Ethno-medicinal Uses of Animals and Plants among the Migratory Tangbetons of Pokhara, Nepal

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ABSTRACT

This paper attempts to study various uses of medicinal animals and plants among the migratory Tangbetons of Nepal who were migrated to Pokhara Sub-Metro Politian City from Tangbe Village in Mustang district. Direct observation, questionnaire survey and key informant interview were conducted during the study period. Information about the medicinal plants and animals were given mainly by the Amchi and their information was taken from the elder persons. Finally, this paper recorded 17 medicinal animal species and 60 widely used medicinal plant species for the treatment of various diseases.

Key words: Indigenous knowledge, ethnic group, diseases, species.

INTRODUCTION

Nepal, having 1,47,181 sq.km area is naturally beautiful, varied with biodiversity having Sagaramatha as the highest peak in the world. Plants and animals and their products are the primary source of medicine and highly valued resource of Nepal, especially of the rural area which is dependent on the locally available medicinal animals and plants to cure the disease. These people have specific knowledge for using plants and animals. Ayurveda, Amchi, Naturopathy etc. are important traditional health care systems existing in Nepal. Complementary and Alternative Medicine (CAM) is being increasingly used by consumers to prevent disease and promote health in general. Perception of patients visiting the traditional medicine based centres and the hunger towards more effective service provision by the providers seems to be taking these systems of medicine towards the path of further development. Well recognition and further motivation by the state will help capacitate and strengthen these systems of medicine and garner their proper development in the Nepalese context (Gewali, 2008; Koirala et al., 2013).

Nepal is a multi-ethnic, multi-lingual and multi-religious nation with about 126 ethnic groups speaking about 123 dialects (Bista, 1987; Bista, 2004; CBS, 2012). The knowledge system may be different in same ethnic group due to geographical variation. The contribution of biodiversity to the health of the people in the region is extremely important because 80 percent of the people rely on traditional herbal medicine for their health care. Biodiversity and bio-resources have high affinity in the case of ethnic groups in Nepal (Singh, 1995; Singh, 1997). Lama et al. (2001) has published a book on 100 medicinal plants of Dolpa that gave emphasis on Amchis’ knowledge and conservation. Tangbetons are the ethnic group having small number of population. Populations of Tangbetons have not been described in any Census of Nepal. So it was difficult to get the exact number of population of Tangbetons in Nepal. There are about 32 households in Tangbe Village, about 100 families in Pokhara, around 25 families in Jomsom, around 20 families in Kathmandu. The estimated studied population of Tangbetons in Pokhara seems to be around 500 by using the average family size of 4.88 per family of Nepal in 2011 (CBS, 2012). However, the total estimated population may be around 1000 in Nepal. Majority of them are mainly found in Pokhara. Indeed, these are the original inhabitants of Tangbe Village that lies in Mustang District. These groups are influenced by the Tibetan Medicine System. So the healers of these groups are known as Amchi, who prepare medicine by the use of available plants and animals. In this context, this paper attempts to explore and then document the various uses of medicinal animals and medicinal plants for the treatment of different diseases found among Tangbetons.

MATERIALS AND METHODS

Pokhara Sub-Metro Politian City is situated in the Kaski district, western development region of Nepal. Prithvi
chowk, Srijana chowk, New road, Mahendrapool and Chipledunga in Pokhara are some of the study areas in which about 100 families of migratory Tangbetons are distributed.

Shorea robusta (Sal), Bideus pilosa (Kuro), Artemisia vulgaris (Crow), Panthera pardus (Common Leopard) are important fauna found in Pokhara. Tangbetons are inhabitants of Mustang district, the important flora found here are Rhododendron arboreum, Arnebia benthamii, fauna found here are Capra hircus (Wild goat), Bos grunniens (Yak) Canis aureus (Jackal) etc.

This study was conducted from Sept 2010 to April 2011. The interview was mainly taken with a group of Amchis in order to get the knowledge of medicinal animals and plants being used in Tangbetons for decades. Other elderly people were also interviewed with a view to explore and document the indigenous knowledge system found in the Tangbetons. The plants and animals used by the Amchi for the medicinal value were identified mainly by themselves. In our research work, we included two different ways of data collection. Under primary data collection we included the questionnaire survey, key informants interview and field works. Between above mention time period, we visited the study area many times. We directly observed some of the animals and plants used by Tangbetons, and we also took the photos of those observed animals and plants. These pictures were also used to identify the animals and plants that they are used for medicinal uses. Primary information were compared to that of the available secondary information in order to make the results more reliable and valid. The secondary information were taken from published and unpublished sources such as books, journals, research notes and reports, academic papers, dissertations and theses, etc.

