

Botanical resources used in traditional wood carving industry among the *Wancho* tribe of Arunachal Pradesh

Hui Tag^{*1}, AK Das¹, H Pallabi¹, Ranjay K Singh³ & G Palit²

¹Division of Higher Plant Systematic and Ethnomedicine, Department of Botany, Rajiv Gandhi University, Rono Hills, Itanagar 791112, Arunachal Pradesh; ²Department of Geography, Rajiv Gandhi University, Rono Hills, Itanagar 791112, Arunachal Pradesh; ³Department of Agricultural Extension and Rural Sociology, College of Horticulture & Forestry, Central Agricultural University, Pasighat, East Siang, Arunachal Pradesh

E-mail: *huitag@yahoo.co.in; pallabi_tezu@yahoo.com; arupbot@rediffmail.com; gobindapalit@yahoo.co.in; ranjay_jbp@rediffmail.com

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Traditional woodcarving system is quite popular among the *Wancho* tribe of Arunachal Pradesh. The art and skills of wood carving practiced among the *Wancho* community is closely associated with their age-old religious beliefs and cultural practices, which are evident through their traditional institutions in the form of *Morung* (Bachelor dormitory), funeral rites, fertility cult and human head hunting. Unfortunately, the traditional art of wood carving among the *Wancho* has suffered a set back in recent decades. As a result, local artisans, who solely depend on woodcarving industry for the sustenance of their livelihood, are in dwindling position. However, Government initiative at community level somehow rescuing the degrading art but concerted effort is still needed to make the industry traditionally reliable and economically sustainable. The paper discuss the role of botanical resources used in woodcarving industry of *Wancho* and attempt has been made to highlight status of botanical species of *Wancho* locality emphasized on cultural knowledge of wood carving, commercial prospect and role of traditional knowledge in conservation of botanical resources associated with local woodcarving industry. In all, 12 plant species has been reported to be used in local woodcarving industry in *Wancho* dominated region of Tirap district of Arunachal Pradesh.

Keywords: Traditional Woodcarving Industry, Botanical resources, *Wancho* community, Arunachal Pradesh

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The forest of Northeast India accounts for 8% of the Indian total land mass is a home to 8 million tribal populations clubbed within 130 tribal communities (30.44%) out of 427 tribal communities found in Indian subcontinent. Each of the tribal communities has their age-old cultural heritage and ethnoecological knowledge relating to judicious utilization of biodiversity wealth of their surrounding in order to support their livelihood system¹⁻³. The state of Arunachal Pradesh (83,743 sq km) is rich in flora and faunal diversity of both ethnocultural and ecological significance by virtue of having all climatic zones ranging from tropical to snow-clad alpine mountains and has about 82% forest cover⁴⁻⁶. Climatically, the region is mainly characterized by the occurrence of heavy rainfall, moderate temperature and high relative humidity during summer, which favours luxuriant growth of biodiversity in its diverse ecosystem ranging from rivers, stream, ponds and marshy land to

dense forest terrestrial rainforest and snow-clad alpine meadow. Almost 50% of Indian higher plants with medicinal, commercial and ethnocultural significance are concentrated in the forest of Arunachal Pradesh (Eastern Himalaya)^{7,8}. The cultural and biological diversity of Arunachal Pradesh is well evident through its 28 major tribes and 110 subtribes with age-old indigenous knowledge system living in harmonious relation with nature since time immemorial^{9,10}. The artistic skill and culture of diverse tribal communities found in 16 districts of Arunachal Pradesh vary from each other depending upon their custom, tradition and indigenous faith and cultural beliefs. Almost all the tribal communities of Arunachal Pradesh have their gifted traditional knowledge of art and crafts such as weaving, basketry, traditional home construction and design, designing of lethal weapons for hunting, etc. All of them use botanical resources such as bamboo, cane and wood as food, medicinal, clothing and cultural materials. However, the traditional wood carving art

*Corresponding author

has been found to be practiced among the few tribes of Arunachal Pradesh such as *Wancho*, *Nocte*, *Kampti* and *Monpa*.

