: straight / curved / forked / heavily deformed.

## 5. Measurement Frequency

- Years 1–3: twice a year (pre-monsoon and post-monsoon).
- After year 3: once a year (post-monsoon).

## 6. Indicators to Calculate

- Density (seedlings/ha).
- Mean diameter and mean height.
- Annual growth ( $\Delta D$ ,  $\Delta H$ ).
- Survival rate (%).

## 7. Data-Based Maintenance Actions

- Sanitary thinning if density exceeds 3,000 seedlings/ha.
- Remove diseased, forked, or dominated seedlings.
- Circular weeding (50–80 cm around each seedling).
- Light management (shrubs, tall grass).
- Selection of straight, vigorous stems.

*Ananda personally supervises these maintenance operations, drawing on years of hands-on logging practice and forestry cutting-tool maintenance.*

## 8. Official Field Sheet

The field sheet exists in two versions — a standard trilingual sheet and a pictogram sheet — enabling fast data collection, data uniformity, and use by teams with varying levels of literacy.

- General information: site, date, plot number, team.
- Per-seedling measurements: diameter, height, health (S = healthy, D = damaged, M = dead), form (St = straight, C = curved, F = forked).
- Quick counts: total live seedlings, dead seedlings, estimated density (seedlings/ha).
- Immediate actions: targeted weeding, sanitary thinning, shade correction, watering if needed.

## 9. Organisation and Responsibilities

- Team leader: supervision, data validation — role held by Ananda.
- Local technicians: measurements, field sheets, routine maintenance — trained directly by Ananda.
- Coordination: archiving, annual analysis, report writing.

## 10. Density and Early Thinning

- Target in the young phase (nursery / 1–3 years): roughly 2,500–3,000 seedlings/ha before transplanting or thinning.
- If density exceeds 3,000–3,500 seedlings/ha and diameter growth is weak: sanitary thinning (remove malformed, diseased, or dominated seedlings).
- After transplanting into open field (4–10 years): gradually aim for 1,600–2,000 seedlings/ha, then reduce toward 800–1,000 seedlings/ha depending on the objective (timber, resin, etc.).

## 11. Selecting the Best Individuals

Priority is given to seedlings with a straight stem, well-formed apex, above-average growth, and no major damage (insects, fungi, wounds).

## 12. Canopy and Light Management

In the Chaubas highlands, light is a key growth factor. If seedlings stagnate, check for herbaceous competition and shading; apply targeted weeding (50–80 cm circle) and control competing shrubs.

## 13. Minimal Equipment and Organisation

Equipment: stakes and paint, measuring tape ( $\geq 30$  m), caliper or diameter tape, graduated height pole, field notebook or standard sheets.

Organisation: train 2 to 3 local people in taking measurements (diameter, height, health coding); create a standard sheet per plot (seedling no., diameter, height, health condition, form, remarks); transfer data into a simple spreadsheet to calculate averages and growth curves.

## 14. Annual Calendar

- Pre-monsoon (May–June): measurements + weeding.
- Post-monsoon (September–October): measurements + thinning.

## 15. Quality Control (Ongoing)

Check measurement consistency; regularly train the local team; systematically archive all data.

## 16. Dendrometric Definition

In dendrometry, maintaining a pine nursery means measuring, monitoring, and regulating the growth of young seedlings to ensure optimal density, vigour, and uniformity before transplanting to forest. Key parameters include height, collar diameter, planting density, and soil quality, observed regularly to adjust cultural practices (watering, weeding, thinning).

| Parameter       | Recommended value        |
|-----------------|--------------------------|
| Mean height     | 25–30 cm                 |
| Collar diameter | $\geq 5$ mm              |
| Spacing         | 15–20 cm                 |
| Density         | 2,000–2,500 seedlings/ha |

Main tools: diameter tape, clinometer, forest caliper, electronic dendrometer.

Good practices: regular weeding, soil-moisture-based watering, organic mulching, thinning of weak seedlings.

## 17. Summary for Official Documentation

A permanent dendrometric system is installed in the Chaubas nursery to monitor the growth, density, and quality of young pine seedlings. Twice-yearly measurements allow adjustments to thinning, weeding, and seedling selection, aiming for an optimal density of 2,500–3,000 seedlings/ha in the young phase, then 800–1,000 seedlings/ha in the young stand phase. This protocol ensures the production of vigorous seedlings, adapted to Nepal's mid-hill conditions.

## 18. Conclusion

This protocol provides a solid foundation for reliable, reproducible dendrometric monitoring adapted to Chaubas's realities. It strengthens seedling quality, data rigour, and the progressive professionalisation of the local team trained by Ananda.

