CHAPTER V

ETHNOMEDICINAL USE OF VARIOUS MATERIALS

Although man is a mortal being, as the maxim states, fundamentally, emotionally man is afraid of death. The fact that death is the greatest shock is deeply rooted in human consciousness. This psychological shock constantly reminds man towards the maintenance of one’s health. ‘Disease is a vital problem for every society, primitive or advanced, and every society has developed its own recipe for the treatment and cure of the diseases to which it is heir. Primitive systems of medicine or even magic have much to commend, and so long as the people have faith in the system they own, it helps them to tide over periods of crisis, and reduces mental conflict that they evoke’ (Rizby, 1991 : 60). The fundamentally universal concept of medicine is prevention and cure of disease and illnesses (Medhi, 1995 :61).

The preceding chapter explores the native perception of diseases among the Garos of Bakrapur and Nisangram, covering both the causative factors, and the subsequent diagnostic techniques employed
for identification of disease and ailments. Treatment or cure of whatever nature or type, being the only remedy in any kind of diseases, this chapter delves exclusively into the ethnomedicinal use of flora, fauna, and other non-biological materials known and used by the Garos of Bakrapur and Nisangram for curative purposes. Indigenous knowledge about the curative properties of biological and non biological materials is stored in people's memories and activities, and used in combating diseases and ailments. Indigenous knowledge of Garos of the said two villages is the accumulated knowledge, skills and technology of the local people, derived from the direct interaction of human beings and their environment. The traditional knowledge of the Garo community of this particular region is derived from the local people’s experience and is handed down from previous generation to present generation. It entails many insights, perceptions and intuitions relating to the natural environment and its exploitation for health purposes.

'Herbal medicines' are defined by WHO as 'finished, labelled medicinal products that contain as active ingredients aerial or underground parts of plants or other plant material, or combinations thereof, whether in the crude state or as plant preparations. Plant material includes juices, gums, fatty oils, essential oils, and any other substances of this nature. Herbal medicines may contain recipients in addition to the active ingredients. Medicines containing plant material combined with chemically defined active substances, including chemically defined, isolated constituents of plants, are not considered to
be herbal medicines. Exceptionally, in some countries herbal medicines may also contain, by tradition, natural organic or inorganic active ingredients which are not of plant origin' (1996: 178).

Garo traditional medicine or ethnomedicine involves the use of both material and non-material components. The material components invariably comprise parts or organs of plants and their products. They also consist of animal organs, minerals, and other natural substances. The non-material components, which constitute important items of religious and spiritual medicines include, charms, magic, incantations, religious verses, amulets, etc. Mention must be made of the absence of rituals like sacrifices, appeasement of spirits once an integral part of Garo medicine, due to conversion to Christianity. Stedman's *Medical Dictionary* defines 'medicine' as: (i) a drug, (ii) the art of preventing or curing diseases, the science that treats of diseases in all its relations, and (iii) the study and treatment of general diseases, or those affecting the internal parts of the body, distinguished from surgery (Hahn, *et al.*, 1983: 312). Thus, the focuses of all medicine including indigenous or traditional form of medicine has been and still is, to devise cures for mental and physiological diseases which would otherwise cause the oldest and dreaded of all man's enemies-death.

The history of use of plants and animals as a source of medicine dates back perhaps to the origin of human race. The Vedic literature indicates that man might have learnt the medicinal use of plants from the animals, those who possess the inherent capacity to recognize the
medicinal plants from the nature (Das, et al., 2003: 165). The communities who are inhabiting the forest always acquire knowledge regarding medicinal value of many different biological materials available in their surroundings. Many modern medicines are based on such indigenous knowledge. It has been reported that today western medicines make use of some 7,000 natural compounds. Many such compounds have been derived from their traditional uses in the past. Approximately 119 chemicals used in medicines in industrialized countries are extracted from higher plants (Roy, 1998: 232).

India, with varied topographical conditions is blessed with multiple naturally endowed plant growth that has always been vigorous as well as abundant almost all over the country. The plant resources have been attracting considerable attention of the practitioners of indigenous system of medicine. About 80 per cent of the population still depend on indigenous medicines. In India about 16,000 flowering plants known to occur, out of which 3,000 are recognized as used in ethnomedicine or folk medicine based on oral information from generation to generation. Out of the above, 1500 plants are used in organized systems of medicines like Ayurveda, Unani, and Siddha, and 700 have been investigated pharmacologically and chemically and their active principles are used in modern medicine system. It is obvious that the folk medicines are the original source that slowly entered to the organized systems like Ayurveda etc. and finally investigated from a
closer point of view to be recognized among the modern medicines (Das et al., 2003: 165).

1. **Universe of the Garo Ethnomedicinal System of Bakrapur and Nisangram**

Tribal people are the ecosystem people who live in harmony with nature and maintain a close link between man and environment. History reveals that most of the tribal economies have been engaged in subsistence agriculture, or hunting and gathering. With the passage of time, they have developed a great deal of knowledge on the use of plants and plant products in curing various ailments. They have a deep belief in their native folklore medicine for remedies, and they rely exclusively on their own herbal cure. The North-eastern region of India is comprised of plains and hills crisscrossed by innumerable rivers, big and small. The fertility of soil coupled with climatic conditions help in luxurious growth of vegetation in this region. The forest of North-eastern India, comprising of the seven states of Indian union, is a treasure belt for most of the India's biogenetic resources. Different researchers from the country have reported altogether 2416 ethnomedicinal uses of plants. Out of these workers from northeast India itself have contributed to the knowledge of 1953 ethnomedicinal uses of plants. The district of Goalpara in the State of Assam and the East Garo Hills district in the State of Meghalaya is bountiful with varieties of forest resources. A rich diversity of both flora and fauna has provided an initial advantage to its
inhabitants for observing and scrutinizing the rich flora and fauna for developing their own traditional knowledge.

For many centuries, the Garos have kept alive a self managed system of ethnomedicine that was mainly based on ethnomedicinal and ethno-zoological remedies. Their ingenuity still reflects their traditional management and sharing of natural resources in a way that there is optimum utilization of such resources.

(a) Therapeutical Use of Floral Parts

Human ecology is concerned with the broad setting of man in his environment. Human beings have been in close interaction with nature from the very early period of their existence. With many different kinds of pursuits man has to look forward to nature even today. The reciprocal relationship between plants and human beings of various levels of culture is not only an age old feature but it also provides us an easy understanding of socio-economic and cultural bondage that exists between them. Man has been using plants since time immemorial, the importance and uses of plants, however varied from time to time as also from human society to society as the knowledge about plants, their part and content varies. The use of plants in an attempt to cure diseases and relieve physical suffering was hence known from a long time. The primitive man must have used as therapeutical agents and remedial measures those things which he was able to procure most easily. There is no authentic record of medicines used by the primitive man. The
knowledge of medicinal plants must have been accumulated in the course of many centuries (Kirtikar et al., 1975: XVII-XVIII). In all the early civilizations there was much interest in drug plants. In China as early as 5000-4000 B.C. many drugs were in use. The Assyrians, Babylonians, and ancient Hebrews were all familiar with their use. The Greeks were familiar with many of the present day drugs, as evidenced by the works of Aristotle, Hippocrates, Pythagoras, and Theophrastus. The Romans were less interested in healing plants. However, in 77 B.C. Dioscorides wrote his great treatise De Materia Medica, which dealt with the nature and properties of all medicinal plants known at that time. For fifteen centuries this work was held in high esteem, and even today it is valued by the Moors and Turks. Thereafter came the period of the herbalists and encyclopedists, and the monasteries of Northern Europe produced vast compendiums of true and false information regarding plants, stressing in particular the medicinal value and folklore. It was about this time that the curious 'Doctrine of Signatures' came into being. According to this superstitious doctrine, all plants possessed some sign, given by the Creator, which indicated the use of which they were intended. Thus a plant with heart shaped leaves should be used for heart ailments, the liver leaf with its three lobbed leaves for liver troubles and so on (Hill, 1974: 242-43).

In India, the earliest mention of the uses of plants, especially for medicinal purposes, is found in Rig Veda, perhaps the oldest repository of human knowledge having been written between 4500 and 1600 B.C.
Panini (7th century B.C.) coined the word *drauya* (drug) from the nominal root *dru*, which literally means plants. In the work that followed, particularly *Ayurveda*, the properties of various drugs in detail were scripted. Later during the Buddhist period, considerable progress was made and medicinal plants were cultivated under direction of highly qualified specialists.

Throughout the world several thousand plants have been and are still used for medicinal purposes. Many ethnic groups of people, still more or less isolated from the influence of modern world and its sophistication, continue to live in close association and vital dependence on their surrounding vegetations for their primary need. The recognition of therapeutic activities of certain plants by the ethnic group created a modern renaissance in medicine industry. Comparatively few drug plants are cultivated. Most of the supply of drugs is obtained from wild plants growing in all parts of the world, especially in the tropics. Among the many kinds of medicinal substances which are extremely valuable in modern medicine, mention must be made of quinine, used in treatment of malaria; digitalis, a valuable drug in certain type of heart disease; ephedrine an important ingredient in nasal sprays; cascara and senna, gentle laxative, morphine, effective in easing pain; cocaine, widely used in local anaesthesia; penicillin and streptomycin, destructive foes of many kinds of pathogenic bacteria; balsams used as soothing and healing agents, and many others. Almost all Ayurvedic medicines are prepared from plant materials. As for example cufex, a cough syrup is obtained
from Ocimum sanctum, Adhatoda zeylanica, Zingiber officinale, and Ephedra vulgaris. Another cough syrup Shwasamrit is prepared from Adhatoda zeylanica, Ocimum sanctum, Solanum surattense, Betea monosperms. Siphonanthus iridica, Glycyrrhiza glabra and Piper nigrum. Similarly Liv-52, a liver tonic, is prepared from Capparis spinosa, Cichorium intybus, Solanum nigrum, Cassia occidentalis, Terminalia arjuna, Achillea millefolium, and Tamarix gallica. Lots of medicinal plants are used today in allopathic medicine, e.g., Alstonia scholaris, Ocimum sanctum, Rauwofia serpentina, Swertia chirayita, etc.

The medicinal value of drug plants is due to the presence in the plant tissue of some chemical or chemical substances that produce a definite psychological action on the human body. The classification of drugs and drug plants might be based on the chemical nature or the therapeutic value of the plant product, the natural affinities of the various species or the morphology of the plant organ from which the drug is obtained.

Geographical environment plays a vital role in conditioning the culture of a given area and it goes a long way in shaping the needs, customs and behaviours and thoughts of the people. People belonging to various cultures have their distinctive ways of perceiving the beliefs and customs endorsed by the people. This is further reflected in their uses of various natural resources in day-to-day life in treatment of disease and illness. Tribal communities living in isolation are very extensive in using various herbs and natural products as medicine.
Plants have also been an indispensable part and one of the vital ingredients of Garo Ethnomedicine. The Garos talk much about the potency of certain specific herbs in curing some particular diseases. A vast knowledge of how to use the plants against different illnesses may be expected to have accumulated as a result of the importance given to the use of plants.

The environment of forest plays a vital role with regard to the health and nutrition in the case of the tribal groups in general, and the Garos of Bakrapur and Nisangram in particular. The people of Bakrapur and Nisangram are capable of identifying different types of species of plants with elaborate descriptive details. Their knowledge of such different species is so vast that it is almost a difficult task to record them all. The knowledge of indigenous medicine is everybody's trade. However, in some cases individuals owing to their efforts and capabilities come to be recognized as folk medicine man. This recognition however does not entitle the folk medicine man as exclusive specialist performing specific duties in the field of medicine and treatment. The Garos of Bakrapur and Nisangram know a large number of biological species having medicinal value because of the fact that majority of them are dependent on forest and natural resources in their day to day life and also fall back on various medicinal plants available in the forest for treatment of disease and illness.

Nomenclature, particularly in the case of plant species, is made in such a way that from the very name itself most of the salient features of
the species become clear. The people tend to give special importance to those plants and animals that are most salient to them either because of their uses or because of their striking features. The useful parts of a plant like seed, fruit, leaf, nature of the species, and many other attributes, always find expression in folk nomenclature. The Garos of Bakrapur and Nisangram refer to different parts of a plant (samdem), or tree (bol) with different names. The root of a plant or tree is known as ja’díl, flower as phul, bark as bi’gle, seed as bitchi, and fruit is known as bi’te.

The experienced folk-medicine men and midwives of Bakrapur and Nisangram know at sight, classifies and utilizes the various medicinal plants, herbs, barks, fruits and leaves of trees and plants, animals and other material ingredients that constitute chief sources of basic ingredients in the Garo folk medicine. The different distinctive parts of plant and animal are labelled with distinctive linguistic terms. In the case of plants different parts like root, stem, leaf, flowers, fruit and seed are labelled with distinctive terms.

The Garos of Bakrapur and Nisangram have an elaborate knowledge about the medicinal value of flora present in their environment. This is due to their experience gained from long term interaction with nature. In Garo terminology the word dike refers to medicinal plant. They consider these plants to have high medicinal value. With regards to therapeutic or curative properties of plants utilized by the Garos, dependence on herbs (42%) or herbaceous vegetation is
highest, consequently followed by medicinal use of trees (36%), shrubs (13%) and climbers (9%). Different parts of the plant species are used in the preparation of Garo ethnomedicine. Majority of Garo herbal medicine is obtained from roots (34%) followed by leaf (23%), bark/stem (19%), flowers (14%) and least by latex and resin (10%).