Previously, woodcarving was quite popular both commercial items and as cultural symbols among the *Wancho* of Tirap district. However, high impact of demographic pressure, ruthless exploitation of species used in woodcarving system and acculturation have remain as major contributing factors for the set-back of once most popular botanical origin art and craft knowledge prevalent among the local community in recent decades. Only scanty published information relating to use of botanical resources in woodcarving industry among the *Wancho* community of Tirap district in Arunachal Pradesh is available¹¹. Recently, few workers have taken initiative of exploration work on biodiversity status and anthropogenic threat in Namdapha, which is bound the Tirap district in the northern side¹². Interestingly, no policy decision and initiative has been taken by either by grass root level workers such as directorate of art and culture, and concern local authority in order to rescue the dying local industry. Against these backdrops, the paper attempt to unveil hidden age-old art of woodcarving tradition practiced among the *Wancho* tribe and also to unveil unexplored botanical resources chiefly used in their local wood carving industry for the sustenance of traditional livelihood systems and cultural beliefs thereof. The *Wancho* dominated area of Tirap (Patkai range) has been cited as 12th megadiversity region of the world that falls within Indo-Burma biodiversity hotspots with rich floral and faunal diversity, where maximum probability of finding rare and endemic species with ethnocultural and ecological significance has been predicted. The region has also been frequently cited as centre for origin of angiospermic group of plants^{13,14}. According to local source, the town of Deomali and Khonsa have been known as major centre of plywood production and nerve centre of forest based economic activity in Arunachal Pradesh¹⁵.

The *Wancho* dominated area namely, Loding and Kanubari subdivision are located about 56 km away from district head quarter Khonsa and falls within a geographical tract of 26° 28' N to 27°30' N latitude and 95°E to 96°E longitudes covering entire Tirap district with an area of 2362 sq km, which accounts for 2.82% of total land area of Arunachal Pradesh (83,743 sq km). Khonsa is the district headquarters located at an altitude between 1,000–1,258 m from

MSL¹⁶. The district is bounded by Nagaland in the East, Changlang district in the West, Patkai Hill range and Myanmar in North and Assam in South, with total population of 1,00,326, which account for 9.19% of the total population of the state with a density of 42 persons per sq km, which is highest in the state while sex ratio is 911 female per 1,000 male, and literacy rate is 42.01%¹⁷. Furthermore, the *Wancho* population has increased twice during last four decades, which can be perceived as major contributing factors for the recent threat in biodiversity wealth and habitat degradation in the eastern frontier region¹¹. The forest is mostly a tropical semi-evergreen type with climatic zone ranging from tropical to temperate type. The above forest areas were constituted under section 17 of Assam Forest Regulation Act, as adopted and modified by North-eastern Area Reorganization, Arunachal Pradesh¹⁸. However, indigenous laws such as clan forest management systems are still prevalent, which are most effective in maintaining the forest resources of the respective areas. The area receives heavy rainfall from both Northeast and South-west Monsoons. A maximum annual rainfall of 1,000–1,200 mm were recorded during July and August with a relative humidity of 80–85% whereas, maximum and minimum winter temperatures were recorded to be 10°C and 25°C, respectively and maximum summer temperature recorded goes up to 35°C which favours luxuriant growth of both aquatic and terrestrial biodiversity in the region¹⁶.

Forest are dense in middle and undisturbed zone inhabited by dominant species such as *Senecio agapetes* C. Jeffrey, *Blumea balsamifera* DC., *Castanopsis kurzii* (Hance) S.N. Biswas, *Ficus glomerata* Roxb., *F. semicordata* Miq., *Illicium griffithi* Hook. F. & Thoms., *Litsea cubeba* Pers., *Meliosma simplicifolia* Walp., *Quercus latifolia* Hort. ex Steud., *Rhus javanica* Linn., *Saurauia aromatica* R. E. Schult., *Zanthoxylum nitidam* (Roxb.) DC., *Z. acanthopodium* DC. and *Z. limonella* (Dennst.) Alston. A dominant species of timber and medicinal importance that cover the top storey of subtropical forest along the foothill and plain region are *Artocarpus chaplasha* Roxb., *Altingia excelsa* Noronha, *Aesculus assamica* Gritt., *Ailanthus integerifolia* Lam., *Bombax ceiba* Linn., *Canarium strictum* Roxb., *Dipterocarpus macrocarpus* Vesque, *Duabanga grandiflora* Walp., *Gynocardia odorata* R. Br., *Pterospermum acerifolium* Willd., *Phoebe goalparensis* Hutchins., *Michelia champaca* Linn.,