RESULTS

Animal, plant, nature and human beings have intimate association with one another along with the advancement of human civilization which finally led the indigenous people like Tangbetons to know the use of natural resources in a more needy way. Tangbetons had some different type of indigenous knowledge and they even had the knowledge about different medicinal plants and animals and the utilization of those species. Those people do not have their own group traditional healer, so they depend upon the Tibetan Amchi to cure different diseases.

The study showed that they make use of the 60 species of medicinal plants belonging to 40 families and 17 species of animals belonging to 8 orders and 12 families for medicinal purpose. Animal species were used to cure arthritis, thyroidism, diarrhea, over bleeding, etc. Plant species were used for purification of blood, backache, joint pain, B.P, diabetes, common cold etc. This study was based on the migratory Tangbetons found in the some areas of Pokhara, so the people living there use both Traditional and Modern health facilities. The elderly people who come to visit their relatives in Pokhara from Mustang use the medicine from Amchi. Following table shows some medicinal practices among the Tangbenton people.

Table 1. Categorization of animal species used in folk medicine by the migratory Tangbetons of Pokhara Valley

| S.N. | Animals                  | Nepali/Local Name | Organ Used | Medicinal Uses                                      |
|------|--------------------------|-------------------|------------|-----------------------------------------------------|
| 1    | Bos grunniens (Yak)      | Chauri/Hya        | Horn, Meat, Blood | Heat Body, Digestion, Provides Energy, Heat the Body, Diarrhoea, Fever |
| 2    | Capra hircus (Chyangra)  | Chyangra/Ramo     | Meat       | Strength                                            |
| 3    | Capra hircus (Goat)      | Bakhra/Khasi      | Meat       | Pain on the Limbs, Heats the body                    |
| 4    | Bos indicus (Cow)        | Gai/Memo          | Urine      | Joint pain, Swelling, Water Deposition inside the joints |
| 5    | Ovis ammon hodgsoni (Sheep) | Bhenda/Ghyu   | Meat       | Rheumatism                                          |
| 6    | Moschus Chrisogaster (Deer) | Marga/Fo        | Meat, Fat  | Over Bleeding, Menstrual Imbalance, Sinusitis         |
| 7    | Canis aureus (Jackal)    | Sval/Svala        | Meat       | Rheumatism, Arthritis                              |
| 8    | Panthera tigris (Tiger)  | Bagh/Taa          | Bone       | Body Pain, Energy                                   |
| S.N. | Plants                         | Nepali/Local Name | Parts Used | Medicinal, Uses                          |
|------|--------------------------------|-------------------|------------|------------------------------------------|
| 1    | Justicia adhatoda              | Asuro             | Seed       | Purification of Blood                    |
| 2    | Allium sativum                 | Lasun/Nho         | Bulb       | Gastritis, Disorder Sleep, Cancer Disease|
| 3    | Acorus calamus                 | Bojho             | Root       | Throat Pain, Common Cold                 |
| 4    | Saussurea graminifolia         | Unknown/Dimok     | Whole Part | Kidney Fever, Bile Disorder, Sores       |
| 5    | Arnebia benthamii              |                    | Root, Bark | Chronic fever, Swelling, Poisoning       |
| 6    | Cannabis sativa                | Bhang             | Seed       | Purify Blood                             |
| 7    | Terminalia bellirica           | Barro             | Fruit      | Throat pain, Cough                       |
| 8    | Terminalia chebula             | Harro             | Fruit      | Gastritis, Purification of Blood         |
| 9    | Brassica compestris            | Tori/Nanam        | Seed, Leaves| Back ache, Joint Pain, Massage Cream,Thorn|
| 10   | Brassica juncea                | Rayo/Daf          | Leaves     | Digestion, Good for Eye                  |
| 11   | Brassica rapa                  | Salgam/Muli       | Root       | Digestion                                |
| 12   | Lepidium sativum               | Chamsur           | Whole Plant| Body Pain, Heat the body                 |
