

Indigenous Knowledge on Miscellaneous Uses of Plants by the People of Parroha VDC, Rupandehi District, Central Nepal

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Issued October 01, 2009

Abstract

This study aims to explore the information on miscellaneous uses on plant resources found in Parroha VDC of Rupandehi district, Nepal. The study was conducted during May 2007. Informations on plant resources were collected interviewing key informants using a semi structured open ended questionnaires. Altogether 33 different species of plants belonging to 19 families were found used for miscellaneous purposes.

Keywords: Indigenous Knowledge, Parrhoa VDC, Plant resources, Rupandehi district, Nepal.

Introduction

With the surface area of 1,47,181 km², Nepal lies at the crossroads of the Himalaya. Within its small boundary, marked variations exist between different areas in terms of amount and duration of annual rainfall and temperature. Its great climatic, geographical and geological diversity gives rise to biological and ecological diversity and comprises of tropical to alpine climatic zones. In Nepal, majority of people depend on agricultural works and heavily rely on plants and plants products (either domesticated or wild) to fulfill their basic needs and for household economics. Because of this, most of the ecosystems with useful species are under threat due to habitat destruction, unsustainable harvesting and over-exploitation (Chaudhary, 1998). So, it is now realized that priority should be given to the documentation and conservation of the existing species and habitats before some of these are eliminated from the area (Joshi and Joshi, 2009). At present, research towards the general documentation of ethno-medicinal plants, wild food plants, and of other uses by different workers/scientists is taking place in different areas of Nepal (Manandhar, 2002; Joshi *et al.*, 2003; Bhattarai *et al.*, 2009). But, information on miscellaneous uses of plant resources of Parroha VDC is still not documented. In this background, present study was devised to document the indigenous knowledge on miscellaneous uses of plants in Parroha VDC in Rupandehi district of Central Nepal.

Materials and Methods

Study Area

Parroha VDC of Rupandehi district lies in the terai region of Nepal. The total population of VDC is about 20 thousands, of which about one fourth (about 26%) are Tharu (CBS 2002). The altitude of the study area ranges from 220 m to 500 m asl. The forest is mainly dominated by Sal (*Shorea robusta*) with its associated species Saj (*Terminalia alata*), Banjhi (*Anogeissus latifolia*) etc. The climate of the area is typically tropical dominated by south-east monsoon. Generally hot climate prevails throughout the year except in the winter lasting

for the short period. The temperature of the district ranges from average 7⁰C winter to average 45⁰C during summer.

Field study

The field study to collect the informations on miscellaneous uses of plant and plant parts was carried out during May 2007. Informations were collected interviewing key informations using semi structured open ended questions and group discussions. Collected specimens were identified with the help of standard literature (Hara *et al.*, 1978; Hara and Williams, 1979; Press *et al.*, 2000) and with cross checking the specimens deposited at Tribhuvan University Central Herbarium (TUCH), Kirtipur. The collected specimens are deposited at TUCH, Kathmandu, Nepal.

Results and Discussion

Ethnobotanical information on 33 plant species have been collected with their indigenous knowledge and practices. These plant species fall under 32 genera and 19 families. List of medicinal plant species with their scientific name, family, local name, habitat, and uses are presented in Table 1. The species are arranged alphabetically. Out of total species used for miscellaneous purposes, nearly two third are trees (64%) followed by shrub and climber (each with 12%), shrub or tree (9%) and herb (3%) (Figure 1). The informations presented in this research are collected from the senior members of the community. However, the youngsters of the region are less knowledgeable. This type of trend shows that the traditional knowledge on miscellaneous uses of plants is deteriorating in present study area. To preserve these valuable natural resources, first these existing valuable informations are needed to be documented before they are lost or disappeared. Therefore, strong emphasis should be given for the documentation of indigenous uses, traditional knowledge and practices.

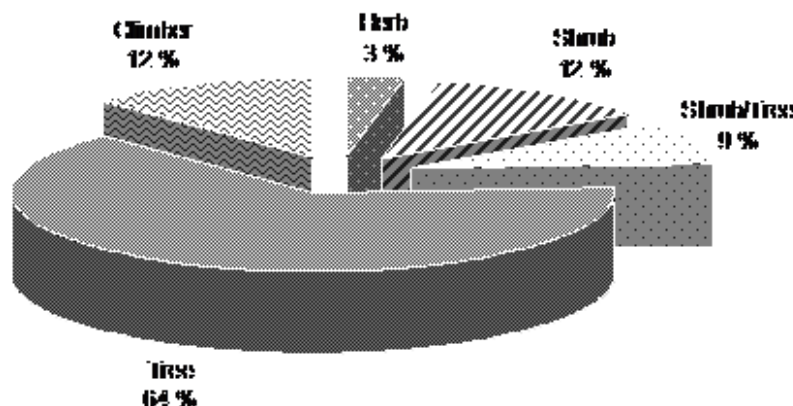


Figure 1. Different life forms of plants used.