Mesua ferrea Linn., *Morus laevigata* Wall.ex Brandis, *Shorea assamica* Dyer, *Sterculia villosa* Roxb., *Terminalia myriocarpa* Henrck & Mull. Arg., *ormamented* with wild orchids and other epiphytic flora such as *Asplenium nidus* Linn., *Pothos scandens* Linn., *Rhaphidophora decursiva* (Roxb.) Scholt and *Viscum monoicum* Roxb. ex DC.. The middle storey is composed of *Alstonia scholaris* R. Br., *Actinodaphne ovtata* Blume, *Cassia alata* Linn., *Callicarpa arborea* Roxb., *C. nudiflora* Hook. & Arn., *Cinnamomum glanduliferum* Meissn., *C. camphora* (Linn.) Nees & Eberm., *Dillenia indica* Linn., *Gmelina arborea* Roxb., *Litsea monopetalata* (Roxb.) Pers., *Spondias pinnata* (Linn. f.) Kurz., and *Cedrela toona* Roxb. The ground level forest vegetation in both open habitat and under forest floor is mostly dominated by the shrubs having frequent distribution in all places. Phytogeographically, the vegetation shares affinity with both Indo-Myanmar and some floristic elements of Indo-China (Yunnan), which is evident from several species found in both sides of the countries¹⁸.

Anthropologically, the *Wancho* tribe belong to Mongoloid racial stock and trace their origin from the Naga stock of Southeast Asia (Figs. 1-3). Traditional *jhum* agriculture, animal husbandry, fishing and hunting are the major occupation practiced by the *Wancho* apart from wood carving and handicraft. Their society is divided into class such as *Wangham* (chief), *Wangshas*, *Wangsus* and *Wangpan* (common class). Their village council is known as *Genpo*, which is responsible primarily for the smooth administration of the villages, and implementation of customary laws for the holistic management, conservation and sustainable use of forest biodiversity wealth. The *Wangham* preside over the council¹¹. The traditional socio-religious institution of *Wancho* for the interaction of young people is popularly known as *Morung*. Previously, the *Wancho* were considered as good warrior during reign of their chiefs (*Wangham*) before independence. Their wood carving art is closely associated with institution of head hunting, decorating *Morung* (bachelor dormitory), funeral rites and to some extent with fertility cult¹¹. The wood designing and carving, policing and marketing aspects based on traditional knowledge and wisdom retained through socio-religious beliefs, mythology, folklore and oral literature are some of the fascinating area lying unexplored in scientific line in present decade for its preservation and posterity before they are lost forever under the debris of modernism.

Methodology

During field investigation, the Martin conventional ethnobotanical field methods were followed¹⁹. The survey was conducted in 6 villages of *Wancho* dominated area with the help of semi-structured questionnaire methods during 2002-2005. Rapports were established with the local administration, village chiefs, *Gaonbura* and traditional artisans, prior to extensive field survey. Prior Informed Consent (PIC) were obtained from the traditional wood carving knowledge holders among the *Wancho* community in order to protect their intellectual property right on traditional knowledge associated with woodcarving and assured them with benefit sharing in case of future application of the knowledge in commercial perspective²⁰. Out of 6 villages selected for survey, 2 villages were located in semi-urban area, while 4 villages were located in rural area with rich plant biodiversity and ethnocultural heritage. Apart from villages, the data were also collected from local craft centers, marketing centers and shops, that mainly deals with woodcarving products purchased from the indigenous *Wancho* artisans. All traditional techniques and cultural knowledge relating to woodcarving were recorded in field notebook during the course of interview taken from 450 participants, who share botanical and woodcarving knowledge in all level of data recording. The name of the woodcarving products, amount of wood requires and time requires for carving wood art per day, level of income generated and techniques and labour required for production were worked out using the data generated through oral interview and semi-structured questionnaire. Variations in traditional knowledge of woodcarving among the two age group population (younger and older generation) were analyzed statistically using computer software SPSS and Excel. Use Value Index (UVI) of each of the species employed in woodcarving art was analyzed through Phillips methods in order to assess the current status of utilization of the each of the plants species used, as under²¹:

