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**A STUDY ON THE INDIGENOUS MEDICINAL PLANTS AND HEALING PRACTICES
IN CHITTAGONG HILL TRACTS (BANGLADESH)**

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Abstract

It has been unequivocally established that medicinal plants and associated knowledge play a significant role in the general welfare of the upland communities of Chittagong Hill Tracts (CHT), Bangladesh. Notwithstanding the recognition, however, organised research on indigenous medicinal plants and knowledge has been strikingly limited. This local wisdom is fast eroding for such reasons as biotic interference, shrinking land resource base, deforestation, insufficient support from the government and public policies, and lack of appropriate management and institutional structure. In this context, this article, drawing on an empirical fieldwork, sheds some lights on the indigenous medicinal plants and associated practices in six selected locations of CHT. After a general introduction, the second section summaries selected key literature on the subject. The third section presents some observation on the medicinal plant resources in the study areas, while the next section introduces the practice of traditional healers or *Baidyas* together with their problems. The concluding section furnishes the following clues on improvement: (a) systematic documentation and recording of the existing medicinal plants; (b) organised motivational and awareness raising campaign regarding medicinal plants and their benefits; (c) establishment of experimental propagation nurseries; (d) research support for proper documentation and dissemination of the knowledge on medicinal plants and associated folk and herbal treatment methods; (e) utilisation of the local press, media and folk cultural practices as community-based extension and dissemination media to highlight the importance of medicinal plants and knowledge; (f) development of a network or platform to bring the *Baidyas* together by utilizing the community-based organisations.

Key words: Bangladesh, Healing practice, Indigenous knowledge, Medicinal plants, Upland community

Introduction

It has been unequivocally established that medicinal plants and associated knowledge, which represent a part of rich local heritage, play a significant role in the general welfare of the upland communities of Chittagong Hill Tracts (e.g. Alam 1992, Khan *et al.* 2002). Zuberi (1999:69), for example, comments: "In Bangladesh and the adjoining regions, a long tradition of indigenous herbal medical systems, based on the rich local plant diversity exists forming a very important component of the primary health care system". Notwithstanding the recognition and emphasis, however, organised research and information on indigenous medicinal plants and knowledge have been strikingly limited. In the recent years, a general concern has been that this local wisdom is fast eroding for such reasons as biotic interference, shrinking land resource base, deforestation, insufficient support from the government and public policies, and lack of appropriate management and institutional structure (e.g. Zuberi 1999, Rashid and Rashid 2000, 2002, Khan 2000).

In the above context, this paper, drawing on an empirical fieldwork sheds some lights on the indigenous medicinal plants and associated knowledge and practices in selected locations of CHT. After this introduction, the second section summaries selected key literature on the subject in the context of CHT. The third section presents some observation on the medicinal plant resources in the study areas, while the next section introduces the practice of traditional healers or *Baidyas* together with their problems. In the concluding section, we discuss some clues on improvement.

The observations, which inform this paper, draw on fieldwork on six locations in CHT, namely Lama, Sualok, Balaghata, Chemidolupara, Majherpara, Madhapara, and Sadar, under the district of Bandarban (for details of the consideration of site selection and research methodology, see IMAGE 2002). The study sites were selected after a series of consultation with the key stakeholders in the region including the traditional local government leaders (e.g. *Karbari* and Headman), the local Circle Chief (*Bomang Raja*), *Baidya*, social and community leaders (e.g. monks, school teachers), and agroforestry farmers. The following factors were considered in choosing the sites: availability of *Baidya* and their practices; relative security in access and communication; presence of living specimen (of medicinal plants) and ethnic diversity among the communities. Some 30 *Baidyas* mainly from Marma and *Tangchayanga* community were interviewed within a time frame of nearly six months. The age range of the respondent *Baidyas* varied between 34 and 75; all the respondents except one, were male. The research mainly relied on such anthropological tools as personal (uncontrolled) observation, ethno-histories, and informal interviews. For a deeper understanding, occasional case studies were done. Additionally, a Field Diary was also used, where virtually any observed phenomenon of interest was noted.