Conclusion

Present study shows that the study area is rich in medicinal plants. Tharu community has developed their own unique system of using plants for medicinal uses. Nowadays, there is availability of modern medicines but the old generations of the study area rely on plants and plant products for remedy. The youngsters of the study area rely on modern medicines due to its easy availability. Because of which the practice of using plants and plant parts for medicinal use is decreasing. So, the emphasis should be given for the documentation of this knowledge before they are lost or disappeared.

Table 1: List of plant species used for miscellaneous purposes by the people of Parroha VDC of Rupandehi district.

SN	Plant species	Local name	Habit	Uses
1	<i>Acacia catechu</i> (L.f.) Willd. (LEGUMINOSAE)	Khayar	Tree	<i>Kattha</i> (a chemical extracted from bark of tree) is used as spices in <i>Paan</i> (a kind of addiction). Wood used for poles, timber and other household purposes and for fuelwood.
2	<i>Adina cordifolia</i> (Willd. ex Roxb.) Benth & Hook.f. ex Brandis) (RUBIACEAE)	Karma	Tree	Wood is used to make furniture, plywood and agricultural implements.
3	<i>Antidesma acuminatum</i> Wall. (EUPHORBIACEAE)	Archal	Shrub	Leaves are sour in taste and used to prepare pickle. Tree provides fodder.
4	<i>Asparagus racemosus</i> Will. (LILIACEAE)	Kurilo	Woody Climber	Young shoots are used as vegetable. Boiled tubers when eaten increases lactation of women and cattle.
5	<i>Bauhinia vahlii</i> Wight & Arn. (LEGUMINOSAE)	Bharlo	Climbing Shrub	Leaves are used to prepare leaf plates and <i>ghum</i> (traditional material used as umbrella) and rain caps. Stem fiber is used to make ropes. Roasted seeds are eaten.
6	<i>Bridelia retusa</i> (L.) Spreng (EUPHORBIACEAE)	Gayo	Shrub or Tree	Leaves are used as fodder. Used for firewood. Ripe fruit is edible.
7	<i>Buchanania latifolia</i> Roxb. (ANACARDIACEAE)	Piyari	Tree	Good fodder for livestock. Also used as fuelwood, for making roof rafter and <i>Bhata</i> (weaving material) for fencing. Fruits are sweet & sour and eater, used to make local liquor.
8	<i>Cassia fistula</i> L. (LEGUMINOSAE)	Rajbrichha	Tree	Wood good to prepare plough. Fruits are used as medicine to treat cholera, jaundice and urinary tract problems. Wood is not used for firewood because it is believed that when it is used for firewood, chickens will have eye infection.
9	<i>Dalbergia latifolia</i> Roxb. (LEGUMINOSAE)	Satisal	Tree	Used to prepare furniture and plywood, agricultural implements since wood are very hard, strong, and durable.
10	<i>Desmodium oojeinense</i> (Roxb.) H. Ohashi (LEGUMINOSAE)	Sadhan	Tree	Used as fodder. It is supposed to be best for making plough and other agricultural materials.
11	<i>Diospyros montana</i> Roxb. (EBENACEAE)	Bindipat	Tree	The leaves are used for making <i>bindi</i> (the leaf cigarette), ripen fruits are eaten. Branches are used for firewood.
12	<i>Diploknema butyracea</i> (Roxb.) H. J. Lam (SAPOTACEAE)	Chiuri	Tree	From its seed vegetable ghee is prepared which is used for cooking. Ripe fruits are eaten. Leaves are used as plates.