## 19. Ananda's Forestry Background and Skills

Ananda has several years of experience in logging and landscape pruning, working for companies, serving both professional and private clients. He is skilled in maintaining cutting tools such as chainsaws of various sizes fitted with round or square chain teeth, can carry out basic repairs that don't require replacing engine parts, and can also forge certain accessories to work more efficiently in forestry environments.



# **PART II — Chaubas Sawmill Revival Project & Adjacent Woodworking and Sculpture Training and Processing Centre**

## **1. Geographic Location**

Chaubas is located in central Nepal, in Kavrepalanchok District, Bagmati Province, at approximately 27°38'N, 85°47'E. The village lies east of the Sun Koshi river, near Dolalghat, and forms Ward No. 4 of Bhumlu Rural Municipality.

Bhumlu Rural Municipality was created during Nepal's administrative restructuring, merging former Village Development Committees (Saping, Simthali, Bekhsimle, Chaubas, Salle Bhumlu, Kolanti Bhumlu, Phalate, Bhumlutar, Dolalghat, and Jyamdi). It now has 10 wards, was officially established on March 10, 2017, covers 91 km<sup>2</sup>, and is headquartered in Salle Bhumlu.

Population: according to the Bhumlu Municipality profile (2018), Chaubas has 529 households and a total population of 2,501, with a literacy rate of 78.72%. The 1991 census recorded 2,233 residents across 419 households.

Communities and languages: the main communities in Chaubas are Tamang and Pahadi, alongside Chhetri, Damai, and others. Across Bhumlu Municipality, 65.3% of the population speaks Nepali, 24.8% Tamang, 5% Majhi, and 4% Newari.

Geography and tourism: Chaubas is the highest point in Bhumlu Rural Municipality, offering a 360° panorama of numerous Himalayan peaks (Gauri Shankar, Rolwaling, Jugal, Dorje Lakpa, Langtang, Manaslu). About 40% of the area is covered by community forest, offering potential for tourism and trekking activities.

## **2. Chaubas-Bhumlu Community Forest — A Recognised Case Study**

Located in Nepal's mid-hills, the Chaubas-Bhumlu community forest has been the subject of studies documenting the positive impact of participatory forestry on rural livelihoods, particularly regarding access to resources and household economic benefits.

The community also operated a collective sawmill (the Chaubas-Bhumlu sawmill), which experienced economic and governance challenges. The EnLiFT2 project supported analysis of the causes of its failure and the conditions for its revival.

Local economy: traditional agriculture remains residents' main activity. Trade, local employment, and work abroad (notably in Malaysia and Gulf countries) provide supplementary income sources. Chaubas's local market remains small.

## **3. Why the Sawmill Failed: The Lessons**

The lack of forest resources did not cause the sawmill's failure. Research identifies at least four major causes: unfavourable government policy, political crisis, conflictual community dynamics, and a lack of local entrepreneurial capacity.

In 2003, the Nepalese government introduced new rules implementing a lengthy auction process for selling surplus timber. Unable to outbid other buyers, the sawmill lost its main supply source. It began accumulating losses and ceased operations in 2007.

The sawmill was initially profitable, but could not withstand internal conflict, mismanagement, weak leadership, political instability, and corruption linked to mismanagement of financial resources.

#### **4. The Advantages of an Experienced Wood Professional**

A wood industry professional brings what the community cannot build on its own:

- Technical skills: sawmill calibration, maintenance, material output, and wood quality — Chaubas sawmills mainly produced large rough-cut pieces (“flitches”) suited to the available market and the simplicity of the equipment; more advanced expertise allows better use of the resource.
- Business approach: lessons learned from the Chaubas and Shreechhap sawmills emphasise the importance of marketing and a business plan, as well as the need to conduct full feasibility studies before any investment, directly involving local communities.
- Neutrality: as a long-term resident with no direct financial interest, Ananda can play a mediating role in the governance conflicts that plagued the sawmill in the past.

#### **5. Risks Not to Be Underestimated**

- The problem was not technical. The Chaubas community sawmill had to contend with shifting government policies, local politics, ongoing internal conflict, and a lack of local business capacity. Wood expertise alone does not solve these structural issues.
- Access remains difficult. The village sits at 2,000 m altitude, with limited infrastructure and few employment opportunities. A single dirt road connects Chaubas to the main road linking Dolalghat to Tibet. Market access remains a major obstacle.
- Risk of dependency. If the revival relies too heavily on a single individual, it risks weakening once that person’s involvement decreases. Community involvement in the feasibility assessment is necessary to build a deep understanding of sawmill management complexities and develop sustainable business-planning skills.
- Nepalese forest policy remains an external factor. The 2003 auction rules that affected the sawmill could resurface in other forms.