$$UV = \frac{\sum RMXC}{N}, \text{ where}$$

UV = Use Value Index

\sum = Summation

RM = Total number of body parts extracted from plants

C= Number of times which a particular plants has been reported to be utilized

N= Total number of informants questioned

The tree species collected were identified at BSI (ARUN) herbarium, Itanagar and verified through literature^{22,23}. The botanical names were given in accordance with recent ICBN (St Louis Code 2000) rules and the name in current use (NCU) was strictly applied for each of the species described, which was further verified through IPNI plant checklist for author citation index and current status of each of the species were verified through IUCN recent guidelines on red listed category of plants²⁴⁻²⁷.

Results

The *Wancho* of Tirap are good in traditional knowledge relating to woodcarving, art and crafts. Majority of the artisans belong to rural villages with rich heritage of socio-religious beliefs, knowledge and practices relating to traditional woodcraft. The ethnobotanical investigation has revealed 12 plant species commonly used in traditional wood carving systems of *Wancho* of Tirap district (Table 1). According to the *Wancho* local cultural history and as per their socio-religious beliefs, the woodcarving activity had its origin during the time of human head hunting they followed in their traditions in recent past. Present woodcarving activity found among the *Wancho* of Tirap is mainly perceived as symbolization of their past cruel existence. Therefore, most of wood carving work are designed to symbolize human head. Because of its relativity with tradition of head hunting, the *Wancho* wood carvers (artisans) gives more attention to head, while carving a human figure in their traditional icon of different dimensions (Fig. 4). One of the important features of the *Wancho* wood carving is its frontality and they are invariably free standing and exceptionally attractive. The botanical resources frequently harvested and used were the wood of *Wrightia coccinea* and *Dysoxylum procerum* (Figs. 5-7). The wood art of *Wancho* bear similarity with that of African tribal wood carving tradition.

The *Wancho* as a good warrior had set certain rules and tradition, which were strictly followed during the course of war in order to annihilate their enemy in the past. There has been a general tradition that human figure should be carved in their traditional bachelor dormitory (*Morung*) by some one, who has either able to chop the head of his enemy during war or should be able to hunt tiger (Fig. 8). Traditionally, when pillar is carved in a *Murung*, a dog is sacrificed and period of taboos is observed on account of mythological

reasons. During such ritual, artists restrict their diet and observe chastity for several days. It is their cultural belief the artist would fell ill or may die if he fails to observe the taboos in proper manner as instructed by the priest. Although, the head hunting practised among the *Wancho* in the past, was of cultural and religious significance but at present, such tradition has been completely stopped. In order to substitute human head, the *Wancho* collect wooden dummy from the field of some ancestral enemy and also collect tails or hairs of neighbor's domesticated animal and in rare case, collect small bundles of grass and shrub from their ancestral enemy's field in order to symbolizing the victims hair, who has been killed by the enemy during war. Such religious beliefs still practiced by majority of rural *Wancho*, but in semi-urban area like Khonsa and Khanubari, such belief is less evident. Majority of the *Wancho* artisans (57%) belong to older generation of age (above 45 yrs) whereas, 43% wood carvers belonging to younger generation and all of them are male folk. However, traditional beliefs and practices are much strong and original in 4 villages surveyed, while 2 villages showed little knowledge on traditional beliefs and practices relating to wood craft work and other ethnobotanical uses of the plants perhaps due to the impact of modern culture (Fig.6).

The *Wancho's* traditional wood carving systems use at least 12 plant species and these tree species are mostly found in their locally owned forest in wild condition (Tables 1&2). However, the majority of their local woodcarving products are made from the wood of locally known species of *pongmu* (*Wrightia coccinea*), because the tree was quite abundant in their village forest during earlier decades. The *pongmu* tree has soft wood, with high degree of elasticity that enable easy crafting and molding with sharp knife without much effort (Fig. 5) The tissue is soft and slight oily, which prevent the wood from microbes and termites. Even after exposed in hot sunlight, *Pongmu* tree never cracks. This special strength and elasticity enable local woodcarvers to give fine and smooth finishing of the products, without any roughness with dazzling earth colour. The wood carvers pay much attention on head region of their products, when carving human figure. Some wood carvers concentrate only on neck and head region, while others carve chest, neck and frontal head with master piece and elegance. Light attention is paid to the back portion of the body and small