The Garos believe that one can learn a great deal from an observation of plants. Majority of them are accustomed to the use of some common plants for curative purposes. The ethnomedical experts and midwives are well acquainted with the medicinal plants available in the vicinity. They however differ from one another in preparing medicines to cure an ailment as they work out their own formulae of combination and proportion at which the different medicinal ingredients should be mixed with. The existence of varied methods of preparation of medicine from various parts of a plant and different dosages is due to difference in individual effects. It is because of the careful observations of ethnomedical experts that they are able to understand certain contradictory uses of different parts of the same plant. Mention must be made here of the decoction of the tender leaves of guava which is an anti-diarrhoeal medicine, whereas the fruit itself especially the seeds, relieves constipation.

Ayurvedic texts mention that plants growing in a particular area are sufficient to treat problems occurring in that area (Shodhini, 1997 :55). The Garos too believe that remedies for diseases are available in the vicinity so they always use the ethnomedicinal plants that are easily
accessible. The properties of herbs are related to their taste. Different tastes have different effects. Herbs that are pungent, sour and salty, produce a 'heating' effect. Herbs that are sweet, astringent and bitter, have a 'cooling' effect. Herbs may also have a drying or a moistening effect on the body. Bitter, astringent, and pungent, food creates 'dryness' in the body and sweet, sour, and salty herbs create wetness.

The method of preparation also changes the taste and it's consequent effect on the body. The preparation of herbal medicine can be done in varied ways. Plant extract for curative purposes may be consumed in the form of powder, paste, infusion, decoction, or inhalation. In case of powdered medicine, the prescribed part of the plant is first washed and dried in the sun for three to four days. When fully dried it is pound into powder. If a herbal paste is to be prepared the leaves are first crushed by hand and later the medicine men grind it into a paste on a stone grinder. Infusion is prepared by pouring boiling water on clean leaves. Quantities of leaves may vary from a pinch to a fistful, and it is infused for at least twenty minutes. For medicinal purposes it is filtered and given as drink or applied externally as per the directions of the medicine men. Decoction is yet another way of preparing medicine. The root, stem, or bark is boiled in a covered vessel. Quantities can differ, but generally one cup of plant material and four cups of water is boiled till it reduces to one cup. It is later filtered and used for curative purposes. In certain ailments, the ethnomedicinal experts also prescribe raw juice which is prepared from the paste of plant parts from which the
juice is strained through a clean cloth. The Garos believe that the aromatic substances present in certain plants can be used for therapeutic purposes. Such plants are steamed and the vapour inhaled for desirable results. A list of medicinal plants known to the Garos of the study area have been presented in Table 14. Information about these plants were recorded with regards to their vernacular along with their English equivalent, species name, plant part used, process of preparation of medicine, either individually or in combination, with other plant parts, and mode of application and quantity for the treatment of a particular disease.

Table 14: Ethnomedicinal use of plants by the Garos of Bakrapur and Nisangram

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of plant</th>
<th>Plant part used</th>
<th>Therapeutic use</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Ambare rongthong</td>
<td>Fruit and bark of the tree</td>
<td>Curry prepared from the fruit is taken during indigestion; paste of the bark is consumed with water in typhoid; paste of the bark is used as a medicine to cure excess bleeding in women after child birth; raw juice extracted from the paste of the bark is given to drink when women suffer from puerperal fever.</td>
</tr>
<tr>
<td>2</td>
<td>Amolkhi Emblic myrobalan</td>
<td>Fruit</td>
<td>Raw juice is consumed in an empty stomach to reduce hair-loss or alopecia; fruit is taken during indigestion.</td>
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<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
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<tr>
<td>3</td>
<td>Anarosh</td>
<td>Pineapple</td>
<td>Ananas comutus</td>
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<td>4</td>
<td>Cheng</td>
<td>Tamarind</td>
<td>Tamarindus indica</td>
</tr>
<tr>
<td>5</td>
<td>Eching</td>
<td>Ginger</td>
<td>Zingiber officinale</td>
</tr>
<tr>
<td>6</td>
<td>Ek patiya</td>
<td>Life Plant</td>
<td>Bryophylhum pinnatum</td>
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<tr>
<td>No</td>
<td>Name</td>
<td>Part Used</td>
<td>Action</td>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>7</td>
<td>Gamsalu</td>
<td>Bark Decoction obtained from bark used for treatment of stomach disorders.</td>
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</tr>
<tr>
<td>8</td>
<td>Genda</td>
<td>Leaves</td>
<td>Leaves are crushed and applied in cuts and bruises.</td>
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<tr>
<td>9</td>
<td>Goli morich</td>
<td>Seeds</td>
<td>Seeds are boiled with water and consumed every night to cure cough; paste is also consumed with water in cough; seven seeds dried and grounded to powder and boiled with water, is given to drink in tuberculosis; decoction of the seeds along with other medicinal plants proves effective for constipation; seeds are one of the ingredients to prepare medicine in cases of difficulty in expulsion of placenta in women after child birth; seeds are also one of the ingredients in preparing the medicine to cure attack by spirits.</td>
</tr>
<tr>
<td>10</td>
<td>Holdi</td>
<td>Rhizomes</td>
<td>Raw juice is given to drink in case of worms; raw paste mixed with honey is applied to cure soreness of tongue in children; hot paste is applied over the affected area in sprains.</td>
</tr>
<tr>
<td>11</td>
<td>Kapoli/Silkha</td>
<td>Fruit</td>
<td>Paste of fruit is consumed with water in blood dysentery; paste of the fruit is applied over the affected area in bone fractures and wrapped with a piece of cloth; fruit is used as one of the ingredients for curing heavy sweating in persons.</td>
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<tr>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
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<tr>
<td>12</td>
<td>Kompram</td>
<td>Guava</td>
<td>Psidium guajava</td>
</tr>
<tr>
<td>13</td>
<td>Lebongge</td>
<td>Clove</td>
<td>Syzygium aromaticum</td>
</tr>
<tr>
<td>14</td>
<td>Manamuni</td>
<td>Indian pennywort</td>
<td>Centella asiatica</td>
</tr>
<tr>
<td>15</td>
<td>Medipol</td>
<td>Papaya</td>
<td>Carica papaya</td>
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<tr>
<td>16</td>
<td>Nirm</td>
<td>Margossa</td>
<td>Azadirachta indica</td>
</tr>
<tr>
<td>17</td>
<td>Narsing</td>
<td>Curry petals</td>
<td>Muraya koenigii</td>
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<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
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</tr>
<tr>
<td>18</td>
<td>Palash'</td>
<td>Butea monosperma</td>
<td>Bark and seed</td>
</tr>
<tr>
<td>19</td>
<td>Phoron da</td>
<td>Castor plant</td>
<td>Ricinus communis</td>
</tr>
<tr>
<td>20</td>
<td>Sokchuan</td>
<td>Devil’s tree</td>
<td>Alstonia scholaris</td>
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</tr>
<tr>
<td>21</td>
<td>Samikkchip</td>
<td>Sensitive Mimosa pudica</td>
<td>Roots and leaves</td>
</tr>
<tr>
<td>22</td>
<td>Ta'a</td>
<td>Taro or Arum Colocasia esculenta</td>
<td>Leaves, roots and branches</td>
</tr>
<tr>
<td>23</td>
<td>Ta'bolchu</td>
<td>Tapioca Manihot esculenta (cassava plants)</td>
<td>Leaves and tender stems</td>
</tr>
<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td>---</td>
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<tr>
<td>24</td>
<td>Therek Hatiya</td>
<td>Plamtain</td>
<td>Musa musacea</td>
</tr>
<tr>
<td>25</td>
<td>Tuloki</td>
<td>Sacred basil</td>
<td>Ocimum gratissimum</td>
</tr>
<tr>
<td>26</td>
<td>Wa'ge</td>
<td>Bamboo</td>
<td>Bambusa tulda</td>
</tr>
</tbody>
</table>

The Garos talk much about the potency of certain specific herbs in curing particular diseases. The most commonly found medicinal plants are sacred basil, emblic myrobalan, hogplum, life plant, Indian pennywort, curypatti, mint, coriander, hibiscus, lemon and the like. The
other medicinal plants found at the medicine man's house at Bakrapur and Nisangram are: *Chameoseyporia obtuse, Erythna stricta, Mezoneurium cuculatum, Psidium guajava, Ricinus communis, Spondias pinnata, Terminalia chebula*. All these medicinal plants have been collected from the neighbouring jungles of Bornedang, Bangsiphal, and other forest areas of Garo hills. Some of these medicinal plants have also been obtained from Babupara, a hamlet of Nisangram, which is rich in forest resources. Many medicinal plants not available in the kitchen garden of the folk medicine man like *Alstonia scholaris, Bambusa tulda, Carruga pinnata, Elaegun elatifolia, Grateeva roxburghii, Largerstonia, paruiflora, Luffa aegyptioca, Mucuna bracteata, Paederia foetida, Salmalia malaobricum* and like are easily obtained from the jungles of Babupara. Some of these medicinal herbs and plants are believed to possess magical properties. The amulets prepared from the leaves and bark of *Erythna stricta* tree are believed to cure a person possessed by spirits. *Chisak* is a type of grass, which is tied around the wrist while going through dense forest and other isolated places to ward off evil spirits or avoid spirit's encounter. The roots of another herb referred to as *matric seni dike* by the folk medicine man Sri Dison Sangma since he did not want to reveal its original name. It is believed to possess magical properties. He claims that if the juice of this root is mixed with ink and the ink used by the examinees during examinations then this magical herb helps them to answer even the very tough questions. Since this herb is in great demand Bakrapur and Nisangram, many students have purchased this herb from him before appearing examinations. There are
many herbs and plants believed to possess magical qualities. The medicinal herb konduli and jakkop (English equivalent of this and following few plants are not known) helps a person to preserve his wealth, samkading and kamal possess magical virtues of evoking jovial feelings towards one, atchi and daldo is believed to enable a woman to conceive and give birth within seven days of its consumption, anggal is very rare and is believed to make one invisible, Songwat is a tiny-stemmed rare herb which enables a person to see well in darkness, bikpit is another rare herb which is exploited in counteracting spells of banmara spells (evil spells cast on a person which struck the person like an arrow causing ill effect on him). Another rare herb bichar makes a guilty person to confess his wrong deeds. It is believed that demesa, a rare herb, has the capability of warning it's possessor of impending danger. These herbs believed to possess magical properties are known only to the well experienced folk-medicine man. The availability of medicinal plants in the surroundings is greatly reduced due to deforestation and many other factors. However some medicinal plants are believed to be grown by all. There is hardly any item of flora that is not recognized by the folk-medicine man. From these he judiciously prepares his pills, tablets, globules and lotions, according to anciently inherited prescriptions.

The following table depicts some more uses of plants by the Garos for treatment of disease and ailments.
Table 15: Ethnomedicinal use of plants by the Garos of Bakrapur and Nisangram