## 6. Ananda's Profile: Ornamental Woodcarver, Cabinetmaker, Restorer, Forestry Operations Manager

This project only makes sense as a long-term skills-transfer approach, rather than direct operational management.

In practical terms, this means:

- Working with a trained local counterpart able to take over.
- Integrating solid governance from the outset (transparent accounting, clear rules among user groups).
- Exploring realistic business opportunities — local construction, tourism, crafts — rather than targeting distant markets.
- Mapping available resources (existing pine plantations need thinning) and planning for long-term operations.
- Discussing the regulatory framework with local authorities before investing.

*Ananda brings four skills precisely aligned with the documented weaknesses of the historical project:*

### **Forestry operations manager — the missing skill #1**

*In 2003, the sawmill lost its supply source due to a lack of proper forest management — cutting plans, thinning, volume tracking, and negotiating cutting rights. Ananda knows how to read a forest stand, plan volumes, and work with Community Forest User Groups (CFUGs). The existing pine plantations need thinning: that is the foundation for everything else.*

### **Cabinetmaker — breaking from an outdated business model**

*The raw sawmill's main problem was selling raw timber ("flitches") in distant markets where it could not compete. Ananda can reverse that logic: process the wood on site, produce finished or semi-finished high-value-added items (furniture, framing, joinery) for local and regional markets (Dhulikhel, Banepa, Kathmandu, 75 km away). The profit margin is not in raw timber — it's in the finished product.*

### **Ornamental wood sculptor — an unexpected strategic asset**

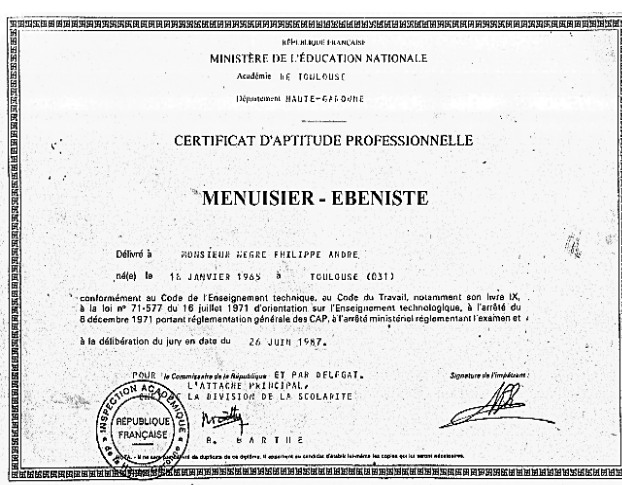
*Nepal has an outstanding tradition of wood carving (Newar architecture, temples, pagodas), and Chaubas has documented tourism potential thanks to its 360° Himalayan views. Combining local wood, carving skill, and tourism opens a craft niche no one has yet exploited locally: objects, architectural elements, decorative pieces — a niche of high symbolic and economic value, and one that can be passed on.*

### **Restorer — post-earthquake relevance**

*Kavrepalanchok District was badly hit by the 2015 earthquake. Many traditional wooden structures (frames, doors, carved Newar-style windows) were damaged or destroyed. Ananda's restoration skills open a second focus area: training in built-heritage restoration, a subject of interest to Nepalese authorities and heritage preservation bodies.*

## What remains to be built:

- Governance — conflict among Community Forest User Groups (CFUGs) has been toxic in the past. From the outset, transparent accounting and clear decision-making rules must be established with a trusted local partner.
- Skills transfer — Ananda's presence must produce trained staff able to carry the work forward. Two or three local people need to be identified for intensive training — as important as the technical revival itself.
- Duration — a short mission will not be enough; the question of available time must be addressed with local authorities to ensure long-term sustainability.
- Language and integration — Ananda is learning Nepali and is considering working with a local interpreter/coordinator.



## 7. Ananda and Urvashi's Local Roots

Ananda and Urvashi (aged 61 and 74) live permanently in Chaubas. This is not a project run from the outside: for several years, they have pursued renewals of their long-term social-worker visa, while also supporting the local public school with IT management and hygiene education.

Their community trust is already established — a factor that neither previous externally-led projects nor EnLiFT2 ever had to the same degree. Ananda knows his neighbours, the families, and the children who attend the school where he already maintains the equipment.