Table 1—Plants used by the *Wancho* tribe of Arunachal Pradesh in wood carving industry

Plant name (Family)	Local name	Height (ft)	Texture	Products design	UVI
<i>Artocarpus heterophyllus</i> Lam. Fam: Moraceae** ES: Tr/T/ST/Tm/C/Cult	<i>Panchong</i>	30-40	Medium	Human figure, House pillar	1.22
<i>Duabanga grandiflora</i> Walp Fam: Lythraceae** ES: Tr/T/ST/C/W	<i>Pangpoi</i>	40-50	Soft	Human figure	1.18
<i>Dysoxylum procerum</i> Hiern Fam: Meliaceae** ES: Tr/T/ST/Tm/R/W	<i>Jat</i>	70-80	Soft	Human figure Mammals, Aves	0.99
<i>Erythrina stricta</i> Roxb. Fam: Leguminosae** ES: Tr/T/ST/Tm/R/W	<i>Sut</i>	40-50	Soft	Effigy of dead person	1.54
<i>Litsea polyantha</i> A. Juss. Fam: Lauraceae** ES: Tr/T/ST/Tm/R/W	<i>Mob</i>	80-100	Medium	Log-drum	2.11
<i>Morus laevigata</i> Wall ex. Brandis Fam: Moraceae** ES: Tr/T/ST/Tm/R/Th/W	<i>Lih</i>	50-60	Hard	House pillar, carve frame for local gun	0.85
<i>Wrightia coccinea</i> Sims Fam: Apocyanaceae* ES: Tr/T/ST/Tm/Th/W	<i>Pongmu</i>	35-40	Soft	Human figure, smoking pipe, birds, animals, decorative items	0.45
<i>Bombax ceiba</i> L. Fam: Bombacaceae ES: Tr/T/ST/Tm/C/W	<i>Simol</i>	80-100	Soft	Human figure, animals, birds	1.88
<i>Shorea robusta</i> C.F. Gaertn. Fam: Dipterocarpaceae** ES: Tr/T/ST/Tm/R/W	<i>Yangnang</i>	40-50	Hard	Long-drum, gun frame	1.23
NI** Fam: NI ES: Tr/T/ST/Tm/R/W	<i>Tu</i>	40-50	Medium	Human figure	2.11
NI** Fam: NI ES: Tr/T/ST/R/W	<i>Rewat</i>	50-60	Soft	Tusker, bent decorative items	2.36

Legends: UVI = Use Value Index; NI = Not identified botanically; Tr = Tree; T = Tropical; ST = Subtropical; Tm = Temperate; C = Common; R = Rare; Th = Threatened; Cult = Cultivated; W = Wild; *Species currently in wide application; **Species infrequently used earlier but being put to use at present.

dimensional heads are usually designed with smooth and flats outfit. The physical feature of the image is carved in low relief and fairly realistic. Noses are usually carved broad, fitted with tobacco pipe, which appear sharp and protruding. The top of the head is usually ruined and usually have some indication of hair cut. Tattoo marks are carefully represented and most of the human figures are dressed up with small piece of clothes, some traditional beads and ornaments in order to make it attractive and glamour.

During last one decade, a tremendous change has taken place in the *Wancho* traditional wood carving arts. Currently, changing scenario in wood art among the *Wancho* is under the serious scanning by the researchers and grass root level artisans due to the

Table 2—Current estimation of time required, quantity of wood used v/s number of possible design crafted in Wood Carving Industry of the *Wancho* tribe of Arunachal Pradesh

Product design (Code)	Time required (7h/day × N)	Amount of wood required (Cu.ft)
Animal Figures (AF)	5×5 = 25	0.30 – 0.50
Candle Stand (CS)	3×3 = 9	0.15 – 0.25
Deer Head (DH)	10×5 = 50	1.20 – 1.50
Flower Pot (FP)	4×2 = 8	0.30 – 0.70
Human Figure (HF)	30×3 = 90	0.25 – 0.45
Smoking Pipe (SP)	4×2 = 8	0.15 – 0.20
Spears (SPR)	3×3 = 9	0.20 – 0.65
Tuskers (TSKR)	3×4 = 12	0.40 – 0.80

Legend: N = number of person employed; h = hours; Cu.ft = Cubic fit.