A Summary of Selected Concerned Literature

Research on herbal medicinal plants and associated issues are very limited in Bangladesh. Alam (1992) has conducted ethno botanical survey on the Marma tribe and recorded local use of herbal drugs. Rashid *et al.* (1987) researched into the nature and functional dynamics of crude drug market in Bangladesh. They observed that different

Auayurbedic, Unani and other pharmaceutical industries of the country commonly used some 142 different crude drugs. Khisa (1996) explored the nature and use of the Chakma traditional medicine. Chowdhury *et al.* (1996) documented 42 folk formularies, which had long been used traditionally against dysentery and diarrhoea in Bangladesh. Another study by Alam *et al.* (1996) also documented 143 folk formularies against 53 common diseases. Nursery technique developed for propagation of popular herbal plants by the Bangladesh Forest Research Institute (BFRI) has also been documented by Rashid *et al.* (1990). For large-scale commercial plantation of medicinal plants, we need to have adequate knowledge about their flowering and fruiting phenomena. Ara *et al.* (1990) investigated in to these phenomena in some details. A manual has been developed by the WHO to provide information to the least literate villagers of the Southeast Asian countries about their herbal resources. This manual intends to keep health workers informed of the therapeutic utility of the flora growing adjacent to our homesteads and villages (WHO, 1990). Zuberi (1999) offers a brief status report on medicinal plant diversity and associated conservation measures. Rashid and Rashid (2000) present an analysis of the status of herbal medicine in Bangladesh together with their therapeutic use and associated indigenous knowledge. Another study by Rashid and Rashid (2002) looks into the prospect of floriculture and medicinal plant cultivation in the uplands of CHT.

The Major Medicinal Plants in the Study Area

The following table proffers a list of important plants, which have been observed in the study areas. These plants are preferred by the *Baidyas* mainly for such reasons as (a) their adaptability to the edaphic and climatic conditions of the locality (b) their market potential and (c) the diverse use of many of them in different medicine preparation as the 'base' ingredient.

Table 1: List of the Major Medicinal and Spice Plants Commonly Observed in the Study Areas

<i>Scientific name</i>	<i>Vernacular name</i>	<i>Therapeutic use</i>
<i>Acorus calamus</i>	Boch	Diarrhoea, dysentery, weakness, indigestion, cough, constipation, stomach disorders
<i>Adhatoda vasica</i>	Vasak	Expectorant; phthisis, coughs asthma.
<i>Aloe indica</i>	Gritakumari	Purgative; cooling agent; stomach diseases; preparation of lotion.
<i>Andrographis paniculata</i>	Kala megh	Hepatitis; antihelmenthic dysentery; fevers and stomach trouble.
<i>Anisomeles indica</i>	Gobura	Carminative; astringent and tonic.
<i>Aristolochia indica</i>	Iswarmul	Stimulant; tonic; stomach diseases; anti-periodic.

<i>Asparagus racemosus</i>	Shatamuli	Diuretic; measles; pox and diarrhea; energetic (tonic).
<i>Azadirachta indica</i>	Neem	Tonic; antispasmodic; insecticide.
<i>Boerhaavia diffusa</i>	Punarnova	Diuretic; antihelmenthic; skin diseases; asthma
<i>Cassia alata</i>	Dadmardan	Anti-parasitic; anthelmintic; aesthetic.
<i>Centella asiatica</i>	Thankuni	Energetic (tonic); nerve diseases; (fairer) skin complexion.
<i>Cinnamomum tamala</i>	Tejpata	Spices; stimulant.
<i>Curcuma aromatica</i>	Ban halud	Tonic; carminative.
<i>Curcuma caesia</i>	Kalahalud	Diarrhoea.
<i>Curcuma longa</i>	Halud	Spice.
<i>Cymbopogon citratus</i>	Lebugandhi ghas	Colic; stomach disease; rheumatic fever.
<i>Datura metel</i>	Dutura	Hydrophobia, arthritis, stimulant, cough, diarrhea, fever, mental disorders
<i>Embelia ribes</i>	Biranga	Carminative;anthelmintic; laxative.
<i>Ocimum sanctum</i>	Tulsi	Cough; fever; dysentery; stomach diseases; mosquito repellent;
<i>Phyllanthus emblica</i>	Amloki	Rich in vitamin (a component of <i>triphala</i>).
<i>Piper longum</i>	Pipul	Digestive, cough and cold, arthritis, after pregnancy disorders, asthma, gonorrhea
<i>Piper nigrum</i>	Gulmarich	Cough; spice.
<i>Plumbago rosea</i>	Lal Chitra	Conjunctivitis, skin diseases, abortion, leprosy, syphilis, paralysis, indigestion
<i>Rauwolfia serpentina</i>	Sarpagandha	Hypertension; sedative;
<i>Santalum album</i>	Sheta Chandan	Cosmetics, essential oil (aromatic)
<i>Saraca indica</i>	Ashoke	Menstruation, female diseases, dysentery
<i>Terminalia arjuna</i>	Arjun	Heart disease (a component of <i>triphala</i>).
<i>Terminalia bellirica</i>	Bhoera	Stomach diseases (a component of <i>triphala</i>).
<i>Terminalia chebula</i>	Haritaki	Stomach diseases (a component of <i>triphala</i>).
<i>Vitex negundo</i>	Nishinda	Weakness, headache, vomiting, malaria, black fever
<i>Woodfordia floribunda</i>	Dhaifhul	Female disease; dye.
<i>Zinger officinale</i>	Ada	Stimulant; cough; spice.