## 8. Synergies Between Activities

Ananda and Urvashi's activities are not parallel — they reinforce one another:

- School → Forest → Sawmill: forest and wood education (species, uses, value) can be introduced at school, raising a generation that understands why the community forest is a resource to be managed, not depleted.
- Wood carving/craft → Tourism → Heritage: woodworking workshops for adults or teenagers can create a complementary trade to the sawmill, less burdensome to manage and quicker to become profitable.

## 9. Local Network and Legitimacy

Ananda has excellent relationships with the chairman of Bhumlu-4 Rural Municipality, the chairman of the Ward office, the chairman of the forestry cooperative, the school's headmaster and vice-headmaster, and the chairman of the Parent-Teacher Association (PTA). Ananda and Urvashi's personal bank accounts are held at Nabil Bank, Bhumlu branch.

What this network represents:

- Political legitimacy → Chairman, Bhumlu-4 Rural Municipality.
- Administrative authority → Chairman, Ward Office.
- Forest resources → Chairman, Forestry Cooperative (the keystone).
- Community trust → Headmaster, Vice-headmaster, and PTA Chairman.
- Financial infrastructure → Nabil Bank, Bhumlu branch (personal accounts).
- Technical expertise → Ananda.

## 10. Financing: More Accessible Than It Seems

Actual start-up needs: sawmill refurbishment (likely modest — parts, oils, blades); first cutting season (local labour paid by the piece); additional workshop tools for the craft component; administrative and legal fees.

Local sources (no delay): accumulated equity of the Community Forest User Groups (CFUGs); Bhumlu Municipality's development budget (Nepalese rural municipalities have budget lines for community projects); in-kind contributions from members (labour days, transportation).

National sources (3 to 6 months): FECOFUN (Federation of Community Forestry Users, Nepal); ForestAction/EnLiFT2, already active in the community; the UNDP Small Grants Programme, accessible to registered local organisations.

International sources (6 to 12 months): the French Embassy in Kathmandu — local solidarity fund for projects led by French nationals; Swiss Cooperation (SDC), very active in Nepalese community forestry; European foundations specialising in forestry, crafts, or rural development.

A word about Nabil Bank. Opening a dedicated project account with two mandatory signatories — for example, Ananda and the forestry cooperative's chairman — at the Nabil Bank Bhumlu branch resolves the financial-transparency issue that plagued earlier attempts: every deposit and withdrawal becomes traceable and verifiable by all partners. Simple to implement, and symbolically very powerful.

## **11. Three-Phase Plan**

### **Phase 1 — Diagnosis and Foundations (months 1 to 3)**

Sawmill audit: machine condition (blade, motor, guides, tension); condition of auxiliary equipment (log straightening, timber transport); maintenance and spare-parts needs; site safety (roof, access, electricity); simplified forest inventory.

What needs to be identified: timber volume available per user group for the next 3 years; maturity of pine plantations awaiting thinning; presence of wood species suited to carving and cabinetmaking (walnut, alder, oak, depending on the area); a multi-year cutting plan compatible with CFUG management plans; legal clarification with the relevant CFUGs.

Regulatory check: verify with the Kavrepalanchok District Forest Office whether the 2003 auction system is still in force, has been relaxed, or has changed.

### **Phase 2 — Controlled Restart (3 to 12 months)**

A limited and controlled pilot cutting season, to test the equipment, train local operators, and produce for an already-identified market — not for storage.

Training 2 to 3 local operators — the top priority, ideally young adults already connected through the school or family, trained by Ananda in: operating the sawmill, reading output by wood species, routine maintenance, and basic inventory-management skills.

Complementary craft workshop: alongside the sawmill, a small joinery/sculpture workshop to produce high-value-added pieces. Local wood + Ananda's craftsmanship + Chaubas's tourism context = a credible craft trade. Pieces can be sold in Dhulikhel (15 km away, a major tourism destination) or in Kathmandu via intermediaries.

Connection with the school: producing school furniture from local timber for the public school already supported by Ananda and Urvashi — a captive market, visible, symbolically powerful, and fundable by the municipality or donors. This closes the loop between Ananda's various activities.

### **Phase 3 — Empowerment (year 2 and beyond)**

Trained operators manage day-to-day operations. Ananda transitions into an advisory and quality-control role. The craft workshop can become a training ground for other young people in the village. Connections with responsible tourism programs become possible.

Production priorities: not raw timber — a documented losing market — but skilled processing: timber framing and joinery for local construction (a permanent market in Nepal); simple furniture for schools, health centres, and small hotels; carved pieces for traditional architecture and tourism; restoration of Newar artifacts damaged by the 2015 earthquake — a market no other actor in the district can address with this level of expertise.