Table 3—Dynamic of botanical resources based demand and supply of Wood Carving Products during last one decade in their local Wood Carving Industry of *Wancho* community (1992-2002)

Product design	#Average cost (Rs)		*Annual production		Annual sale (%)		Labour input@		
	1992	2002	1992	2002	1992	2002	Time**	M	F
Human figure	480	834	18	30	70	80	30 – 32	3	0
Animals/Birds	105	135	26	35	70	90	5 – 6	5	0
Smoking pipe	42	60	10	42	55	100	4 – 5	2	0
Flower pot	30	50	15	20	60	90	3 – 4	2	0
Candle Stand	35	45	20	25	65	87	3 – 4	2	0
Spear	67	90	8	15	85	96	3 – 4	3	0
Tusker	38	60	10	14	80	90	4 – 5	4	0
Deer head	266	300	3	5	70	85	10 – 12	5	0

* Annual Production of crafted wood in number; # Average cost per piece of crafted wood art; ** Time duration taken in days; @ Labour input is only of domestic and self employed artisans but not hired and only male member use to take the lead in wood crafting industry.

degradation of botanical resources from the forest. Non-availability of botanical raw material has an adverse impact both on production and marketing chain. Earlier, the artisans used to carve only human head and tobacco pipes but currently, they have started carving certain decorative items, such as figure of aves, mammal, reptiles, birds, etc. They have also started procuring modern crafting tools and equipments in order to get best production in short duration of time. The amount of wood and time require for the production of craft items; vary from artisans to artisans depending upon the size and shape. For example, for carving human figure, the artisans require about 0.66 cm of *pongma* wood with a diameter of about 20 cm (Tables 2 & 3).

Though about 12 plant species are alternatively used as botanical raw material sources for wood crafting, a single species of *pongma* is widely used by the majority of the artisans primarily due to the good quality of the wood such as crack proof, high elasticity, resistant to heat and biological attack (Fig. 1). The raw materials are collected directly by the artisans themselves. However, large scale collection to meet the demand of local wood craft industry has posed a serious threat to the botanical resources. At the village level, the wood carving work is mainly done for funeral rites, and sometime for decorative items rather than for commercial purposes. Artisans do not sell their products but are directly purchased by the Government emporium and sell centers.

The *Wancho* wood craft work is closely associated with their age-old socio-religious beliefs and practices and therefore, the villagers did not pay attention to the

Table 4—Dynamic of Average Annual Income per household v/s Average Number of Family member Involved and Average Number of villagers involved from 6 villages of *Wancho* community (Comparison of 1992 & 2002 data)

Name of villages	ANFI/H	ANVI	AAI/H (1992)	AAI/H (2002)
Chanu	1	6	12000	25000
Nianu	2	15	24000	32000
Senua	1	4	6000	14000
Longsom	2	2	5000	15000
Chasa	4	10	7000	22000
Longphong	1	3	8000	21000

Legends: ANFI/H = Average number of family involved per household; ANVI = Average number of villagers involved; AAI/H = Average annual income per household.

commercial dimension in order to sustain their livelihood. However, patronization from the Government has immensely helped the local artisans. An effort has been made by the government of Arunachal Pradesh to promote various traditional arts of the state including wood carving and crafting. The marketing of wood craft products are mainly done at Government sell emporium and even at international market such as China, Myanmar, Thailand, Singapore and Japan. Still, some villagers craft wood art products at their respective home and sell such products in local and regional market with lucrative price (Table 4). The major marketing centers identified and exporting wood products are Khonsa, state capital city Itanagar and Naharlagun, Shillong, Kolkata and Delhi. The selling price of the woodcraft has increased more than thrice. Most of the woodcraft work is accomplished by male folk only and female member are hardly seen during production process

except advertising and selling of the finish products in the market (Table 3).