| 13   | Raphanus sativus               | Mula/Lhau         | Leaves, Root| Gastritis, Digestion                     |
| 14   | Leucartha                      | Lauka             | Fruit      | High Blood Pressure                      |
| 15   | Memordica charantia            | Karel             | Fruit      | High Blood Pressure                      |
| 16   | Juniperus squamata             | Shuk              | Seed,Leaves| Nasal Bleeding, Digestion, Blood disorder|
| 17   | Elaeocarpus nerefolia          | Rudrashkya        | Seed       | Water Deposition inside the joints       |
| 18   | Ephedra gerardiana             |                   | Seed, Leaves| Kidney Fever, Cough, Heart Disease, Blood Pressure, Excessive Bleeding|
| 19   | Rhododendron arboretum         | Gurans/pathamhendo| Flowr      | Remove stuck thorn of Fish               |
| 20   | Emblica officinalis            | Amala             | Fruit      | Gastritis, Purification of blood, Good for eye |
| 21   | Swertia chirayita              | Ciraito           | Whole plant or Leaves| Fever, Pneumonia, Jaundice |
| 22   | Hordeum vulgare                | Uva/Karu          | Seed       | Stone on Gall Bladder                    |
| 23   | Oryza sativa                   | Dhan/Mrhasin      | Seed, Grain| Diabetes, Diarrhoea                      |
| 24   | Saccharum officinarum          | Uku               | Stem       | Diarrhoea                               |
| 25   | Cordyceps sinensis             | Yarsagumba        | Whole Plant| Jaundice                                 |
| 26   | Ocimum sanctum                 | Tulasipatra       | Leaves     | Good to Kidney, Vitamin, Strength to the body. |
| 27   | Dracophyllum tanguticum        | Not known/Ti yang ku| Root | Common Cold,Cough                       |
| 28   | Cinnamomum tamala              | Tejpat            | Leaves     | Digestive Disorder, Wind disorder, Kidney Disease |
| 29   | Dodoncysophyllum grandiflora   | Nepali Dalchini   | Stem       | Good for Kidney                          |
| 30   | Oxytropis sp.                  | Tak Sha           | Leaves,Flower,Fruits| Gastritis |
| 31   | Trigonella foemum              | Methi             | Seed,Grain | Dysentery,Vomiting, Fever, Cut, Poison, Wound, Sore, |
| 32   | Allium wallchii                | Jimbu             | All part   | Sinusitis                               |
| 33   | Aloe barbadensis               | Gheukumari        | All part except Root| Common Cold, Gasrict, Digestion, Good for eye, Cough |
| 34   | Asparagus racemosus            | Kurilo            | Stem       | Burnt Area, High Blood Presssure, Spots on the skin |
| 35   | Azadirachta indica             | Nim               | Leaves     | Energetic                               |
| 36   | Ficus bengalensis              | Bar               | Seed       | Fever, Cough                            |
| 37   | Betula utilis                  | Bhote Pipal       | Bark       | Dandruff                                |
DISCUSSION AND CONCLUSIONS

Although Tangbetons are one of the indigenous ethnic groups of Nepal originally from the Bahra Gaunle, Chhusang village in Mustang district, but their population is not recorded yet in the National Population and Housing Census in Nepal 2011 (CBS, 2012). Those people utilized the natural resources in their area many years before and even today they are practicing their indigenous system in Jomsom, Pokhara, and Kathmandu where they have been migrated. Tangbetons have indigenous knowledge to utilize the plant and animal species for medicinal purposes at local level. This study revealed the utilization of 17 species of medicinal animals and different 60 species of medicinal plants both wild and domesticated by Tangbetons to cure various diseases. The different parts of animals used were horn, bone, meat, blood, gall bladder, fat, brain, skin, nail, urine, stool, hair and whole body for the treatment of different diseases as diarrhea, fever, joint pain, rheumatism, thyroidism, eye pain, swelling etc. Whereas the different parts of plants used were stem, root, fruit, bark or whole part of the plants were used to cure Jaundice, diarrhea, dysentery, typhoid, piles, blood pressure, mental disorder, diabetes, kidney fever, sinusitis etc. The way they used medicine was orally as internal medication and external medication.