## 12. Roles

| Person                              | Natural role in the project                           |
|-------------------------------------|-------------------------------------------------------|
| Chairman, Municipality (Bhumlu-4)   | Institutional sponsor, access to the municipal budget |
| Chairman, Ward Office               | Administrative facilitator, document signing          |
| Chairman, Forestry Cooperative      | Wood resource manager, liaison with CFUGs             |
| School headmaster / vice-headmaster | Youth mobilisation, market access, school furniture   |
| PTA Chairman                        | Family liaison, popular legitimacy                    |
| Ananda                              | Technical direction, training, quality assurance      |

## 13. Unifying Stakeholders

The main challenge is not funding but unifying all the local stakeholders directly or indirectly involved in the project.

The sawmill's history demonstrates this unequivocally: it had resources, a plan, and prior external funding — and it failed due to human divisions. Conversely, a unified and well-governed project always finds funding; a funded but divided project squanders it, as has always happened.

### Unification strategy — the concentric circle:

Circle 1 — Natural allies: before any group meeting, work individually with those who already trust us — parents known through the school, CFUG members who have already had positive interactions, women leaders of user groups (often more stable and less politicised than male-dominated committees). Objective: identify one contact person per CFUG as a liaison before any assembly.

Circle 2 — Bhumlu Municipality as institutional guarantor: involve Bhumlu town hall as early as possible, not to lead, but to legitimise the project. A kick-off meeting changes the tone: it is no longer “outsiders who want to revive the sawmill,” but “our community taking back control of its forest resources with technical support.”

Circle 3 — The founding meeting: only once circles 1 and 2 are stable, with a limited agenda (no major decisions on day one), a shared diagnosis, clear roles for everyone, and transparent governance established from the outset — with no single actor substituting for the user groups in operational management.

The tool that changes everything: the governance charter. From the outset, draft a simple one-to-two-page document establishing who decides what, how revenue is distributed, how conflicts are resolved, and everyone's role. This document was missing from all previous attempts.

## 14. The Next Concrete Step

A well-prepared founding meeting bringing together the five key stakeholders, structured as follows:

Before the meeting — prepare a document of no more than one page: current state of the sawmill (recoverable); what failed before and why (no accusations); what is different this time (Ananda's expertise, clear governance); what is being asked of everyone (a specific role, no money in the first round).

During the meeting — only three questions: do we agree on the diagnosis? Is everyone ready to commit to their specific role? What is the next concrete action we can take together?

After the meeting — a report signed by all, filed with the Ward office. This document becomes the informal charter of the project.

## 15. Conclusion

We are not at the beginning of the project. We are on the verge of its launch. The question is no longer “how to create the conditions” — they already exist. The question is: when will this founding meeting be held?

### Kavrepalanchok District



Federation of Community Forestry Users Nepal  
सामुदायिक वन उपभोक्ता महासंघ, नेपाल

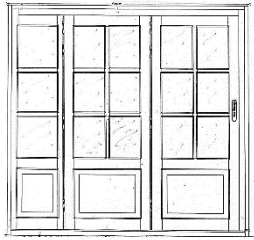


## **.PART III — Centre for Wood Trades: Training Curriculum**

### **Ornamentalist Sculptor — Carpenter-Building — Cabinetmaker**

The following pages set out, trade by trade, the detailed training curriculum planned for the future Centre for Wood Trades in Chaubas.