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Name of the plant</th>
<th>Part used</th>
<th>Form of medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Adarak AnOdessa bunius</td>
<td>Leaves (tender)</td>
<td>Crushed and taken to cure stomach ache.</td>
</tr>
<tr>
<td>2</td>
<td>Agru Aqualaria agallocha</td>
<td>Plant</td>
<td>Juice extracted by squeezing the trunk of the plant and orally administered to cure dysentery.</td>
</tr>
<tr>
<td>3</td>
<td>Alot Phylloganthta tyndflorus</td>
<td>Root</td>
<td>Juice of roots extracted and taken to cure malaria.</td>
</tr>
<tr>
<td>4</td>
<td>Anleno</td>
<td>Leaf</td>
<td>Decoction of leaves is taken to cure stomach ache.</td>
</tr>
<tr>
<td>5</td>
<td>Bolchiring Glochdlion voluntlnum</td>
<td>Roots</td>
<td>Used as amulets by those people who suffer from bad dreams.</td>
</tr>
<tr>
<td>6</td>
<td>Bolchu Salmolly malaobrlatm</td>
<td>Leaves</td>
<td>Leaves crushed is poulticed on the forehead during headache.</td>
</tr>
<tr>
<td>7</td>
<td>Boldikkim Hymendictyon excelsnum</td>
<td>Bark</td>
<td>Paste of bark is applied externally in headache.</td>
</tr>
<tr>
<td>8</td>
<td>Boldubak Cordla grandis</td>
<td>Leaves</td>
<td>Paste made from leaves applied externally in polio.</td>
</tr>
<tr>
<td>9</td>
<td>Bolgipok Gmeltna arborea</td>
<td>Bark</td>
<td>Raw juice of bark is orally administered to bark is orally administered to remove poison from the body.</td>
</tr>
<tr>
<td>10</td>
<td>Bolmandal Erythna stricta</td>
<td>Roots</td>
<td>Roots along with the herbs abeng and skal are used as amulets against the influence of evil spirits.</td>
</tr>
<tr>
<td>11</td>
<td>Bolmenggo Cordla stichotorna</td>
<td>Leaves</td>
<td>Juice extracted from the paste of leaves is taken in headache.</td>
</tr>
<tr>
<td>12</td>
<td>Boiling Cyathocalya martabenicus</td>
<td>Rhizome</td>
<td>Used as amulet to be immune against the influences of evil spirits and black magic practices.</td>
</tr>
<tr>
<td>13</td>
<td>Bolpu Albiza stipulata</td>
<td>Leaves</td>
<td>Juice taken in stomach ache.</td>
</tr>
<tr>
<td>14</td>
<td>Bolisol Shorea robusta</td>
<td>Bark</td>
<td>Seven pieces of bark boiled in water and taken in dysentery.</td>
</tr>
<tr>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>15</td>
<td>Bolubret</td>
<td>Grewia microsperma</td>
<td>Roots</td>
</tr>
<tr>
<td>16</td>
<td>Boltakru</td>
<td>Derma robusta</td>
<td>Roots</td>
</tr>
<tr>
<td>17</td>
<td>Chambo</td>
<td>Eugenia clariflora</td>
<td>Leaves</td>
</tr>
<tr>
<td>18</td>
<td>Chipompa</td>
<td>Carruga pinnata</td>
<td>Leaves</td>
</tr>
<tr>
<td>19</td>
<td>Dome</td>
<td>Lannea grandis</td>
<td>Roots</td>
</tr>
<tr>
<td>20</td>
<td>Jangdia</td>
<td>Grotea roxburghii</td>
<td>Leaves</td>
</tr>
<tr>
<td>21</td>
<td>Khoring</td>
<td>Orexylum indicum</td>
<td>Leaves</td>
</tr>
<tr>
<td>22</td>
<td>Mega</td>
<td>Sacharum spontaneum</td>
<td>Gum of bark</td>
</tr>
<tr>
<td>23</td>
<td>Megong joda</td>
<td>Bauhinia malabrica</td>
<td>Bark</td>
</tr>
<tr>
<td>24</td>
<td>Megong apol</td>
<td>Bauhinia acuminata</td>
<td>Bark</td>
</tr>
<tr>
<td>25</td>
<td>Menggo jaksil</td>
<td>Mesoneurium cuculatum</td>
<td>Roots</td>
</tr>
<tr>
<td>26</td>
<td>Pasim</td>
<td>Paederia foetida</td>
<td>Bark</td>
</tr>
<tr>
<td>27</td>
<td>Rangre</td>
<td>Vitex penduncularis</td>
<td>Roots</td>
</tr>
<tr>
<td>28</td>
<td>Rakseng</td>
<td>Morus laevigata</td>
<td>Leaves</td>
</tr>
<tr>
<td>29</td>
<td>Samte</td>
<td>Urenia lobata</td>
<td>Roots</td>
</tr>
<tr>
<td>30</td>
<td>Sawil</td>
<td>Luffa aegyptiaca</td>
<td>Bark</td>
</tr>
<tr>
<td>31</td>
<td>Selpri</td>
<td>Crescanta cujeta</td>
<td>Bark</td>
</tr>
<tr>
<td>32</td>
<td>Setri</td>
<td>Merremia umbellata</td>
<td>Leaves</td>
</tr>
<tr>
<td>33</td>
<td>Sidse</td>
<td>Lagenanis parviflora</td>
<td>Bark</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>--------------------------</td>
<td>---</td>
</tr>
<tr>
<td>34</td>
<td>Smu</td>
<td>Pleydemolena maxima</td>
<td>Leaves</td>
</tr>
<tr>
<td>35</td>
<td>Sonaru</td>
<td>Chameoseypona obtusa</td>
<td>Leaves</td>
</tr>
<tr>
<td>36</td>
<td>Sokoa</td>
<td>Elaegus-elatifolia</td>
<td>Roots</td>
</tr>
<tr>
<td>37</td>
<td>Techkeng</td>
<td>Voguera spinosa</td>
<td>Fruit</td>
</tr>
<tr>
<td>38</td>
<td>Tegatchu mist</td>
<td>Mangifera sylvestica</td>
<td>Leaves</td>
</tr>
<tr>
<td>39</td>
<td>Wollem</td>
<td>Sterculia colorata</td>
<td>Leaves</td>
</tr>
<tr>
<td>40</td>
<td>Wo' nok</td>
<td>Bambusa teres</td>
<td>Leaves</td>
</tr>
<tr>
<td>41</td>
<td>Wokme</td>
<td>Mucuna bracteata</td>
<td>Leaves</td>
</tr>
</tbody>
</table>

(b) **Therapeutical Use of Animal Parts**

Ethno-zoological study is concerned with perceiveness, management, classification, and use of animal species by mankind through human-faunal interrelation and interaction in the surrounding environment where they live (Kakati *et al.*, 2002: 419). The healing of human ailments by using therapeutics based on medicines obtained from animals or ultimately derived from them is known as zootherapy. As Marques states ‘all human culture which presents a structured medicinal system will utilize animals as medicine’ (Mahawar, *et al.*, 2006, 2 : 46).
Since ancient times animals, their parts, and their products have constituted part of the inventory of medicinal substances used in various cultures. This phenomenon is marked by both a broad geographical distribution and very deep historical origins. In Pakistan, 31 substances were listed (animal parts and products), constituting 9 per cent of all the medicinal substances in the inventory of traditional medicines. Costa-neto describes the use of 180 animal species as medicinal resources in the State of Bahia, Northeastern Brazil. A survey of traditional materia medica in use in the markets of Israel recorded 20 substances of animal origin. In the states of Maranhao and Paraiba (Northeast Brazil) a survey was carried out and recorded 100 animal species used as medicine. Examination and research show that these substances are similar to those used as remedies throughout human history, irrespective of geographical borders (Mahawar, et al., 2006, 2 : 46).

In India, nearly 15-20 per cent of the Ayurvedic medicine is based on animal derived substances. There are references to nearly 380 types of animal substances in *Charaka Samhita* Hindu religion has used five products (milk, urine, dung, curd, and ghee) of the cow for purification since ancient times. Besides immense knowledge has come down to modern times through folklore as various practices became a part of tradition amongst various groups in India.

Animals and products derived from different organs of their bodies have constituted part of the inventory of medicinal substances
used in various cultures since ancient times. There is an increased interest in the knowledge that traditional populations possess on the use of animals for medicinal purposes, partly because the empirical basis developed throughout centuries may have, in many cases, scientific corroboration, but above all due to the historical, economical, sociological, anthropological and environmental aspects of such a practice.

In addition to plants, the Garos use animals and products derived from animals as important ingredients in ethnomedicine. The zoo therapeutic knowledge which has been traditionally inherited from their ancestors are not only based on domesticated animals but also on the wild faunal species once easily available in the forests but has become very rare in present times.

The Garos of Bakrapur and Nisangram also identified different animals, and their bi-products possessing medicinal value, and also avails these animal based remedial measures for curative purposes. Though traditional in nature, most of these treatments have been reported to provide desired healing in various kinds of ailments. The knowledge of therapeutic properties available in and around their vicinity has been acquired by the Garos, more specially the ethnomedical experts principally through parental heritage, or because they have experience about medicinal value of animals to heal their kin or themselves. They thus have an elaborate knowledge about the
medicinal value of fauna present in their environment, gained due to their long-term interactions with nature.

The Garos consider different animals and their bi-products as medicines. The folk-medicine-men of Bakrapur and Nisangram utilize ingredients obtained from bodies of animals, birds, reptiles, apes etc. They make extensive use of the animals and their different parts as medicine (table 16). The flesh and bones of some arboreal animals are used for various curative purposes. The horns and biles of rhinoceros are considered to be of great medicinal value. The scales and livers of kawate and bones of jackal are also used as ingredients of Garo folk medicine. Elephant's meat and skin are considered to be of great medicinal value. The foetus or satip of elephant which is rarely obtained from hunting expeditions is regarded to be very precious among the Garos. It's usefulness during difficult cases of child-birth is recognized by them. Different organs of the tiger are used to cure various ailments. It is believed that different parts of a tiger's body can strengthen the corresponding parts of it's consumer. This implies that if one eats tiger's heart than the heart of the persons would become powerful like the tiger. However, nowadays this belief is diminishing among the Garos due to non-availability of tigers and also due to the advent of Christianity.
Table 16: Ethnomedicinal use of animals, birds, and reptiles, among the Garos of Bakrapur and Nisangram

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of Animals/ Birds/ Reptiles/ Insects</th>
<th>Part used</th>
<th>Therapeutic use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Garo</td>
<td>English</td>
<td>Zoological</td>
</tr>
<tr>
<td>1</td>
<td>Achak</td>
<td>Dog</td>
<td>Canis familiaris</td>
</tr>
<tr>
<td>2</td>
<td>Ajaju</td>
<td>A tall kneeless cannibalistic animal</td>
<td>All parts</td>
</tr>
<tr>
<td>3</td>
<td>Anghe</td>
<td>Crab</td>
<td>Cancer parus</td>
</tr>
<tr>
<td>4</td>
<td>Bengblock</td>
<td>Frog</td>
<td>Amphibian limnonecties</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>---</td>
<td>-----------</td>
<td>-------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>5.</td>
<td>Bija</td>
<td>Honey bee</td>
<td><em>Apis indica</em></td>
</tr>
<tr>
<td>6.</td>
<td>Chamchora</td>
<td>A small bird</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Chipu gra</td>
<td>A small reddish yellow snake</td>
<td><em>Hydrophils sp.</em></td>
</tr>
<tr>
<td>8.</td>
<td>Chipu walshang</td>
<td>Snake</td>
<td><em>Hydrophils sp.</em></td>
</tr>
<tr>
<td>9.</td>
<td>Chonggna</td>
<td>Small long teothy mouth fish</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Cheronggi</td>
<td>The <em>Ranimas; Bochidamio retio</em></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Dechalanggi</td>
<td>Fire tailed yellow backed sun bird</td>
<td><em>Aethopyga ignicouda</em></td>
</tr>
<tr>
<td>12.</td>
<td>Detleng</td>
<td>Woodpecker</td>
<td><em>Bochytumens Bengalenisis</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>14</td>
<td>Do’dle</td>
<td>Indian peafowl</td>
<td>Pavo cristatus</td>
</tr>
<tr>
<td>15</td>
<td>Echaluk</td>
<td>Snail</td>
<td>Pila sp</td>
</tr>
<tr>
<td>16</td>
<td>Gonda</td>
<td>Rhinoceros</td>
<td>Rhinoceros unicornis</td>
</tr>
<tr>
<td>17</td>
<td>Gillue</td>
<td>Slow lanes (lanes)</td>
<td>Myococcus congong bengalenis</td>
</tr>
<tr>
<td>18</td>
<td>Kanchurt</td>
<td>Earthworm</td>
<td>Phertima sp.</td>
</tr>
<tr>
<td>19</td>
<td>Kawate</td>
<td>Pangolin</td>
<td>Manis peota daictyla</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>20.</td>
<td>Matcha</td>
<td>Tiger</td>
<td><em>Panthera tigris</em></td>
</tr>
<tr>
<td>21.</td>
<td>Matchu</td>
<td>Cow</td>
<td><em>Bos indicus</em></td>
</tr>
<tr>
<td>22.</td>
<td><em>Mapili</em></td>
<td>Bear</td>
<td><em>Selenarctos sp.</em></td>
</tr>
<tr>
<td>23.</td>
<td>Matpru</td>
<td>Iguana</td>
<td><em>Hydrophis sp.</em></td>
</tr>
<tr>
<td>24.</td>
<td>Mattuan</td>
<td>Flying squirrel</td>
<td><em>Pteromys sp.</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>25.</td>
<td>Nonill</td>
<td>Eel</td>
<td>Electrophus electricus</td>
</tr>
<tr>
<td>26.</td>
<td>Paroo</td>
<td>Pigeon</td>
<td>Columbia livia</td>
</tr>
<tr>
<td>27.</td>
<td>Peru</td>
<td>Jackal</td>
<td>Canis aureus indicus</td>
</tr>
<tr>
<td>28.</td>
<td>Rarek</td>
<td>Ape-like</td>
<td>arboreal animal</td>
</tr>
<tr>
<td>29.</td>
<td>Renggok</td>
<td>Hornbill</td>
<td>Dichoema bicornea</td>
</tr>
<tr>
<td>30.</td>
<td>Tengte</td>
<td>A cannibalistic animal</td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>Wok</td>
<td>Pig</td>
<td>Sus scrofa</td>
</tr>
<tr>
<td>32.</td>
<td>Wakkime</td>
<td>Scorpion</td>
<td>Palamoeus spp.</td>
</tr>
</tbody>
</table>
Different organs of some birds are also used to prepare medicines. These birds were earlier hunted in the forest, but nowadays these are rarely found. So only those available in the stock of the folk medicine man are used. Animal derived medicines for certain ailments have great importance in the life of the Garos inspite of their dwindling belief in certain magical powers of animals and their bi-products due to their changing attitude. Many reptiles are considered to be of great medicinal value in Garo folk medicine. The flesh and bones of different types of fish are used by the folk medicine man in the preparation of nutritive pills or other medicines. The bones of a cannibalistic animal ajaju, skull of a still born child, and ears of a vulture much needed for making of a talisman is never found in the surrounding. Infact most of the ingredients for preparation of medicines discussed above, were collected by their forefathers and are still used. There is, therefore, a need to shift the focus in order to obtain the greatest amount of zootherapeutical resources in order to ensure future uses.