Medicinal plants are often found along hedge and boundary lines. The shrubby species are usually cultivated as undergrowth in homestead plantation areas and also in the fallow lands.

Organised commercial plantations (as distinct from irregular homestead plantations) are virtually absent. Scientific silvicultural practices (e.g. weeding, pruning) are not usually followed. Women play a major role in maintaining the (limited number of) homestead medicinal plantations in the locality. A number of *Baidyas* from the Marma community possess written manual (Burmese scripts) on the practice and they deal more in mainstream herbal treatment, as compared to the *tantra-montro* or spiritual and sacred ceremonies. The *Baidyas* representing the Tanchangya community are more into the practice of *tantra-montro*.

The Practice of Baidya: Nature and Challenges

The knowledge and wisdom, which underpin the practice of *Baidya*, are mostly passed on from one generation to the other. *Baidyas* provide two broad categories of services: (a) plant-based (curative and preventive) treatment and healing (*kabiraji*); and (b) spiritual and sacred ceremonies (*tontra-montro*). The following boxes present some glimpses of the life and living of the *Baidyas*:

Box 1: Shashi Vushan *Baidya* (50) [Rowang Para, Upazila: Sadar, Bandarban]

Shashi is one of the very few practising *baidyas* left in the locality. He is a rather reclusive personality and not much inclined to talk to outsiders. We found him in a tea stall adjacent to his house. He was moderately drunk. We sat by him in the stall along with a number of other villagers. It took more than an hour of chatting and drinking, before we could get into the `core' of our discussion.

Shashi represents the Tanchangya tribe. As a *baidya*, he needs to perform twofold roles: treatment with herbal medicine or *kabiraji*, and spiritual healing or *ban-tona*. The raw materials or crude drugs needed for *kabiraji* had traditionally been available locally. However, now

... you do not find trees and herbs in the [local] jungles. The rocks are barren. People cut trees and take them away in trucks. If you cut trees, herbs also die...; trees and herbs are like own mother's sons [i.e. brothers]. One cannot live [without the other].

Currently, some rare herbal drugs, therefore, need to be bought from shops at Balaghata and Bandarban (city) bazaars, who in turn brought them from Chittagong (especially from a large shop called Pitambar Saha in Khatungongj which imported herbal materials from such countries as India, Pakistan, Nepal and Burma). Some common *kabiraji* treatments include:

- applying the juice of *Dandaup-ton* (a creeper) for pain in ears or nose;
- use of *Ban-dhania* (*Scopolaria dulciii*) in a number of `female diseases', such as pain in the breasts', `not enough breast milk' etc.;

- use of *Kacharang sak* (a vegetable, something like spinach) in case of stone in kidneys;
- use of *Ludijolap* (a herb) for stomach pain and constipation;
- use of a compound paste made of the barks of mango and guava trees in the treatment of diarrhoea and cholera. After the paste is made, a red-hot *dao* (jungle knife) is placed in it, before it is given to the patient for oral consumption;
- use of *Morog-ful* or *Morog-jhut* (a herb) in controlling excessive bleeding during the time of child birth;
- use of the root of *Rakta-chita* in pregnancy related complications including abortion.