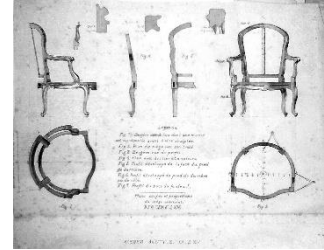
#### **THE CARPENTER BUILDING**



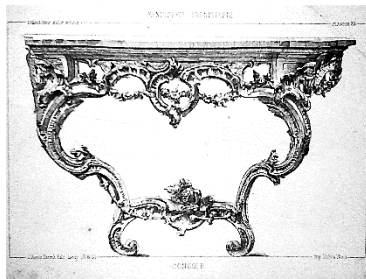
#### **Technician, Joiner Agenceur**



#### **Carpenter seat**



#### **THE CABINET**



#### **Restorer of antique furniture**



#### **WOODCARVING**

##### **Ornamentalist Sculptor**



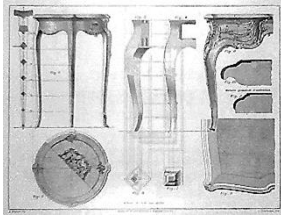
##### **Round bump**



#### **WOOD TURNING**



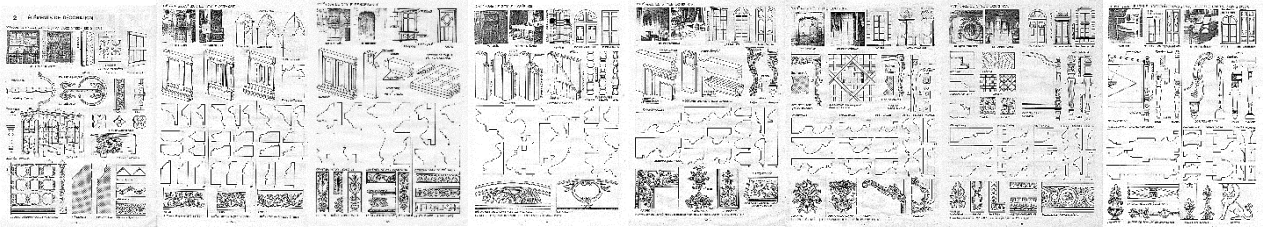
## TECHNICAL DRAWING



## ART DRAWING



## THE HISTORY OF ART



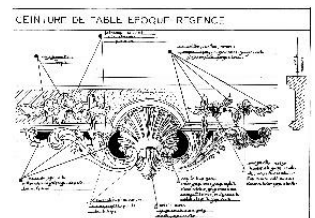
## Ornamentalist Sculpture

Objective of the training: prepare for the profession of Ornamentalist Sculptor. This trade must be able to reproduce ornamental elements through the styles, decorating furniture and woodwork made by the cabinetmaker.

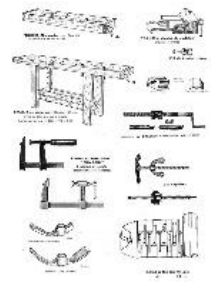
Duration of the training: 2 years, initial training. This training is centred on the execution of ornamental sculpture in bas-relief, high relief, and round bump (ronde bosse). Introduction to finishing techniques: gilding, lacquer, ceruse, wax. Technology, art drawing, and modelling complete the technical education to develop the sense of proportion and volume.



- Ornamentalist sculpture technology courses for the most literate, and in the form of visual cards for the less literate.
- History of art courses in general (6000 BC to today) for the most literate, and in the form of visual cards for the less literate.
- Initiation to the basic techniques of tooling and technical terms. Realisation of learning pieces (kept by the students).
- Mechanical and manual sharpening techniques by grinding wheel, oil stone, honing, gouges, scissors and scrapers. Mastering sharpening angles.
- Fixing techniques for the work to be performed, material resources used: clamping, gluing, eccentric press, English screws, bench vices.



- Art drawing course using various techniques — pencil, charcoal, pastel and Indian ink on various paper sizes — for preparation of the work through earth modelling. Mastery of volumes, reliefs, funds. Visualisation of the final result.
- Earth modelling course to master volumes, reliefs and funds for the realisation of the wooden piece, allowing visualisation of the final result without loss of raw material.
- Discovery and identification of wood species, their use, their characteristics.
- Learning different styles in the execution of similar patterns: shell, acanthus, volute, rose, moulding, etc., for furniture.
- Bas-relief techniques, high relief, round bump, clear-path fretwork.
- Learning mechanical work with band saw, scroll saw, router, electric or pneumatic tool carrier, and learning safety rules and the use of various protections.
- Assembly techniques on furniture frames, or for the composition of large pieces requiring long lengths or thickness of material.
- Wood preparation and finishing techniques: staining, waxing, gilding, varnishing.
- Initiation to woodturning: tools and various techniques.
- Initiation to Round Bump / sculpture of art. Management of hourly or unit cost calculation, drafting of a purchase order, a pro forma estimate, an invoice, and calculation of the final sale price.



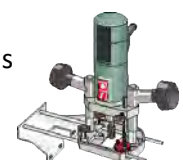
*Wood Turning Option (1 year, optional module): acquisition of traditional craft techniques of woodworking on a manual lathe to create, copy or restore objects, decorative elements or furniture. This module is available as an extension to each of the specialisations described in this curriculum.*



## Art Sculpture and Ronde Bosse (Advanced Track)

For the most experienced apprentices, after a few months of daily practice, a section of Art Sculpture and modelling is offered, leaving free course to artistic creation and personal development. Art sculpture allows apprentices to approach any kind of artistic expression, with no limit imposed by the creative spirit or the materials used. This training takes place over 1 to 2 years, following the initial level of the apprentice.