(c) Use of other Materials

Garo traditional medicine includes not only medicinal substances of natural origin, viz., plants, animals, and other inorganic substances, but also items like magic charms, incantations, religious verses, spiritual methods, amulets, sacrifices, folk lore, and even faith healing, which have already been described in chapter IV. The use of ingredients from both the material and non material world is due to the fact that the basic principle of Garo folk medicine or ethnomedicine is involved with the
fact that it strives to treat the whole person rather than his isolated parts, and thinks of him in relation to his emotional sphere and physical environment. The Garos use different non-biological ingredients like fitkiri, a type of stone, rock crust as medicine. They also use kitchen soot, tobacco paste, kerosene oil, mustard oil, and locally available balm and honey for the preparation of medicine for various curative purposes.

The Garos consider honey to possess many medicinal properties. However, honey alone is only applied externally over the affected area in case of wounds. Ideally honey is used in combination with other medicinal ingredients for curative purposes. The most common use of honey is during incessant cough, specially in children. A few drops are generally mixed with the juice of basil leaves. The Garos believe that since the honey bee collects honey from flowers of many plants so they must contain medicinal properties derived from plants of medicinal value. Similar logic has also been forwarded in Ayurveda and also is many other systems of traditional medicines (Ambasta, 1988 : 91-93). In traditional Roman medicine honey is considered to be an excellent ingredient in medicinal preparations.

The Garo ethnomedicinal experts are well aware of the medicinal properties of different non-biological materials, and they make use of them whenever necessary. Kerosene oil and mustard oil is often used as a massage to provide relief from body ache. In case of muscle pain, the Garos mix sun dried cow dung and milk and the paste thereby smeared
over the affected area. Sun-dried cow dung is also burnt and the ash used to cure urticaria.

A number of inorganic substances form a part of Garo *Materia Medica*. To cure skin burn, they roast the shell of the snail and locally applies the powder over the wound. The Garos also believe that the powdered horn of rhinoceros can cure many ailments. During difficult cases of delivery, the Garos soak the placenta of elephant (very rare now), and orally administer the water to fasten up the delivery. Tobacco paste with a little lime is applied over cuts and bruises. Kitchen soot is also used in curing many ailments. The local alkali prepared from plant ash (*Kalakhar*) added to the vegetable curry is consumed by them to get relief from acidity related problems. The much desired relief is experienced due to the presence of alkali.

The Garos also believe that rice beer and locally made liquor in moderate quantities helps in keeping a person healthy and relieves him from any kind of body ache. They are also well aware of the detrimental effects of too much consumption of such alcoholic drinks.

2. **Principles of Indigenous Medicine**

According to the conventional view, the maintenance of somatic equilibrium largely through balancing intakes of heat and coldness is a simplified version of Hippocratic pathology, introduced into the New World by the Spanish and Portuguese, and disseminated throughout the colonies after the conquest. The alternative perspective, now supported
by a growing body of research, is that hot-cold balance was the essence of health in many pre-conquest societies and continues to be in some contemporary tribal groups historically isolated from Hispanic influence. The hot-cold theory remains the most prominent aspect of their tradition in contemporary illness theory. Within the equilibrium model, researchers have seen disorders as primarily due to accumulated excesses of heat or cold in the body. Remedies are therefore chosen by the ‘selective use of opposites’ (Logan, 1977 : 89) to restore balance (cited on Browner, 1998 : 2-3). Humoral classification of disease, disease causing factor and medicine is a Greek tradition now found as the conceptual basis of many folk medical traditions world wide (Logan 1973). The Indian and Chinese system of traditional medicines are based on this humoral principle (Morris, 1989; Morti-Ibánez, 1965). Numerous medical anthropological investigations have extensively discussed about these aspects among different communities (Logan, 1972, 73, 77, 91; Morris 1989; Morti-Ibánez 1965; Reichet-Dolmatoff et al. 1961; Simmons 1955; Wellin 1955; Wiese 1976, etc.). Besides the hot-cold model of humoral system as the basis of traditional medicine systems there are other therapeutic principles. According to Browner (1985 : 29-30) since in most of their studies investigators have given overemphasis to hot-cold theory they overlooked the significance of other therapeutic principles in ethnomedical system. He discussed therapeutic principle derived from sympathetic magic or analogic thinking in San Francisco. Among the people of San Francisco the analogic principle is particularly evident in the choice of remedies for
fertility and for strengthening the females reproductive system (Roy, 1998: 274).

Among the Garos of Bakrapur and Nisangram, emphasis is given more on the analogic principle with regards to interpretations in the field of medicine. According to analogic principle two quite different things on the basis of certain similarities are considered to be the same. Selections of medicines are however generally based on homeopathic interpretations, i.e., the principle according to which it is believed that similar medicine can cure similar diseases. In many cases such principles are explained by the people themselves, when in many other cases the people cannot say anything clearly.

The Garos believe that since the tiger is a strong animal, the consumption of a tiger's organ can make the consumer's corresponding organ strong. By applying the principle of analogy any organ of the tiger should be strong as it is a strong animal and taking into consideration the homeopathic principle anything strong should have the capacity to induce strength. The belief of the medicinal qualities of the tiger is therefore, based on analogic and homeopathic principles. It is however pertinent to note here that faith in this belief is gradually dwindling due to conversion to Christianity and acculturation.

While taking into consideration plant medicine, mention must be made of the use of curry prepared of bottle gourd to induce milking of mother. Here the analogic principle have been noticed.
The Garos of Bakrapur and Nisangram consider multiple treatment options for curative purposes as they live in a pluralistic medical situation. Treatments in Garo ethnomedicine are carried out by the internal and external application of medicaments, physical manipulation of various parts of the body and psychological treatment. The medicinal preparations of the Garos are usually multicomponental, which are dispensed in various dosage forms such as liquids (e.g. infusion, decoction, etc.), semi-solids (e.g. pastes, creams, and ointments), solids (e.g. whole or powdered plant parts, pills and tablets), and gases (e.g. incense and inhalants). Most of these preparations are given orally, or applied externally on the affected parts of the body. Some medicinal agents for specific purposes are also inhaled through the nose and mouth in the form of smoke or steam-absorbed gas. However, intravenous application of drug is absent in Garo ethnomedicine. In addition to treatment by administering medicaments, other methods like therapeutic fasting and dieting, hydrotherapy (bath, massage and compression with cold or hot water), heat therapy including bone-setting, spinal manipulation, massage, psychotherapy, and spiritual or faith healing are commonly used by the Garos for curative purposes.

The treatment of different types of disease and ailments using various biological and non-biological materials prevalent among the Garo community has been described in the following pages. It refers to the diseasewise break up or classification and the curative measures take up for remedial purposes by them. Response necessitates a search for more information on the illness from close friends, relatives, and
neighbours who discuss and offer alternatives and suggestions regarding treatment. Subsequent failures lead to an intensive discussion of choice and a search for expert treatment from specialized parties.

3. **Prevalent Disease and Treatment**

The treatment for different types of diseases prevalent amidst the Garos of Bakrapur and Nisangram have been enumerated as following:

3.1 **Abortion (Be’sa Gala)**

Abortion is not common among the Garos of Bakrapur and Nisangram due to the fact that being converted to Christianity they do not support abortion as it is against their religion to destroy the creation of God. However, sometimes under unavoidable circumstances and situations, a woman may think of abortion. The roots of the various medicinal plants, viz., *khangdang*, *thaping*, *thama*, *chupal* (English equivalent is not known), and leaves from the upper part of the branches of a *debrek* tree is made into a paste and boiled. This mixture has to be taken thrice daily for a month. This treatment for terminating pregnancy is however effective on a woman only during the initial three months of conception and after this period it is dangerous to use this medicine as it may lead to death of the women concerned.

3.2 **Alopecia**

Alopecia or hair loss may occur due to prolonged illness, lack of necessary vitamins and lack of essential nutrients in the body and also
due to mental anxiety. If care is not taken it may result in baldness. The Garos of Bakrapur and Nisangram in case of alopecia wash their hair twice a week with the paste made out of Cha'gro (English equivalent is not known) leaves. This enhances hair growth. About fifty grams of raw juice extracted from a few *Phyllanthus emblica* fruits is also consumed in an empty stomach to reduce hair-loss. The paste of leaves of *Ocimum oratissum* and *Phyllanthus emblica* are applied on the head to improve hair texture and enhance hair growth.

3.3 Asthmatic Problems (*Leng*) among Babies and Children

According to the Garos of Bakrapur and Nisangram there are twelve different kinds of asthma among babies and children. Of these the treatment for only *dod-leng*, *daba-leng*, and *hagni-leng* is known to them. In case of *dod-leng*, a paste made of the bark of guava tree, tender stem of *dod-leng* tree (English equivalent is not known), bark of hogplum tree, and bark of cinnamon tree is used as a massage. This is very helpful for curing *dod-leng*. When a baby or a child suffer from *daba-leng*, a decoction of *Hydrocatyle javanica*, black pepper, roots of *samapatil* (English equivalent is not known), and *Asperoltorge mutens*, with water is given to drink. The juice extracted from the roots of *diketama* is also given to drink for its cure. There is also an indigenous medication for the cure of *hagni-leng*. A decoction of the roots of brinjal plant, and a piece from a utensil made of clay, is given to drink. Another paste is prepared from the roots of *Hydrocatyle javanica*, and leaves of *Phragmites karka*. This paste is applied as bharan on the forehead, and
also used as a massage. Dried powdered leaves of Alstonia scholaris are also smoked in severe asthmatic problems.

3.4 Attack by Spirits (*Kamal-maokani*)

This spirit is believed to attack only male members. During the time of attack the person sweats a lot and later shows signs of insanity as he speaks incoherently. In such a case of decoction of the roots of *Glochidion voluntinum*, the leaves and bark of *Sakap* (English equivalent is not known) and black pepper is given to drink. A *tabiz* or talisman made of (i) a piece of bone of *Ajaju*, a tall kneeless cannibalistic animal, (ii) a piece of bone of *Huluk* ape and (iii) a piece of bone of *Rarek*, an ape like arboreal animal. This talisman is to be tied around the wrist all the time to ensure fast recovery.

3.5 Barrenness

For curing barrenness, the gum of Alstonia Scholaris mixed with water is required. During the time of menstruation this medicine is taken. Besides these, the *nakhwal thenga* (English equivalent is not known) roots are boiled in water and taken once everyday till the woman conceives. A decoction of the leaves from the lower part of the branch of *debrek* (English equivalent is not known) tree is believed to work wonders in case of barreness. A talisman made of only various medicinal roots but not any bones are given to be tied around the neck. This medication is believed to bring about the desired result among the childless couples.
3.6 Bleeding of Throat

Bleeding of throat very often results in blood vomiting. To stop bleeding a decoction of either *donginmat* leaves or roots of the *sumatcheng* (English equivalent is not known) tree are given to drink. Two-three teaspoons of this medicine are given to drink at least twice a day. This medicine proves to be very helpful in stopping bleeding of the throat.

3.7 Bone-fracture

In case of bone fracture the Garos of Bakrapur and Nisangram either seek treatment from a modern medical practitioner or the indigenous bone-setter of the village. There are two well known bone setters by the name of Sri Heringson Sangma and Sri Misorsing Marak at Nisangram. The bone setter carefully examines the affected area, and can easily detect whether it is a case of fracture or sprain. He prepares a medicine out of a paste of local herbs which are known to be very effective. The ingredients for the medicine includes the leaves of *donsajabe* (English equivalent is not known), the gum extracted from a stem of the pamelo plant (*Citrus decumena*), leaves of sweet potato plant and a piece of ginger. Depending upon the age of patient and the condition of the wound the bone setter determines the amount of ingredients to be used. The paste thus prepared is applied over the affected area and bandaged very tightly with the help of bamboo splinters. On the seventh day, the patient is examined by the bone-
setter. Paste is applied and bandage is kept for another five days. On the twelfth day it is opened and the affected area is cleaned with warm water. The patient is advised complete rest for two to three weeks after which he can resume his normal activities. The paste prepared from the fruit *Chebulic myrobalan* is also applied over the affected area and wrapped with a clean piece of cloth in bone fractures.

In case of rib fracture (*Guasa beani*) there is another paste prepared from various medicinal plants. These ingredients are the leaves of *Asperotrogera mutens*, leaves of bitter gourd, and the paste from *Terminalia citrina* fruit. The paste prepared from the above ingredients is applied over the affected area and a piece of cloth is also wrapped around like a bandage. The bandage is opened after ten days and a new paste is applied after the affected area is cleaned with luke warm water. The affected area is once again bandaged and kept for another seven days. After the bandage is removed the patient is advised to take rest for two three weeks. Once he is fully cured he can resume his normal activities.