Not much is known to us about the world of *Ban-tona* or spiritual healing. What is it actually? Shashi explains:

You learn this [practice] from your fathers and grand fathers ... You have to love and adore the spirits, [until] the spirits gets into you [and starts] living in your [soul]. I learnt it from my father Chandra baidya, who was taught by his father. It took 20 years for my father to learn the *monstro* [the sacred words] and he became the personal *baidya* of an official of the King ...

We observed about 25 dried gourds, arranged in two rows, in Shashi's house (we were invited to his house for a short while, from the tea stall towards the end of our discussion). The usual practice is to utter the *monstro* into the gourds and then each *monstro*-charged gourd was given to the patient or devotee for oral consumption. Sometimes, other small objects, known as *tabiz*, are also offered as talismans. People come to the *baidya* with a range of problems and complications relating to: (troubled) love affair; litigation; crop failure; natural calamities; (how to) win over enemies; (how to) influence other people's lives and minds; (disorder in) sexual practices and desires; and (how to) predict the future.

We were not allowed to touch or take photographs of anything related to the practice of *kabiraji* or *ban-tona*, lest it might "disturb the living spirits". There is no specific time for treatment. People may come anytime to the *baidya*. Mostly, however, people get hold of Shashi in the tea stall, which was his favorite place to drink tea and locally made rice wine. There is said to be sacred *monstro* book, which the *baidyas* follow. We were not allowed to see it. We asked the villagers who were chatting with us in the tea stall about the book. Although they were "certain" of its existence, neither of them had actually seen a copy of the book.

Shashi has two sons and a daughter. The boys attend the government primary school, which is located about 2 miles off the stall. The girl gives a hand to her mother in household chores. The wife looks after the *jhum* and the family chores, while Shashi's life centres around *kabiraji*, *ban-tona* and drinking. "A *baidya* needs a cool head to perform....; work in *jhum* is hot...it drains away the *tosh* [fluid] of your mind and head". We are uncertain about Shashi's income from the practice. He was unwilling to share any comment on this. Drawing on his neighbours' comments and our rough estimates, we believe his income as a *baidya* is something to the tune of Tk. 500 a month. A local NGO occasionally engages Shashi for their motivational campaign in the locality. Some days, he accompanies the Headman or the Union Council Chairman to the city officials or the King

in Bandarban. These are some other sources of his income (and social honour). Is he prepared to teach his knowledge to his sons?

No, these days boys do not have love for the spirits; if you do not love the spirits ... , [the spirits] do not reside in you. It's no easy thing. It needs long devotion and interest ... [Besides] people also do not come much to us.

How to improve the situation? In Shashi's opinion, three things would make him "very happy": a regular supply of crude drugs or herbal raw materials; an institutional arrangement for training in herbal medicine; and showing public respect to the "living spirits".

Source: Based on Khan 2001

Box 2: Suichano Marma (58) [Madyam Para, Bandarban Sadar, Bandarban]

Suichano a popular *Baidya* in the locality. He lives in a bamboo walled (and sungrass-thatched) house, which is built at about half meter height from the ground. As he has no separate room for attending the patients, Suichano uses one part of his house for the purpose. He is Buddhist by religion and keeps a well-decorated large picture of Lord Buddha in the house.

The herbal plants grown around the homestead immediately caught our attention. Suichano's garden of medicinal plants is small, yet richly stocked. The area looked visibly green with grassy bushes, although there was hardly any large tree in sight. He collected these plants by searching through the forests and hills in the vicinity:

Many plants you do not see any more; they are gone; ... small plants and big trees are like brothers of the same mother. You kill a tree, the brother [i.e. small plant] also dies. I have walked until my knees crack [i.e. a long distance], but still I was unable to find some of the plants [which] I used to get so easily in the nearby jungles.

He has no institutional training as *Baidya* but inherited the knowledge from his forefathers. He cannot speak Bengali fluently, but the level of understanding the language is good. He can read and write Marma language. He possesses a manual on herbal medicines, which is written in Marma language. His sons and daughters are all married and they live separately. They do not show any interest in their father's profession, as there is "not enough money; this generation is not as stupid as us".