13	<i>Eulaliopsis binnata</i> (Retz.) C.E. Hubb. (GRAMINAE)	Khar	Herb	Used to make ropes and also used for thatching roofs.
14	<i>Ficus racemosa</i> L. (EUPHORBIACEAE)	Gullar	Tree	Leaves are used as fodder. Fruits are edible.
15	<i>Glochidion</i> sp. (EUPHORBIACEAE)	Bakalledi	Tree	Plant is used as firewood. Extract from fruit is used for poisoning fish.
16	<i>Holarhena pubescens</i> (Buch.-Ham.) Wall ex G.Don (APOCYNACEAE)	Madeshi Khirro	Shrub or Tree	Good fodder for goat. Wood is used in making decoration pieces.
17	<i>Hymenodictyon excelsum</i> (Roxb.) Wall. (RUBIACEAE)	Bhurkul	Tree	Excellent for manufacturing the match stick and match boxes. Also used to make toys and plywood.
18	<i>Lagerstroemia parviflora</i> Roxb. (LYTHRACEAE)	Bot dhayaro	Tree	Leaves are used for fodder. Wood is used to make agricultural implements, carts, boats etc. Also used for construction purposes.
19	<i>Mangifera indica</i> L. (ANACARDIACEAE)	Aanp	Tree	Ripe fruit is edible. Unripe fruit is sour and used to make pickle. Wood is used to make furniture and other implements. Good fodder.
20	<i>Millettia extensa</i> (Benth.) Baker (LEGUMINOSAE)	Gaujo	Woody Climber	Leaves and twigs are used as fodder. Juice prepared from leaves is used in treating lice in goats and other animals and worms in goats.
21	<i>Murraya koenigii</i> (L.) Spreng (RUTACEAE)	Banneem	Tree	Wood is used for firewood. It is used as repellents for insects and fleas. Ripe fruit is edible.
22	<i>Phoenix humilis</i> Royle ex Becc. & Hook.f. (PALMAE)	Thakal	Dwart Tree	Fruits are edible and sold in the markets. Pinnately compound leaves are used to make <i>Kucho</i> (broom). Root extract is used to kill lice. Pith of the stem is used as food. Leaves are used to thatch roofs.
23	<i>Phyllanthus emblica</i> L. (EUPHORBIACEAE)	Amala	Tree	Fruits are eaten fresh or used to make pickle. It is not used as firewood as it is supposed that it infects eyes of children.
24	<i>Premna barbata</i> Wall. ex Schr. (LABIATAE)	Gindari	Shrub	Ripe fruits are edible. Plant is used to fodder and firewood.

25	<i>Schleichera oleosa</i> (Lour.) Oken (SAPINDACEAE)	Kusum	Tree	Plant is lopped for fodder. Timber is tough and used to make plough, used as chopping board. Wood also used for firewood. Fruit is green with yellow inside and sour in taste which is used to make pickle. Some people sell fruits in the market.
26	<i>Semecarpus anacardium</i> L.f. (ANACARDIACEAE)	Bhalayo	Tree	Fruits are edible but it is allergen for some people. Latex is poisonous and allergen to some.
27	<i>Shorea robusta</i> Gaertn. (DIPTEROCARPACEAE)	Sal	Tree	Boiled seeds are eaten. Seeds are eaten by cattle and goats but not by birds. Wood is used for building purposes, making furniture and agricultural implements, leaves are used to make plates and for fodder. Wood used for fuelwood and charcoal production.
28	<i>Smilax ovalifolia</i> Roxb. ex D. Don (SMILACEAE)	Kukurdiano	Climbing Shrub	Leaves are lopped for fodder. Young foliage are used for vegetables. Flower is used to make pickle.
29	<i>Terminalia alata</i> Heyne ex Roth (COMBRETACEAE)	Saj	Tree	Plant is lopped for fodder. Wood is used for building purposes and other agricultural implements. Ash made from bark gives lime colour and used for paint.
30	<i>Terminalia chebula</i> Retz. (COMBRETACEAE)	Harro	Tree	Fruits are used for tanning. Fruit is also used as yeast (a fermenting material). Wood used for furniture and agricultural implements. Leaves are lopped for fodder.
31	<i>Woodfordia fruticosa</i> (L.) Kurz. (LYTHRACEAE)	Dhayaro	Shrub	Leaves and branches are lopped for fodder. Nectar from flower is testy and mostly children eat this, also used for pegs in animal sheds.
32	<i>Xeromphis spinosa</i> (Thunb.) Keay (RUBIACEAE)	Maidalo	Shrub or Tree	Leaves and branches are lopped for fodder. Young fruits are used as vegetables.
33	<i>Xylosma controversum</i> Clos (FLACOURTICACEAE)	Raju	Shrub	Leaves are lopped for fodder. Spikes are very poisonous. Extract from fruit is used for fish poisoning.

Acknowledgements

We are thankful to the local resource person especially Mr. Tirtha Bhusal, Prem B. Baniya and other person of Parroha VDC for sharing valuable informations on plants and plant resources.

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