### 3.8 Burns (*Walkhum*)

In case of burns, the affected area experiences a burning sensation. Blisteres tend to form if cold water is not applied over the burnt area immediately. Application of cold water brings some amount of relief. Pain occurs only in case of severe burns. Other medicines if found to be essential is applied. There is a particular variety of tree known as the *walkhum* (English equivalent is not known), the leaves of
which are grounded to a paste and applied over the affected area. The fat extracted from the stomach of a type of snake known as *chupa nokma* by the Garos is melted over a fire and also applied over the affected area. The fat of chicken can also be applied over the burnt area. The fat of chicken can also be applied over the burnt area. Another remedy to provide relief to the affected area is to pour kerosene gently over it from a small bowl. However, the kerosene poured should never be rubbed over the affected area. The patient is immediately rushed to the Damra Dispensary or Dudhnoi in case of severe burn injuries.

3.9 Cancer

Cancer is not only the most feared of human maladies among the Garos of Bakrapur and Nisangram, it is also the most baffling. Cancer is the rapid and uncontrolled formation of abnormal cells in the body. The indigenous medicine for stomach cancer is known only to Sri Mukharji D. Marak, a well known folk medicine man of Nisangram. His medicine includes, a paste made of the bark of *Alstonia scholaris* and a few cloves, and cinnamon. This paste is mixed with a little water and tied in a clean piece of cloth. The extracted juice is consumed everyday in an empty stomach. If the person suffers from oral cancer, the same paste is fried in coconut oil and applied in the affected area with the help of a cock’s feather only.

The treatment for throat cancer is known only to Sri Dison Sangma, a folk-medicine man of Nisangram. His medicine includes a
paste made of the bark of teak tree and bark of neem tree which are mixed with the powdered bone of the stomach of a deer and five bones of five different animals (the names of which he did not reveal). All these ingredients are mixed into a fine paste. This paste is given to consume with water once everyday. This medicine is believed to help a lot in curing throat cancer. It is to be noted here that the well-to-do among the Garo community opt for modern medicines rather than for indigenous curative practices. Only those who are unable to bear the modern medical expenses seek help from the folk-medicine men of Nisangram in case of cancer.

3.10 Cholera

If there is a cholera outbreak in another village, then a dog’s head is kept in the village route to prevent the deity of the epidemic from entering the village. When cholera is detected for the first time, seven pieces of the bark of *Bauhinia purpurea* tree are boiled in water. This water when a little cool is given to the patient to drink in one breath. It is believed that drinking of this medicine once everyday for two weeks helps in curing cholera. Smt. Prynces Ch. Momin, a folk-medicine woman and midwife of Bakrapur also prepares a paste from a few medicinal plants (the names of which she was reluctant to disclose) which when mixed with salt and given to consume cures the patient fully. Besides raw juice of the leaves of life plant are also given to drink in Cholera.
3.11 Clotting of Blood

Sometimes due to severe injury, the blood of the affected area clots and turns blackish blue. In such a case a paste made of the leaves of *amching mrang* (English equivalent is not known) is applied over the affected area, and tied with a piece of clean cotton cloth. When the paste dries, new paste is applied till the clotting disappears.

3.12 Constipation (*Kija*)

For treatment of constipation many indigenous medicines are available in the study areas. One of them is to prepare a decoction of the bark of *Aquilaria agallocha* with black pepper and drink. This proves to be very effective. Another remedy for constipation is to drink the raw juice extracted from the paste made out of *Lannea grandis* leaves. In severe cases of constipation, the roots of the medicinal plant *Mangifera sylvestica* are made to a paste. The juice extracted from this paste is mixed with warm water, and given to drink in an empty stomach for about three to four days or till the patient fully recovers. The patient is also advised to drink warm water to which a few drops of lemon juice are added, and papaya as often as possible. This seems to be very helpful in irritable bowel syndromes or constipation. The leaves of *Mucuna bracteata* are also crushed and poulticed upon the stomach to cure constipation.
3.13 Convulsion in Babies (*Be’sani bema sa’ani*)

When convulsions occur in babies, they experience fluctuations of body temperature, they may also faint and may also shiver or tremble. In such a case a paste prepared from the roots of *chupal*, leaves of *meonok*, and *matchaduri* (English equivalent is not known), and *singrip* (a kind of stone) acts as a medicine. This paste is applied as a massage over the body. A decoction of the roots of *lanon samsni* (English equivalent is not known) is also used to bathe the baby. Besides these, a talisman made from the leaves of *Bambusa tulda* is also tied around the neck of the baby to ensure fast recovery.

3.14 Colic (*Te’eka*)

For its treatment a paste made of tender leaves of guava and leaves of jackfruit is prepared. A decoction of this paste is given to drink. A talisman prepared from the bones of *Bachypterns bengalensis* is also tied around the wrist for curing colic.

3.15 Cough (*Kuchu or Gusua*)

One of the most common ailment found in both sexes irrespective of age is cough locally known as *kuchu* or *gusua*. Curative practices of cough varies with age. In case of cough a spoonful of powdered black pepper, bark of hogplum tree, and jujube tree are boiled in water. This mixture if consumed every night is known to cure cough. Another remedy to provide relief from cough is to take juice of basil leaves mixed
with honey. This is to be consumed twice or thrice daily. Honey and juice of ginger is also taken to cure cough.

3.16 Cuts and Bruises

The crushed leaves of hibiscus plant or leaves of marigold plant (Tagetes batula) are applied over the cuts and bruises. There is also another method for curing of cuts and bruises. The paste made out of the pounded Murraya koenigil leaves are mixed with coconut oil and applied over the affected area. The leaves of Bryophyllum pinnatum are slightly toasted and applied to cuts and bruises for healing purposes. In order to cure septic infection from cut injury the root of Derria robusta is crushed and poulticed over the affected area.

3.17 Diabetes

Treatment of uncomplicated diabetes is usually an individualized problem, and depending on the severity of the symptoms, may involve diet control alone, and use of orally active anti-diabetic agents, and one or more injections per day of insulin which is available at the Damra Dispensary and other pharmacies at Damra. Along with these allopathic medicines the people of Bakrapur and Nisangram also taken indigenous medicines prepared from various medicinal plants. A decoction of the leaves of khar getari, and leben getari (English equivalent is not known) is given to drink as a cure for diabetes. Red tea prepared with cinnamon is also given to drink to cure diabetics.
3.18 Different Ailments of the Nose (Gingthing)

When a child or an adult catches cold and suffers from a running nose, the chest, back, and nose of the concerned person are massaged with heated mustard oil. If nose bleeding (ginchi) occurs due to a wound, then application of the paste made of samatcheng leaves (English equivalent is not known) and the skin of inflorescence of plaintain locally known as malbok is very useful. In case of sinusitis raw juice of Alstonia scholaris leaves are applied in drops in the nose.

3.19 Different Problems of the Ear (Nating minna)

If pain in the ear occurs due to dust, or entrance of small insects or objects, then application of juice made out of leaves of sacred basil provides relief. This juice is in fact very effective for any kind of skin disease also. When there is mild pain, mustard oil or coconut oil is applied to the ear in droplets with the help of cock's feather. If the patient along with pain feels a sensation (a buzzing sound) in his ear, then also a decoction of sacred basil plant is applied in drops for relief. In case of formation of pus in the ear, the pus is removed very carefully with the help of the tail's tuff of a kind of reptile locally known as matpu (iguana) or with the help of a soft cloth dipped in warm water. Later the juice of the leaves of a locally available plant (the name of which was not disclosed by any folk-medicine-men) is heated over a fire for sometime, and two to three drops are allowed to fall in the ears. This is a very useful remedy to stop pus formation in the ear.
3.20 Different kind of Wounds

Eruptions occur in the affected area, releases thick pus when scratched, and affected area rapidly multiplies. The wound occurs in hands and legs and is locally known as *Bigittipko tangatani*. For its treatment a poultice of the inner bark of the *bokakong* (English equivalent is not known) tree is applied. It takes about a week for the paste to dry after which the affected area heals by itself. In case of another type of wound locally known as *jongsa datani*, a different herbal medicine is applied. The leaves of *Bryophyllum pinnatum* and the eleven snails found in small springs is pounded to a paste and mixed with coconut oil and applied over the affected area.

3.21 Difficult Delivery

During the excruciating labour pain and difficulty in delivery, the water in which the *satip* or placenta of an elephant has been soaked is applied on the head, and two spoonful of this water is given to drink. Besides this, a paste of the main roots of *Mezoneurium cuculatum* and two-three pieces of onion is applied on the stomach. Then the stomach is massaged very slowly in circular and downward direction. Sometimes the juice extracted from this paste is also given to drink. All these medicine helps the laboring woman so that she can quickly and easily bear her child.
The Garo womenfolk take a few indigenous medicines during pregnancy to ensure normal and safe delivery. When an expectant mother experiences labour pain, she takes the raw juice extracted from the paste of the fruit of *Terminalia citrina*, and bark of *Cyathocalya martabenicus* tree. In order to deliver easily without much labour decoction of the dried leaves of jute plant, gum extracted from the bark of *Bauhinia acuminata* tree with the head of a kind of fish known as *kuchia* (*Unibran chapertura cunchiya*) is given to drink.

### 3.22 Dizziness in Children (*Be’sa tusi dimue sa’ani*)

When children feel dizzy a paste made of *Centella asiatica* leaves and *Hydrocetyle javanica* is applied on the forehead as *bharan*. These roots are also grounded to a paste and the extracted juice of this paste is given to drink. This medicine proves to be very effective.

### 3.23 Dog Bite (*Achak chika*)

Dog bites are very common at Bakrapur and Nisangram. At first the wound is washed with soap and dettol; then the latex from the stem of papaya plant is smeared all over the wound. The wound is healed within a few days. The people of Bakrapur and Nisangram also believe that if a paste of the roots of *pagla diki* (English equivalent is not known) plant and a few rice are applied over the affected area, then it proves to be very effective. *Pagla diki* is also cut into seven small pieces. Each piece has to be eaten for seven days in an empty stomach. The wound is healed in due time. The Garos of Bakrapur and Nisangram however do
not taken any anti-rabies injections or any other medication from the modern medical practitioner in case of dog bites.

3.24 Dysentery (Ok reya)

Hastily consumed food, non-availability of pure drinking water, over-eating, worms in stomach, mental anxiety, and consuming to much fried and fatty food are the various reasons leading of dysentery. Various medicinal herbs are used for its cure. The digestive herbs have a beneficial effect on all aspects of digestion. They are believed to increase the appetite, facilitate normal movement of food in the gut and aid in digestion. For a patient who is sluggish or fatigued these herbs works wonders. For cramping pain developing lower down in the digestive tract, a local citrus fruit known as tekra (Diospyrus sp.) is used. It is preserved through the method of sun-drying. Two or three pieces are soaked in a glass of water for a few hours, and this fluid is given to the ailing patient in empty stomach. After drinking this fluid for about two or three days the patient recovers fully. Juice from the pounded tender leaves (about fifteen) of guava heated and kept overnight, when consumed in an empty stomach the next morning it is found to be very effective for curing dysentery. This juice is to be consumed everyday till the patient recover. The raw juice of the leaves of Bryophyllum pinnatum is also given to drink in dysentery.

The Garos of Bakrapur and Nisangram become very worried when a person suffers from blood dysentery. In such cases great care is
taken for the restoration of good health of the person concerned. The patient abstains from consuming spicy food and takes only boiled food which is easily digestable. Unripe therek (Musa balbisiana Colla) is put over the burning charcoal of the household hearth for a few minutes and later consumed with rice at least twice a day. The patient is given to consume such type of food till he fully recovers. Sometimes a glass of water to which lemon juice and sugar has been added is also given to drink. Another effective medicine for blood dysentery is a paste prepared from the leaves of guava, and *Terminalia chebula*. The juice extracted from this paste is consumed in an empty stomach for about two or three days after which the patient is fully cured and gets the much wanted relief. The dried flower of *Tamarindus indica* is powered and taken orally with sugar to cure blood dysentery.

### 3.25 Epilepsy (Matri-sa)

Epilepsy is considered to occur due to the intrusion of the spirit Paxon upon the patient. So more stress is given on curing the disease from a psychological or supernatural point of view. The talisman for epilepsy can only be given by Sri Heringson Sangma and Sri Dison Sangma, the folk medicine men and healers of Nisangram. Sri Dison Sangma prepares the talisman by using the ingredients viz., (a) a piece of bone of the slow lories (*Myhaepus congang bengalensis*), a semi-flying arboreal animal, and (b) a piece of skull of *matwan* (flying squirrel). These two ingredients are mixed and the talisman prepared is tied around the wrist of the patient in one breath. The ingredients which Sri
Heringson Sangma used to prepare the talisman varies from that of Sri Dison Sangma. He prepares the talisman by using the ingredients, viz., (a) a piece of bone of a mad jackal, and ears of a dead vulture (b) a piece of bone of the *huluk* ape, (c) a piece of skull of a child who died at birth without ever sucking it’s mother’s milk, and (d) a piece of bone of an *ajaju*, a tall kneeless cannibalistic animal. All these ingredients are mixed, and the talisman prepared. He chants two specific spells known as the *Barma* and *Norsing*, by uttering the name of the patient and in one breath ties the talisman around the neck of the patient.