- Improvement in the basic techniques of tooling and technical terms. Realisation of learning pieces.
- Improvement in art drawing using various techniques — pencil, charcoal, pastel, Indian ink — for preparation of work through earth modelling. Mastery of volumes, reliefs, funds.
- Improvement in modelling in earth or plaster, or larger pieces on a frame of various materials: iron, wood, wire mesh, foam, paper pulp, plaster, cob, etc.
- Initiation to artistic sculpture and its specificities.



- Techniques for fixing the work to be performed, material resources implemented.
- Assembly techniques on furniture frames, or for the composition of large pieces.
- Wood preparation and finishing techniques: staining, waxing, gilding, varnishing.
- Initiation to woodturning: the lathe, its tools, various techniques.
- Management of hourly or unit cost calculation, drafting of a purchase order, a pro forma estimate, an invoice, and calculation of the final sale price.



## Carpentry — Building

### Technician Carpenter Joiner

Duration of the training: 3 years, including 50% theory and 50% practice (or 2 years for those who come from sculpture or cabinetmaking, already having common notions acquired).

This training is directed toward the design office — participating in the technical design of a project — as well as toward the building site, organising the layout and interior/exterior fittings, in accordance with the architectural and decorative direction of the project, in collaboration with the architect, other trades, and the end client.

The joiner-carpenter manufactures and installs interior and exterior joinery: custom pieces for offices, libraries, kitchens, bathrooms, dining rooms, dressing rooms, bedrooms, attics, shops, showrooms, etc.



- Technology and art history courses in general carpentry-building for the most literate, and in the form of visual cards for the less literate.
- Basic techniques of tool use and technical terms of the trade; realisation of learning pieces.
- Grinding techniques for hand tools, mechanical grinding wheels, oil stones, honing, scissors and planes. Mastering sharpening angles.
- Technical drawing course for drawing up a scale plan (1:1).
- Course on understanding a building plan, with identification of the joinery to be executed and its dimensions and direction of opening.
- Techniques of working on mechanical machines, with learning of safety rules on each: band saw, circular saw, jointer, planer, router, mortiser, tenoner, sander.
- Discovery of wood species, their uses, their defects.
- Fastening techniques, gluing, assembling frames for windows, hardware, facings, cladding, laminates or other.
- Assembly techniques and introduction to layout.
- Techniques for preparing and finishing wood: staining, waxing, gilding, painting, varnishing.
- Inventory management: wood, hardware, screws, varnish, glue.
- Estimation of hourly or unit costs, drafting of a purchase order, a pro forma quote, an invoice, and calculation of the final selling price.

*Optional Carpenter Seat module (1 year): design and creation of stylish or contemporary seats, following ergonomic rules and stylistic codes. Requires sensitivity for curved pieces and a good vision in space for drawing; builds on the knowledge gained in carpentry-building.*

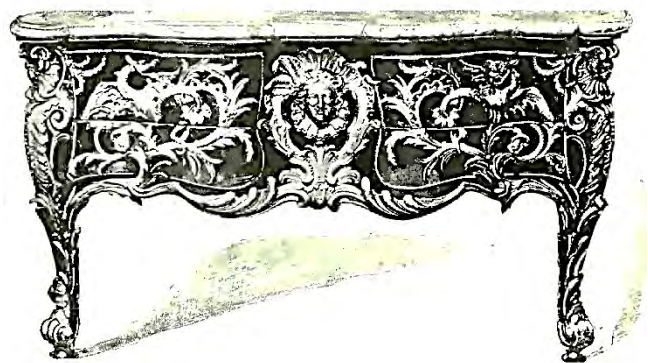


*Wood Turning Option (1 year): as described above.*

## Cabinetmaking

Training that lasts 3 years, giving a qualification in traditional and industrial, traditional and contemporary techniques, through professional and intensive artistic education — the acquisition of basic technical knowledge of solid wood work and derived materials, as well as veneer, for the realisation of stylish furniture.

The cabinetmaker is a craftsman who designs and manufactures high-quality furniture with functionality and neat design. With a taste for manual work and aesthetics, the cabinetmaker uses techniques that oscillate between the purest tradition of manufacture and innovation, acquired through courses in the history of the art of furniture, buildings and lifestyle, as well as courses in industrial design and machine technology tools.



The favourite material is solid wood, whose properties and plasticity are mastered, while extending know-how to contemporary materials. Sensitive to the aesthetics of objects, the cabinetmaker works for interior furniture, tables, chairs, armchairs, bedding, wall panelling and outdoor furniture.