The different species of plants and animals reported with their traditional medical therapy in the present research work are also supported by the findings of other researches for different purposes, like Aloe barbadensis is used for the burn, high blood pressure and spots on the skin in the present study. Ghimire (1999), Tamang (2003), and Dhami (2010) reported the same species for digestive disorder, curing cough and the treatment of boil. Present study documented the use of Terminalia chebula is for gastritis and purification of blood whereas Pangeni (2005) and Dhami (2010) reported the same species for chronic ulcer wound and the treatment of rheumatism. The present study also explored the use of Cannabis sativas for the purification of blood whereas Dhami (2010) clearly reported that Cannabis sativa was also used for the treatment of rheumatism, arthritis and pain.

Similarly Zingiber officinalae, Zanthoxylum armatum, Prunus persica, Dolichus biflorus, Ocimum sativum, Acorus calamus were also supported by the findings of other researchers for similar use (GON 1984 & 1994; Ghimire & Thomas, 2002; Pandey, 2006; Joshi & Joshi 2007). Finally, the utilization of different 60 species of medicinal plants and 17 species of medicinal animals both wild and domesticated was found in Tangbetons to cure various diseases.

Tangbetons depend on Lama for their cultural rites whereas on Amchi for their treatment to various disease. The migratory Tangbetons do not have their own Amchi they depend on the Tibetan Amchi as they are greatly influenced by the Tibetan culture. Most of

| No. | Plant Name                          | Part Used | Condition                                      |
|-----|------------------------------------|-----------|-----------------------------------------------|
| 38  | Myristica fragrans                 | Jaiphal   | Leg Fracture                                  |
| 39  | Dactylorhiza hataagirea            | Panca     | Piles                                         |
| 40  | Areca catechu                      | Supari    | Strength, Vitamin                             |
| 41  | Dolichus biflorus                 | Seed      | Good for Kidney                               |
| 42  | Parnassia nubicola                | Seed, Grain| Kidney Stone                                  |
| 43  | Sesamum orientale                 | Til       | Fever                                         |
| 44  | Plantago depressa                 | Whole Part| Gastritis, Teeth and Eye Problem              |
| 45  | Pisum sativum                     | Kerau     | Vomiting, Good for Lymph Fluid                |
| 46  | Euphorbium esculentum             | Phapar    | Cure Stomach Pain during Menstruation         |
| 47  | Punica granatum                   | Anar      | Jaundice                                      |
| 48  | Prunus persica                    | Aru       | Gastric, Balances Haemoglobin, Pressure       |
| 49  | Rosa servcea                      | Flowers, Fruit | Ear Pain                                 |
| 50  | Citrus aurantiifolia              | Khati     | Diarrhoea, Liver disease, Swelling of Stomach |
| 51  | Zanthoxylum armatum               | Timar     | Common Cold, Cough                            |
| 52  | Pieorhiza crophulariflora         | Kutki     | Gastrict, Makes Vocal Cord Good               |
| 53  | Solanum surattense                | Kantakari | Fever, Cough, Diarrhoea, Typhoid, Headache, Purification of Blood |
| 54  | Carum carvi                       | Jira/Jiri | Mental Disorder, Fever, Eyes Problem          |
| 55  | Coriandrum sativum                | Dhaniya   | Common Cold Cough                             |
| 56  | Vitis vinifera                    | Angur     | Vomiting                                      |
| 57  | Ammonum subulatauma               | Alainchi  | Cough, Good for Lungs                         |
| 58  | Curcuma longa                     | Besar     | Indigestion, Vomiting                         |
| 59  | Elettaria cardamomorum            | Sukhmel   | Cut, Wound Parts, Common Cold, Cough          |
| 60  | Zingiber officinalae              | Aduwa     | Kidney Problem, Throat Pain, Cough, Gastritis, Diabetes |

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them are Buddhist, and avoid sacrificing the animals but Tangbetons feasts and festivals are incomplete without meat.

There are different types of Indigenous Knowledge System found in the Tangbetons. To name few are storage of seeds and food grains, preparation of indigenous drink ‘Pa gheun’ and ‘Pa jhi’, preparation and use of materials from locally available resources. These sorts of indigenous knowledge system are transmitted to the young generation of Amchis by verbal communication as well as some documentation in Tibetan language. The Amchi system of treatment of various diseases by the use of medicinal animals and plants is a unique system in the trans-Himalayan range across Northern border of Nepal.

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