Besides the talisman, the patient is also given to inhale the juice of garlic or the smell of a piece of raw turmeric after it is burnt. An epileptic patient finds relief when he applies the paste or matchaduri (English equivalent is not known) leaves, and also drink the juice of it’s stem. These methods of treatment are found to be very effective for curing epilepsy.

**3.26 Excess Bleeding after Child Birth (Haribhanga)**

In case of excess bleeding after child birth the juice extracted from the roots and leaves of *Mimosa pudica* is mixed with water and given to drink. There is also another remedy. The ingredients for this medicine comprises of bark of guava, bark of hogplum and teak tree, and the amount black pepper that can be placed on an old one paisa coin. All these ingredients are made to a paste and heated with a little water before drinking. Normally this medicine is given to drink once a day but...
in serious cases it is to be taken twice a day. According to the Garos of the study area this medicine has desired result on the patients.

3.27 Eye Diseases

(a) Cataract (Jalam rima)

When a person suffers from cataract, he is unable to see properly when the sun is very bright, and also after sunset. His vision deteriorates day by day. For the treatment of cataract, the leaves of Miknap tree, the gum extracted from the Bolanchi and the Gokarek tree (English equivalent is not known) and fitkiri, a kind of mineral salt (double sulphate of alumina and potash), are made into a paste. The paste is tied on a soft cloth in such a way that when it is held by the hand over the patient’s eye, droplets fall on the patient’s eye. On the first day only one drop is given, on the second day two drops of this medicine is given. The number of drops correspond with the number of days the patient have undergone treatment. According to the people of the area the patient recovers within two or three days whether the cataract is newly formed or it has formed a long time back thus making it a serious cases.

(b) Conjunctivitis (Mikmarang)

In case of conjunctivitis, the eyes become red which results in itches. For the treatment of conjunctivitis, the affected eye or eyes are to be washed with clean water as many time as possible. The extracted juice of Phyllanthus emblica when applied as eye drops is a good remedy for
conjunctivitis. A paste made from the leaves of *Centeila asiatica* and juice is extracted from it. The juice is also applied to the eyes to cure conjunctivitis. Earlier the paste of leaves of *susanath* tree (English equivalent is not known) was also applied, which creates unbearable pain in the eyes. According to Sri Misorsing Marak, a well known folk medicine man of Nisangram, now a days they have abandoned this medicine.

(c) **Spot on Eye (Mikil cha’brakani)**

When a person suffers from this disease, spots are seen in the affected eye or eyes. In such a case, the flowers of the *samjaluk* (English equivalent is not known) tree are scorched, crushed and the drops applied to the eyes. According to the Garos of the study area this medicine proves to be very effective.

### 3.28 Fear in Babies (Be’sana keno patani)

It is believed that babies suffers from some kind of unknown fear due to the intrusion of spirits or the effects of evil eye. In such cases, a talisman is prepared from the roots of *Grevia microsa, Erythna stricta* and *Elaeocarpus aristus*. This talisman is tied around the neck or sometimes around the wrist of the baby. This is believed to be very useful in chasing away the evil spirits from the baby’s body.

### 3.29 Fever (Be’ensa)

It is one of the most common ailments among the Garos of Bakrapur and Nisangram. The treatment for fever among different age
groups varies. During fever, the main objective is to reduce the temperature. The covering of the forehead with a wet cloth dipped in *Kala khar paani* the locally prepared alkali is a common procedure. To reduce the temperature in case of babies and small children, leaves of *Carruga pinnata* are made into a fine paste and applied on the forehead. It is then kept covered with a piece of wet cloth. When the paste absorbs the body heat and becomes hot, the paste is removed and a new paste is applied. This procedure continues till the temperature reduces. Sometimes the babies suffer from high fever followed by shivering or trembling. In such a case a tender stem of *Shorea robusta*, and the last vertebrae of peacock are made to a paste. The baby is thoroughly massaged with this paste.

A person suffering from fever is also given to drink the juice obtained by grinding a few leaves of sweet basil and ginger. Another remedy is to soak a few stems of *Swertia chirayita* in water overnight and drink this water. Eucalyptus tree is crushed by the hand and its smell is inhaled. Sometimes a few pieces of garlic along with mustard oil is heated and then applied over the throat and chest.

**3.30 For Expulsion of Placenta after Child Birth (Mechikrangni Janmoni salo jamangi'pa)**

Sometimes, womenfolk after child birth experience difficulty in expulsion of placenta. In such cases a decoction of mushroom, black pepper with home made soda or local alkali given to drink. Another
remedy is to drink a decoction of roots of *Mezoneurium cuculatum* and black pepper. During medication spicy food are to be avoided.

3.31 Headache (*Skosa*)

It is a very common ailment. A paste made of the following, viz., dried jute leaves, a few leaves of small and big variety of *Hydrocetyle javanica*, a few plant of *Hydrocotyle sibthorpioides Lamk*, a few grass locally known as *chisak*, a few leaves of *Houyllyna cordata* Thumb paste is applied on the forehead. It brings the much wanted relief to the person concerned. Sometimes paste made of about four cloves is applied on the forehead. In severe headache a paste made of ginger is applied on the forehead. If this paste is applied and the juice extracted from this paste mixed with water is consumed for five days, twice daily then the headache is cured. The raw turmeric put in boiling water and the vapour is also inhaled to get relief from headache.

3.32 Heart Attack (*Khatong sa’a*)

A patient suffering from heart attack experiences chest pain, dizziness, sometimes accompanied by vomiting and he or she may also faint. Immediately after the attack, the patient is made to lie down on a cot with some pillow under his legs in such a way that the level of his legs are higher than that of the level of his head. The soles of his feet are massaged vigorously with mustard oil. In the meantime, a paste is made of the leaves of *duchengbrip*, *khaku*, *durongre*, and roots of *thebe*, *thebatang*, and *lewa* (English equivalent is not known). This paste is
used as a massage and also applied on the forehead as bhara. The gum of lewa tree is also given to drink to the patient. Besides the above herbal medicines, a patient suffering from heart attack is either attended by a modern medical practitioner at his home or taken to the Damra Dispensary or Dudhnoi Hospital.

3.33 Heavy Sweating (*Ding’pli Saenba Ramani*)

Sometimes due to excess sweating a person becomes very weak. For its cure the juice extracted from the paste of the roots of *Albizzia stipulata*, a nutmeg (*Myristica fragrans*) fruit, a piece of ginger, and *Terminalia chebula*. These ingredients are grounded to a paste and small pills are made out of it. This pill is taken twice daily with warm water. According to the Garos, after about a week, the patient fully recovers.

3.34 Hiccups (*Ambi michu*)

In case of hiccups in babies, a decoction of a kind of insect known as *ambi michu* with water is given to drink. Water mixed with sugar is also given to drink in case of the hiccups.

3.35 Incessant Crying of Babies (*Be’sa grapeani*)

For its cure, a paste is prepared from the bark of the bough of *Erythna stricta* tree. The bough of this tree should be towards the eastern side. This paste is applied on the forehead of the ailing baby for seven days. The tender leaves of *bambusa tulda* are also tied with the help of a
thread around the neck of the baby as talisman. This talisman is kept for seven days after which, they believe, the baby recovers.

3.36 Indigestion *(Ok chike)*

There are many curative measures for indigestion. When pain occurs due to indigestion a juice is prepared from a paste of the leaves of *Echiles fructescene* and the bark of guava tree. The extracted juice is boiled and allowed to cool. Then it is taken either with or without sugar. Juice of lemon (*limon burm*) and mint, leaves of *Mentha plicata* mixed with water and consumed are also known to help in indigestion.

3.37 Insect Bites *(Jamschka or Gang gochka)*

(a) *Bee Bite (Beeja)*

Application of the juice from the stalk of arum (*Alocasia escules*) over the affected area is very good. If this fails to relieve pain, then a paste of garlic or the application of honey is also helpful. Sometimes balm bought from the nearby market is also applied.

(b) *Caterpillar (Jongsu manga)*

Itches occurring from caterpillar stings can be cured with the application of lime on the earlobes. If the itches are too severe, then mustard oil is applied over the affected area and rubbed with a lock of hair.
(c) Centipede bite (Snare)

In case of centipede bite, the dung of centipede is applied over the affected area and massaged. This medicine proves to be very effective.

(d) Ant bite

To reduce the burning sensation when bitten by some poisonous ants, a green chilli is broken and smeared over the affected area.

3.38 Itches (Os-ka)

Itches leads to great discomfort among the babies as well as the adults. For body itches in babies, bathing in warm water to which one or half teaspoon salt has been mixed is believed to be very helpful. For both adults and babies bathing with water to which margosa leaves have been added is believed to be very good. There is another remedy for itches. A paste of kamini (Murraya mexotica) leaves is boiled in water. This water is used for bathing. Yet another very useful remedy for curing itches is application of the paste of raw turmeric over the affected area.

3.39 Jaundice (Haldiya sok)

The patient suffering from jaundice has to drink a lot of juice of sugarcane, carambola, coconut, orange etc. and eat only boiled food. The Garos of Bakrapur and Nisangram have some indigenous medication for the cure of jaundice. Raw turmeric is taken in an empty
stomach to cure jaundice. The paste of the bark and leaves of carambola mixed with water is given to drink to cure jaundice. Another medicine is prepared by making a paste of the bark of Orexyllum indicum along with a few white sesame seeds soaked in water prior to grinding. This paste is used to massage the stomach. When the patient becomes very pale and weak, they make a garland of pengkha leaves (English equivalent is not known) using a single piece of thread. After the garland is made, the folk medicine man utters the name of the patient and ties the garland around the patient's neck is one breath. At the initial stage the garland is just about the girth of the head, it increases in circumference as the days pass by and snaps into two pieces when the patient recovers fully. A talisman is also prepared to cure jaundice. It is prepared from the roots of the alaru plant, jute leaves, a tender leaf of Musa sapientium, and the leaves of the chako tree (English equivalent is not known). The talisman so prepared is to be tied around the wrist of the patient. They believe, after the treatment the patient fully recovers within two to three weeks.

3.40 Leprosy (Konchi)

Leprosy, a chronic skin disease is caused by Mycobacterium leprae. It has potential to produce mutilation of the extremities and disfigurement of the face. Plant extracts have mostly been used by the Garos of Bakrapur and Nisangram to treat leprosy. A paste made of the roots and leaves of Carruga pinnatum is applied over the affected areas. Sri Dison Sangma, a well known medicine man of the area, informed that he learnt about the medicine of leprosy from a dream. It is believed
that a malevolent spirit is responsible for that particular disease. He also
knows about a particular medicinal plant a single leaf of which worked
wonders for a leprosy patient. He was however reluctant to disclose the
name of the plant fearing that he may loose his powers of curing leprosy
patients.

3.41 Malaria (Sawak Sa’ā)

Malaria is one of the most common diseases among the Garos of
Bakrapur and Nisangram. It is cause due to infection with sporozoan
parasite of the genus Plasmodium and transmitted to man by infected
anophelous mosquito. A person suffering from malaria experiences severe
headache, fluctuations in body temperature accompanied by vomiting,
convulsions, etc. The Garos of Bakrapur and Nisangram mostly go to the
Babupara Christian Hospital or to a private medical practitioner’s
chamber at Damra, viz., Dr. S. L. Rabha, or to the Damra Dispensary for
treatment of malaria. The indigenous method for its cure is known only by
Smt. Prynces Ch. Momin, the folk medicine woman and midwife of
Nisangram. Its medicine includes the leaves of Bryophyllum pinnatum,
which are made into a paste and applied on the forehead. In severe cases
of malaria the roots of Phyloganthis tystflorus are pounded to a paste,
and extracted juice from it is mixed with a glass of warm water is given to
drink. Besides the application of these herbal medicines, a talisman is also
made out of the root of Erythna stricta plant and a piece of the bone of
slow lories. This amulet is to be tied around the wrist or the neck of the
patient. This is believed to be helpful in curing malaria.
3.42 Measles (Se'ep)

A person suffering from measles experiences high fever accompanied by tiny eruptions all over his body. These eruptions cause itching. After a few days generally eruptions dry up. During measles, if there is too much itching then the paste made from the bark of *Alstonia scholaris* and turmeric is applied externally. Bathing with water to which leaves of *Azadirachta indica* have been added also provides relief.

3.43 Menstruation Problems

During menstruation, if a woman has excessive bleeding, then she eats five to six pollen sacs of the red china rose flower (*Hibiscus rosa sinesis*). The seeds are chewed with water and have to be taken only once. Decoction of the entire sensitive plant or powdered dried leaves mixed with water are also given to drink during heavy bleeding. *Myriopeteron extensum* is known to be very good to control excessive menstrual bleeding. Another remedy for excessive menstrual bleeding is to prepare a paste of *Mimosa pudica* leaves, seven black pepper, seven rice, with a little cold water. This is taken only once a day for a week. If a woman suffers from less bleeding during menstruation, then the roots of *Mezoneurium cuculatum* and *vitex peduncularis* are boiled in water and taken thrice a day during the time of menstruation. There is also another treatment for women who suffers from white discharge (*leucorhoea*). It’s medicine comprises of a pinch of *Chular mati* (soil from kitchen hearth), a few mustard seeds, and leaves *Zanthoxylum rehtsa*. All these
ingredients are ground to a paste and taken with water twice a day during menstruation.