### During these 3 years will be taught:

- Technology courses on tools, machines, wood properties and uses, hardware, and everything related to the equipment and decoration of art furniture.
- History of the art of furnishing and lifestyles for the most literate, and in the form of visual cards for the less literate.
- Basic techniques of tool use and technical terms of the furniture trade; realisation of learning pieces.
- Grinding techniques for hand tools, mechanical grinding tools, oil stones, honing, scissors, planing irons, varlopes and scrapers. Mastering sharpening angles.
- Technical drawing course for drawing up a scale plan (1:1).
- Machine tool working techniques, with safety rules on each: band saw, circular saw, jointer, planer, router, mortiser, tenoner, sander.
- Discovery of wood species, their uses, their defects; discovery of derived or composite materials: chipboard, plywood, medium and laminates.
- Fastening techniques, gluing, mounting furniture frames or wall panelling, hardware, facade cladding, veneer, marquetry, bronze or other.
- Assembly techniques of cabinetmaking and introduction to layout.
- Initiation to woodturning: tools, various techniques.

- Techniques for preparing and finishing wood: staining, waxing, gilding, painting, varnishing.
- Inventory management: wood, hardware, screws, varnish, glue.
- Estimation of hourly or unit costs, drafting of a purchase order, a pro forma quote, an invoice, and calculation of the final selling price.

*Wood Turning Option (1 year): as described above.*

## Restoration of Ancient Furniture

As part of this two-year training, pedagogy is oriented towards the demand for projects around furniture entrusted by clients: institutions, professionals, individuals.

Before any restoration, the artisan restorer carries out the study of the piece of furniture or the object to be restored and defines a restoration/conservation procedure in adequacy with professional ethics. To do this, cultural, historical, aesthetic and technical knowledge is mobilised.

This expertise is the foundation of any intervention. It allows the restoration craftsman to move towards the most accurate dating possible, conditioning the practical work of restoration, which requires technical versatility and dexterity in execution.

*Wood Turning Option (1 year): as described above.*



## Sylviculture and Forestry Training

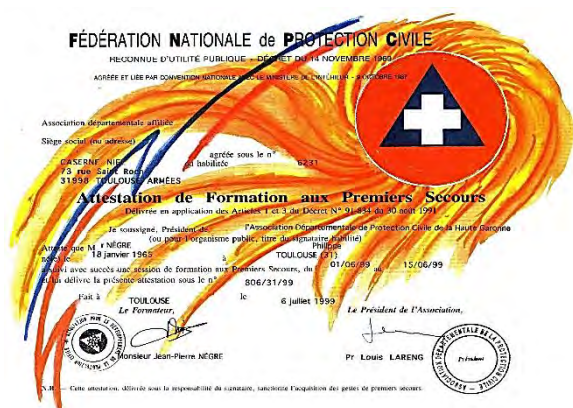
- Technology and dendrometry courses.
- Basic techniques for using specific forestry equipment: chainsaws, axes, lifting, pulling and suspension tools, harnesses for aerial work and small hand tools.
- Mechanical equipment preparation, operation, repairs, feeding, sharpening, protective equipment and safety. Dosage of fuel, lubricants.
- Techniques of felling, pruning, shaping, skidding, means implemented. Mastery of traction and guying equipment, safety of loggers, preparation of the felling site, escape routes.
- Management of the resources of a team of lumberjacks, mechanical equipment.
- Management of logging with knowledge of species, their uses and specifications of proper felling.
- Cost management, calculation of volumes, surfaces.



With his skills in the forest sector, Ananda can monitor and manage a forest area on village lands, diversify tree species according to the specific uses of each and their final destinations (stopping erosion, machinable materials for usual purposes, heating fuel or food).

## Fire Safety Officer and First Aid

- Initiation to firefighting, approach of the source to be mastered, means. Management of the resources of a fire-response team, equipment and fire-fighting equipment.
- Measures to be implemented, alerts, security (cut-off of gas, electricity).
- Management of emergency signage, indication of instructions for emergency escape routes, control equipment.
- Taking care of the people present in the event of a disaster, their evacuation.
- Initiation to the first vital acts of first aid.



CERTIFICAT DE SAUVEUR SECOURISTE DU TRAVAIL



N° 318-036538  
M NÉGRE Philippe  
a suivi la formation de sauveur secouriste du travail assurée par :  
Mr Belhassen BEN SEGHAIEH  
pour le compte de :  
NOUVELLES CARRIÈRES SERVICE  
délivré par le CRAM / CGSS de :  
CRAM Midi-Pyrénées  
validée le : 15/05/2001



Le titulaire

Signature et cachet du responsable du dispensateur de la formation



A.S.M.S.