Discussion

The *Wancho* tribe of Tirap is good enough in traditional knowledge and practical skill relating to the crafting of wood arts. The lifestyle of the indigenous people in the villages is closely linked with adjoining forest for gathering food, clothing, cultural materials and medicinal requirements through traditional agricultural practices, fishing, hunting, arts and craft. Each of the botanical species employed in local woodcraft industry have a direct link with their age-old cultural beliefs and practices. With the intervention of the Government, the *Wancho* wood craft has seen new horizon with wide marketing scope in both national and international market. It has been observed that least attention has been paid towards raring, conservation and sustainable use of botanical resources used in local wood craft industry. Use Value Index (UVI) has revealed that the status of the species in local forest such as, *Morus laevigata* Wall. ex Brandis, *Dysoxylum procerum* Hiern, *Litsea monopelata* (Roxb.) Pers, *Erythrina stricta* Roxb. and *Duabanga grandiglora* are in dwindling state due to over exploitation. The anthropogenic pressure coupled with invasion of modern lifestyle and lack of initiative for germplasm propagation and conservation in natural habitat has already pushed the species such as, *Wrightia coccinea* Sims (UVI 0.45) and *Morus laevigata* Wall. ex Brandis (UVI 0.85) in dwindling position. Since lower UVI, higher is the risk for the species likely to qualify in rare and endangered category; *Wrightia* and *Morus* aptly qualify to be treated under rare and threatened category as these species have been widely harvested from their natural habitat for both timber and wood craft raw materials²¹. Increase in population pressure and awareness on marketing prospects coupled with cultural significance about these botanical resources during last decade has benefited the local artisans (Tables 3&4). The artisans, previously crafting only human head are now crafting other objects such as birds, reptiles and mammal, etc. The industry has suffered a set back in recent years due to the non-availability of raw materials. The demand for the woodcraft product increases gradually, whereas forest area is shrinking rapidly in recent years, which pose threat to many rare wild flora and fauna of the *Wancho's* locality (Fig. 9). In such a critical juncture,

there is an urgent need for involving local villagers and artisans in propagation and plantation efforts as main stakeholders in order to rescue the threatened and endangered botanical raw material in their natural habitat. Availability and sustainability of the botanical raw material would certainly help in sustaining the dying local wood craft industry of *Wancho*, which have an enormous potential for growth. It is pertinent to note that the tree species used in local woodcraft industry are directly linked with their local cultural practices and beliefs and hence conservation of such species through empowering forest rights to the local community would help in rescuing cultural and woodcraft industry in a sustainable manner.

It is also important to engage the young generation in the learning chain to acquire the local knowledge systems of plant bioresources used in woodcarving. It would be land-marking step, if the traditional knowledge holders of wood carving are involved to teach not only their knowledge systems on wood carving but other usage of bioresources for sustainable livelihoods. This innovative educational policy will play a pivotal role in conservation and promotion of biocultural knowledge systems of traditional communities of Arunachal Pradesh.

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Fig.1 Wancho oldman



Fig.2 Wancho ladies



Fig.3 Wancho ladies with hand woven garments

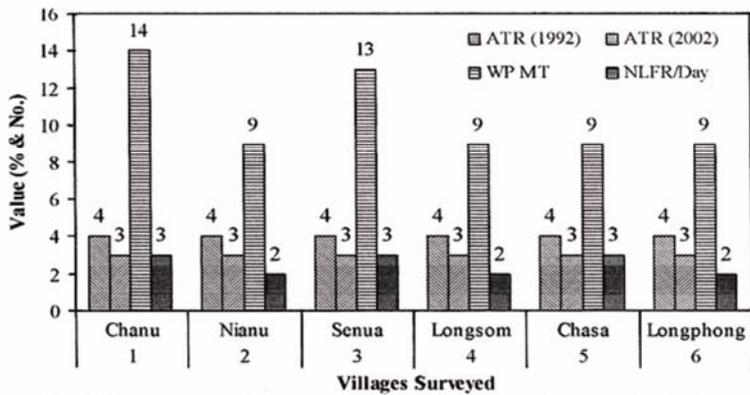


Fig.4 Pongma wood demand in Wancho's wood carving industry



Fig.5 Crafted statue from the wood of *W. coccinea*



Fig.6 Crafted items from wood of *W. coccinea* and *D. procerum*



Fig. 7 Variety of Wancho wood art products



Fig. 8 A view of Wancho villages



Fig.9 Dead body of *Panthera tigris* kept on wooden platform

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