Dysmenorrhoea or pain during menstruation is a very common complaint among women. Some women suffer from excruciating pain and nausea and at times even faint. A decoction of paste made from the roots of *Mezoneurium cuculatum* and *Vitex penducularis* with cold water is given to drink for a week during the time of menstruation. Decoction of the sensitive inflorescence plant is believed to be very effective in painful periods and other vaginal infections. In the medication period dysmenorrhetic women are advised to avoid eating crab, snail, pork, dry fish, and spicy food.

### 3.44 Mumps

When a person suffers from mumps he experiences unbearable pain. To provide relief a leaf of the castor plant (*Ricinus communis*) is heated over a fire. Then this hot leaf is applied over the affected area.

### 3.45 Night Sickness in Babies (*Be’sani walo sa’ani*)

Babies suffering from night sickness show symptoms like high fever at night followed by trembling or shivering. For such a case, a paste made of a type of grass (*Urenia lobata*), leaves of *Asplesium esculentum*, and leaves of the life plant is used as a bharan on the forehead. It is tied with a piece of cloth. When the paste dries up, it is changed. This ailment is believed to be created by a spirit and a talisman.
is tied around the neck of the patient by the medicine man to drive away the evil spirit.

3.46 Noon-time Sickness in Babies (*Be’sa saljatchlo sa’ani*)

Sometimes babies suffer from fever only during the day but not at night. For its cure a paste is prepared from the following ingredients, viz., leaves of *Shorea robusta*, and *Centella asiatica*. This paste is applied as *bharan* on the forehead, and the juice extracted from this paste is also given to drink.

3.47 Obstruction of Liver (*Bika bikpilani*)

Obstruction of liver lead to a feeling of discomfort associated with food intake. It may be the result of poor eating habits, or it may be due to a disease in the gastrointestinal tract. Usually the discomfort centres around a burning or tight feeling in the chest, belching and a cramped or bloated sensation in any part of the abdomen. A number of folk-medical remedies are available to relieve distress of the liver. A decoction of paste made from the leaves of *Carruga pinnata* and *Morus laevigata* with black pepper is given to drink. During the course of treatment the patient is advised to avoid hot and spicy food and also non-vegetarian dishes. The folk-medicine man had demanded that if this medicine is taken for about ten days, then certainly the disease is cured.
3.48 One Side of Mouth Crooked (Ku’sik gitchinge sa’ani)

To cure this problem a medicine is prepared from a paste made of a kind of arum (Alocasia escules). This paste is applied from the forehead to that side of the face which is not deformed. The dried up paste is changed everyday. After about a week the deformation no longer exists.

3.49 Paralysis

For treatment of paralysis a decoction of roots of pedep (English equivalent is not known) is given to drink twice a day for about fifteen to twenty days or till the patient recovers. A paste made from the leaves of Alstonia scholaris and Carruga pinnata is used as a massage. The affected area or areas are massaged as frequently as possible to stimulate blood circulation and bring life to the dead tissues. A paste made of Murraya koenigil leaves is also used as a massage to bring the desired result.

3.50 Piles (Kesarisa be’at)

For the treatment of piles, the head of a tortoise, eatable portion of a snail, the head of a particular kind of worm the name of which is not disclosed, are made to a paste. The skin of the inflorescence of a plaintain plant (Musa bulbisiana Colla) is fried till black and mixed with the paste. This paste is finally mixed with water and applied externally, and also internally with the help of a raddish. The same mixture or paste
is mixed with cold water, and tied in a clean piece of cloth to extract the juice. Then the juice is given to drink. The folk medicine man had demanded that if this process is continued for about a week, then certainly the disease is cured.

3.51 Puerperal Fever (*Suthika bolsuta*)

Some women after child-birth suffer from this disease. They feel faint accompanied by general weakness, severe headache, and diarrhoea. Due to lack of appetite they tend to become weak and pale. Various medicinal plants are used to prepare it's medicine. The ingredients for the medicine are the bark of hogplum (*Spondias pinnata*), leaves of *Houlluyenia cordata Thumb*, bottle gourd, yam (*Colacasia escules*) full plant *Mimosa pudica* and skin of the inflorescence of plaintain (*Musa musacea*). All these ingredients are made to a paste, and the raw juice extracted from this paste is given to drink. There is also another remedy for this disease. A paste made of leaves of papaya, melon, and a kind of tuber known locally as *akuda* is applied on the stomach and forehead. The gum extracted from the bark of *Paederiea foetida* is also applied externally on the stomach to provide relief.

3.52 Pneumonia

Pneumonia results in high fever with chill, loss of appetite, severe headache, body ache, chest pain, and dry cough during the initial stages. During the later stages yellowish expectorant is released while coughing and the patient experiences difficulty in breathing. A paste
made of the leaves of *Erythna stricta* is applied on the forehead to reduce the body temperature. A decoction of the leaves of *Samadup* (English equivalent is not known) is also given to drink to cure pneumonia.

3.53 Rheumatic Pain (*Pae’ensa*)

Rheumatic pain signifies that there is inflammation of a joint due to which there is swelling and pain of the affected area. Rheumatic pain is believed to be due to wear and tear on the joints as a result of weight bearing, injury or other mechanical stresses. A host of indigenous medicines are available to aid in the treatment of rheumatic pain. The affected area is massaged with the fat of pig for relief. The villagers also believe that leaves of *Cordia grandis* and bark of *Luffa aegyptioca* when utilized as a poultice or compress in rheumatic pain cases work wonders. Another remedy for rheumatic pain is to heat the leaves of *Bryophyllum pinnatum* over the fire and apply the heated leaf over the affected area. All the above medicines are believed to have anti-inflammatory effects.

3.54 Retarded Growth in Children (*Jak rak sa’ani*)

When there is retarded growth in children they are unable to chew food properly. For its treatment a paste is prepared from the roots of betel vine, the paste of the leaves of *Cordea grandis* and dried rind of betel nut. This paste is applied as a massage all over the body. There is another remedy for retarded growth in children. It comprises of a poultice of the pounded roots of *Mucuna-bracteata* and *borongni*
3.55 Ring Worm (Khat)

The latex extracted from unripe papaya is applied over the affected area twice a day to provide relief. A decoction of leaves of *Annanas comusus* with salt and kitchen soot is used for curing ring worms. Another remedy for ring worm is to apply raw turmeric paste thrice daily over the affected area till the person recover.

3.56 Snake Bite (Sipua sua)

In case of snake-bite, strong bonds made of *theja* (a kind of grass) are tied on the stomach and near the area where the snake has bitten. A paste made out of the bark of *Gmelina arborea*, tender stem of *Mucuna bracteata*, bee’s egg, is prepared as a medicine. This paste is tied in a clean piece of cloth and the juice extracted is poured on the head and also given to drink. This medicine is believed to be very helpful in removing the poison from the victim’s body. There is another remedy for snake bite. A paste of sko, a kind of arum is applied over the affected area and the middle of the head. The extracted juice of this paste is given to drink. It is believed that this medicine helps in sucking out the poison from the victim’s body and then the colour of the patient’s body turns from a bluish colour to a normal skin colour. Since the poison from a snake-bite spread very fast, immediate action should be taken. Any piece of cloth must be tied very tightly near the wound to prevent the
poison from spreading all over the body which causes death. A lot of alertness is required on the part of those present near the victim at the time of occurrence of the incident.

3.57 Soreness of Buttock in Babies (*Kesang pari*)

In case of soreness of buttocks the raw juice extracted from sweet basil plant is applied. In case of itching this juice is mixed with water and applied. After two to three days the baby is fully cured. Another remedy for soreness of buttocks is to apply a paste made of the leaves of *Casia fistula*, *narangwa* (English equivalent is not known) leaves, and *singrip* (a type of stones).

3.58 Soreness of Tongue (*Be’sarang srebali*)

In case of soreness of tongue, a paste made of raw turmeric with honey when applied over the affected area is believed to be very effective.

3.59 Sprain (*Jaka nanga loriya*)

A poultice of the pounded leaves of *Murraya koenigil*, leaves of *Tagetus patula* and *Bryophyllum pinnatum*, *ginger*, *garlic*, and a few tender stems of *dodder* (*cuscuta ref lex*) is mixed with coconut oil and applied over the affected area, which is wrapped by a piece of clean cotton cloth. A new paste is applied everyday after removing the dried paste. This paste is applied till the patient recovers fully. A poultice of
raw turmeric is also applied in case of sprain. Sometimes a paste made of turmeric and lime or the paste of the fruit *Terminalia chebula* is applied over the sprain area and bandaged very tightly. Massage with mustard oil in an anti-clockwise direction over the affected area is also helpful in case of sprains.

### 3.60 Stomach ache (*Ok sa’a*)

Among babies and young children, stomach ache is a very common ailment, and attempts are made to provide relief. If the pain is severe a paste is prepared from twenty-five varieties of herbs (of which the folk medicine man Sri Mukharji D. Marak revealed the names of only a few herbs) viz. the bark of the *Alstonia scholaris*, a few leaves of *Albizia stipulata*, a few leaves of *Morus laevigata*, leaves of *Asperoitorge mutens*, and fruit of *Vaguera spinosa*. These are made to a paste and the juice extracted has to be consumed. This paste is also applied over the stomach to bring the much wanted relief. Another remedy for stomach ache is to drink the juice extracted from a paste prepared from twenty grams of basil leaves and twenty grams of ginger. This has to be taken on empty stomach. In case none of the above ingredients are present to provide relief there is another alternative. The topmost layer of cowdung is applied over the stomach and forehead in such cases.

### 3.61 Stroke (*Bon-wa*)

If a person suffers from a stroke the patient is rushed to the nearby Damra Dispensary, or to Dudhnoi Hospital. There is an indigenous
medicine to cure stroke. A paste made of the leaves of *smu* (*Pleydemolens maxma*), *Melocanna bambosoides*, and *Bambusa tulda* is prepared. This paste is applied as a *bharan* on the forehead, and also used to massage the hands and feet. The hands and feet are massaged in anti-clockwise direction vigorously to restore blood circulation in the patient. The leaves and bark of *Sakap* (English equivalent is not known), and black pepper is given to drink. An amulet made of a piece of bone of *ajaju*, a tall kneeless cannibalistic animal; a piece of bone of huluk ape and a piece of bone of *rarek*, an ape like arboreal animal. The amulet is to be tied around the wrist all the time to ensure fast recovery.

3.62 Strucking of Fish Bones on Throat and Piercing of Thorns on Body

A paste made of the roots of *tang'ok* (English equivalent is not known) is applied over the affected area. The extracted juice of this paste is also given to drink. It is believed that this helps the bone to come out easily and the wound caused by it also dries up and gets cured eventually.

3.63 Swelling of Different Parts of the Body due to Excess Body Water (*Ben bo’a*)

The cure for this type of disease is known only to the folk-medicine man Sri Dison Sangma of Nisangram. Elephant’s meat cooked with salt and water is given to the patient to eat. A decoction of paste made from the leaves of *Lagerstonia parviflora* is used as a massage. There is another remedy for removing excess water from the body. A
piece of bone of a small long teethy mouth fish known as *chonggna* is used for this purpose. With the help of this bone the toes of the patient are pierced. After sometime water is released through the pricked holes. If this procedure is continued for about two to three days then there is no swelling of the body as the excess water has been released.

### 3.64 Swelling of Feet (*Jaksi poma*)

To cure swelling of feet caused by polluted water, a paste is made by grinding *Lawsonia innermis*, a pinch of lime and coconut oil. This mixture is applied over the affected area until the sore is cured. Another remedy for swelling of the feet is the application of a paste made out of leaves of *Luffa aegyptioca* to which coconut oil has been added. It has to be kept overnight, wrapping the affected part with a piece of cloth.

### 3.65 Swelling of Finger (*Jaksi ripoma*)

Coconut oil is applied on the affected finger in case of swelling. Sometimes a fine paste made out of the leaves of *Luffa aegyptioca* is applied on the affected area and tied with a piece of clean cloth. The paste when dry is changed. It takes about two to three days to recover fully.

### 3.66 Tooth Ache (*Wagam sa’ani*)

For curing tooth-ache, the gum of the skin of a type banana locally known as *therek malbuk* is used while brushing. If the tooth ache
is due to cavity then the paste of raw turmeric is applied on that tooth. It is very helpful for killing the cavity and thus pain disappears. Sometimes in case of gum pain, three to four tender rawa leaves and a few Thematchi (English equivalent is not known) leaves, roots of chisik grass are ground to a paste and kept inside the hollow of a small piece of bamboo and covered with banana skin. After keeping this overnight, the mixture is taken out and boiled with water. When the water is little warm, it is used for gurgling. The people of Bakrapur and Nisangram also believe that brushing of teeth with a mixture of mustard oil, lemon juice and pinch of salt helps to relieve pain and also stops growth of cavity. Sometimes they brush their teeth with a paste made from four or five cloves mixed with lemon juice to kill the pain.

3.67 Tuberculosis

For the treatment of tuberculosis leaves of the Grateeva roxburghii tree and seven black pepper, are dried and grounded to a powder. While using it, some powder is mixed with water and boiled. When it is thoroughly boiled, the water is given to drink.

3.68 Typhoid (Sagop)

The patient suffering from typhoid experiences very high fever insomania, ulcers in mouth, and severe headache. To reduce it a paste made of the roots of Magnifera sylvestica, Zingibir officinale, leaves of Psidium guajava plants along with the bark of Hymendictyon excelsum tree is used as a medicine. This paste is applied on the forehead and tied
with a piece of cloth. The paste is changed when it dries up. This paste is applied till the body temperature of the patient comes to normal. This process of applying paste on the forehead is locally known as bharan dia. Besides bharan dia, three ingredients of herbal plants are mixed with water and consumed twice or thrice daily. These three ingredients are a paste made of the bark of Phyllanthus embilica tree, the bark of hogplum (Spondias pinnata), and the bark of lemon plant. This paste is consumed with water till the ailment fully disappears.

When ulcers occur in the mouth due to typhoid, the leaves of guava is made into a paste and mixed with honey. This is applied over the bruise or ulcer. Application of this medicine provides the much wanted relief. Another medicine for typhoid is a decoction of the roots of Phyloganthus tyrsiflorus, Zingiber officinale, a few black pepper, a nutmeg, a few cloves and a few pieces of Cinamomum pauciflorum with water. After preparing this, it is given to drink. The patient has to drink this medicine in an empty stomach and the quantity should be three teaspoons in case of adults and two teaspoons in case of children. This medicine is believed to be very effective and ensures sure cure from typhoid.

3.69 Ulcer of Mouth, Throat, and Stomach

In case of ulcer of mouth, throat, and stomach, a common medicine is believed to cure them. The root of Derria robusta tree and leaves of Bryophyllum pinnatum are made into a paste and applied over
the affected area for a period of seven days. The medicine is very helpful. In case of ulcer in stomach there is another medicine. The scales and livers of pangolin (*Manis peota dactyla*) are used as ingredients. The scales are used to prepare a talisman which is tied around the wrist. The liver is first burnt over a fire and then boiled in water and consumed by the person who is suffering from ulcers in his stomach.

3.70 Urinary Infections (*Be’sa-subu-simako-namatani*)

Sometimes babies and children suffer from different urinary infections. Due to such infections there is interrupted flow of urine with burning sensation, and they are unable to evacuate all urine at once. In such cases a decoction of the juice extracted from the roots of *Alstonia scholaris* with seven black pepper is given to drink. When babies and children suffer from bed-wetting, *na’tok bitchi* or fish egg, leaves of pasim (*Paederia foetida*) are mixed to a paste, and the raw juice is extracted and given to drink in an empty stomach. The paste of leaves of *Eugenia clariflora* is also applied externally to cure urinary infections in children.

3.71 Urinary Tract Infections in Males (*Ok-che pang*)

For its treatment a paste of the roots of *Alstonia scholaris* the bark of *Hymendictyon excelsum*, and leaves of *Urenia lobata* is prepared. The juice extracted from this paste after it has been boiled is given to drink. This proves to be very effective for treating urinary tract infections in man.
3.72 Vomiting (*Chi’gala or Chi’sata*)

Vomiting may occur due to various reasons like indigestion, headache, or high fever. The leaves of *Carruga pinnata* tree grounded to a paste and boiled with water and mixed with sugar when consumed helps in stopping vomiting. To stop vomiting, the paste of the roots of sensitive plant (*Mimosa pudica*) is mixed with cold water and given to drink.

3.73 Weakness in Babies (*Be’sarangni-salanti-be’an-nome-sa’ani*)

There is an indigenous medicine prepared from various medicinal herbs to cure weakness in babies. A paste is prepared from a type of grass (*chisik*), crab’s feet, and leaves of *cheluwat* (a type of plant which grows on the betel nut plant). This paste is applied on the forehead as *bharan* and tied with a piece of clean cloth. This paste is changed everyday. The paste is also used as a massage. If the baby is not cured within two to three days, then juice of *Murraya koenigil* leaves is given to drink.

3.74 When Babies cannot Sleep due to Cough and Vomiting (*Walotuna-man’ghija-gusuea-sâani-aru-chisata-chabo*)

For such a case, the juice extracted from a paste made out of black pepper, cardamom, roots of *galjina* and *katong* trees (English equivalent is not known) is used. A drop or two of this juice is given to the babies to drink.
From the foregoing discussion it can be presumed that Garos have ample knowledge about the therapeutic properties of plants, and other animal parts. This knowledge has been passed orally from generation to generation. The majority of illness are recognized as self-terminating or amenable to treatment with medicines purchased from the dispensaries or collected from the kitchen garden or the nearby jungles. While contemporary range of options for treatment is wider than it was before the introduction of modern medicine, it is likely that the indigenous medicine man is normally asked to treat only a very small proportion of the total number of illnesses or ailments suffered by the Garos of Bakrapur and Nisangram. The traditional medical remedies known to the Garos of both the villages in general, and to the indigenous medicine man in particular are, as has been stated are numerous and it would require systematic and scientific study to say in every known case whether the use is empirical or imaginary.

4. Discussion

The Garos have a broad natural pharmacopoeia consisting of plant and animal species and other inorganic substances. Ingredients sourced from these are greatly valued as raw materials in the preparation of Garo ethnomedicine. The elaborate system of nomenclature and classification of biological materials indicates the close relationship as well as the faith and dependence of the Garos on natural resources. The Garos of Bakrapur and Nisangram are rich in ethnobiological knowledge which is
being transmitted from one generation to another. Similar information related to human plant interactions of many tribal communities from different parts of the world have been reported by workers from time to time. The main objective behind the use of various biological and non biological ingredients in the preparation of Garo ethnomedicine is to provide relief to the patient by prescribing a remedy or cure.

WHO estimates that as many as 80 per cent of the world's more than six billion people relied primarily on animal and plant based medicine. It is greatly to the credit of the people of India that they were acquainted with a far large number of medicinal plants than the natives of any other country on the face of the earth. The importance of studying the subject of Indian medicinal plants have been insisted on by several writers. In the beginning of the nineteenth century, John Flemming contributed a valuable paper on the medicinal plant of India. 'Materia Indica', was a remarkable work published by Ainsle in early part of the twentieth century (cited in Kirtikar et al., 1975 : XVIII-XXXIII).

Geographical environment plays a vital role in conditioning the culture of a given area and it goes a long way in shaping the needs, customs and behaviours and thoughts of the people. People belonging to various cultures have their distinctive ways of perceiving the beliefs and customs endorsed by the people. This is further reflected in their uses of various natural resources in day-to-day life in treatment of disease and illness. Tribal communities living in isolation are very extensive in using various herbs and natural products as medicines. The Garo folk-medicine
draws its sustenance entirely from indigenous sources, roots of herbs, fruits, leaves, trees, animal parts, and other non-biological materials.

In an attempt to keep their body and mind healthy and get rid of disease and ailments the Garos employ a large number of biological materials- plants and animals and many other substances as medicines. Many of the traditional indigenous medicines used by the Garos of Bakrapur and Nisangram are effective due to the fact that many of such medicines constitute part of the traditional Indian medical system and medicinal properties of such medicines have already been scientifically tested like neem or Azadirachta indica, Ocymam sanctum, Phyllanthus embilica and many others. The use of different faunal species for curative purposes are also known to the folk-medicine man. However, the knowledge of the use of faunal species for curative purposes is very vague among the younger generation of the Garos. This is due to the non-availability of the faunal species and also due to the impact of modernization on them. Having converted to Christianity has also affected their outlook. They prefer to avail the modern medical facilities rather than learn about medicinal uses of locally available plants and animals in their surrounding. It has therefore been found that the Garos had to give up many traditional methods of treatment of diseases more particularly with the use of animal materials.

The most valuable of the drug and drug plants have been standardized as a result of the Pure Food and Drug Act of 1906. These are referred to as official drugs, the information of which is easily
available in sources like 'the United States Pharmacopoeia', the 'Homeopathic Pharmacopoeia' and 'The National Formulary'. These works are constantly revised and, kept up to date. The Standard Dispensatory' and the 'National Dispensatory' are other good references of Materia Medica. Comparatively few drug plants are cultivated and most of the supply of drugs are obtained from wild plants growing in all parts of the world, especially the tropics. On the same line, the information generated from the present study regarding the use of medicinal plants more particular the rare plants used by the Garos, need a thorough phytochemical investigation including alkaloid extraction and isolation along with few clinical trials. This could help in creating mass awareness regarding the need for conservation of such plants and also in the promotion of ethno-medico-botany knowledge within the region besides contributing to the prevention and enrichment of the gene bank of such economically important species before they are lost forever.

In addition to plants and microbes, there has been increasing attention paid to animals, both vertebrates and invertebrates, as sources of new-medicines. Animals have been methodically tested by pharmaceutical companies as sources of drugs for modern medical science and the current percentage of animal sources for producing essential medicines is quite significant. Of the 252 essential chemicals that have been selected by the World Health Organization, 11.1 per cent come from plants and 8.7 per cent from animals and of the 150
prescription drugs currently in use in the United States of America, 27 have animal origin.

The use of animals for medicinal purposes is part of a body of traditional knowledge which is increasingly becoming more relevant to discussions on conservation biology, public health policies, sustainable management of natural resources, biological prospection, and patents. Research interest and activities in the areas of ethnobiology and ethnomedicine has made important contributions to understanding traditional subsistence medical knowledge and practice. However in India the traditional knowledge system is fast eroding due to urbanization.

In using animal medicine it has been found that its use in witchcraft and black magic practices is gradually dwindling. This is mainly due to the restrictions imposed due to the influence of Christianity on the Garos. Zoo-therapeutic use of animals and their bi-products are still popular for other physical ailments and suffering. Some rare faunal species are still used for medicinal purposes. The folk medical experts utilize ingredients obtained from bodies of animals, birds, reptiles, etc.

In South-East Asian medicines the black bear’s gall bladder is widely used. In Taiwan a single gall bladder often cost as much as $3000.00. The bile salt removed from the organ is believed to possess
medicinal values against a host of diseases related with intestine, liver, heart, etc. (cited in the Sentinel, Vol. XII, 30th September, No. 6, 1994).

The principle of Garo ethnomedicine is based on analogic reason and homeopathic choice. It is evidenced from their belief that the different parts of the tiger are useful as they can strengthen the corresponding part of the consumers. Many studies also reveal the presence of this belief in many other communities (Browner, 1985, Cory, 1949). Again such principles are not only found in connection with medicines but also in connection with many other things. The Sema Nagas consider owl (Glaucidia sp.) and nightjar (Caprimulgus asiaticus) as idiots as they prefer darkness to light (Hutton, 1921). The Garos associate evil with the owl and regard the nightjar as the messenger of death. The scrow (Capricornis sumatraensis) is a very restless creature, it rarely sleeps in the same spot and rarely lays eggs in a particular place. The Naga women do not eat the meat of scrow because they believe that eating of meat of scrow may result in acquiring similar habits (Mills 1927: 77).

Inorganic substances form a small part of the inventory of medicinal materials in all cultures. Inorganic substances like fitkiri, a type of stone, rock curst, are often used as medicines either independently or in combination with other biological or non biological materials. The Garos of the study area also seek to symbolic healing treatment mostly to curing diseases whose causes were unknown or were not directly identified. The most popular causes related to the unknown being God,
the evil ones who can be supernatural beings or human possessing supernatural powers (e.g. midwives, ethnomedical experts, healers). The practicing of bewitching and smearing of paste of plants with magical properties to create jovial feelings are still prevalent though in lesser proportions among the Garos.

Inspite of the easy accessibility and availability of modern medicine, the Garos seek both traditional and modern medicine. The older generation still has undying faith for their traditional system of medicine. This is mainly due to their trust and conviction about the treatment process. The influence of Christianity is discernible among the Garos which appears to have compelled them to give up many of their traditional methods of treatment of disease as well as reduction in the use of witchcraft, sorcery and black magic practices to bring death and destruction upon the enemies.

The evolution of the curative measures of diseases has a long history passing through different ages and phases of development, culture and civilization of mankind. The Mishings of the No. 1 Dimaruguri Dangdhara village also have their own system of health care to cope with the ailments which is a conglomeration of methods, techniques, practices, cultural values, beliefs, tradition and ecological adoption. Under the influence of modernization, the ethnomedical system has already undergone unidentifiable changes. New types of diseases have made its appearance among the Mishings, in which the traditional system fail to offer any remedy. As a result, the modern
medicine has made its way in the traditional system thus making the traditional views towards the disease obsolete to a great extent (Medhi, 1995, IX : 65-68). The same can be said about the ethnomedical practices of the Garos of Bakrapur and Nisangram.

The ethnobotanical and zoo-therapeutic knowledge inherited from ancestors and through various interactions with nature has resulted in the present day Garo medicine. The knowledge among the younger generation is however dwindling with regards to the age old traditional methods of treatment. Conversion to Christianity and acculturation being the major factors behind their reluctance towards learning the age old recipes of Garo ethnomedicine, combined with the lack of easy availability of rare flora and faunal resources due to deforestation, should form a strong basis for making every possible attempt to rejuvenate this anciently inherited system of medicine.