Suichano reports that his income from the profession is "very little and uncertain". The practice of *Baidya* is getting increasingly difficult, as "natural raw materials are getting scarce [and he has] to depend on external suppliers for the raw materials, which are often impure". It sometimes takes weeks to procure the required medicine from the suppliers and thus patients loose interest.

Suichano feels that if the supply of pure raw materials is ascertained, herbal treatment may “regain its lost glory”. He suggests the following actions: (a) establishment of farms on herbal medicines and (b) proper training of *Baidyas*.

9 (out of 30) *Baidyas* maintain a reasonable stock of the major medicinal plants and herbs in and around their homestead premises. The family members especially the women typically look after these plantations. Only 3 respondents have specialised chamber for attending to the patients. Other does not have any special provision or formal arrangement, except for small wooden boxes to store the basic equipments and raw materials for the practice. Most *Baidyas* collect raw materials from local bazaars namely Balaghata bazar, Sualok, Bandarban sadar. For more widely used materials, *Baidyas* occasionally approach intermediate agents or middlemen or city-based whole-sellers. There are a few medicine shops in the City of Chittagong, which deal in herbal and medicinal plants.

It is difficult to determine *Baidyas*' income. Their income varies substantially and shows seasonal fluctuations (e.g. winter is often a busy time for the *Baidyas* in handling cases of mental disorder; high monsoon for water-borne diseases). A good number of respondents expressed their unwillingness to discuss about their earnings. Besides, for nearly two third of the respondents, the practice of *Baidya* is not the only source of livelihood. They typically rely on such supplementary sources of income as small business (e.g. grocery shops), collection of non-timber forest products (bamboo, fuelwood, sungrass, honey etc.), livestock (especially pigs) rearing, sharecropping, and waged labour. The highest and lowest incomes from the practice of *Baidya*, as reported by the respondents (who agreed to share the information), are Tk. 1400 and Tk. 6000.

Drawing the respondents' comments and responses, the following major problems and challenges concerning the practice of *Baidya* may be identified:

- Our empirical observations suggest that in most cases these traditional healing systems draw and rely on Hamdard's pharmacopoeia – primarily based on *Unani* principles. Besides, some use of Indian and British pharmacopoeia has also been noted. In some areas, a more localized, tailor-made system – locally known as *Mogha Shastrya* -- is practiced which contains a convenient mixture of *Unani* and *Auayurvedic* principles.
- The most widely used species, e.g. Boch, Datura, Chitra, Kala jira, Grhitokumari, Punanarva, Kalo holud, Sharpagandha, and Arjun in the preparation and practice of medicine are becoming increasingly rare and difficult to procure for such reasons as rapid destruction of the neighbouring natural forests (mainly prompted by organised illicit commercial logging), bureaucratic complications and harassment (e.g. by the Forest Department), and inaccessibility and difficulties in communication and transportation.
- This traditional wisdom has not been institutionalised. There is no formal arrangement or institution to train and nurture this knowledge in the locality. The institutional mechanisms for dissemination or extension of the knowledge and practice are also absent.
- The time of collection and harvesting of medicinal plants is a vital factor in ensuring efficacy of the medicines prepared thereof. The time factor is often ignored or by-passed by the *Baidyas* due to acute shortage and great demand of these plants.

- Local people nowadays prefer ‘modern’ mainstream medication. The reduced number of patients, coupled with the difficulty in obtaining raw materials, makes the practice of *Baidya* almost unsustainable.
- The young generation does not show much interest in learning the traditional practice. They feel that *Baidya* as a profession is not promising for the above reasons. Some youngsters also consider this practice to be derogatory; as manifested in the following remarks made during the interviews: ‘backward’, ‘primitive’ and ‘clearly out of date’.
- Majority of the existing *Baidyas* buy the raw material (spices, plants, stamp, seeds, roots etc.) of their practice from the local markets. Many respondents reported that these materials are generally of low quality and poor stock.
- Although there are a number of public (e.g. nurseries developed by the Forest and Agricultural Extension Departments) and private nurseries in the locality, these nurseries rarely cater for the requirement of medicinal herbs and plants. The *Baidyas*, who want to ensure a sustained source of quality seed and seedling, badly feel the absence of a central propagation nursery.
- Institutional and external support and patronisation, especially from the government, for the development and promotion of indigenous medicinal plants and knowledge are nearly absent in the study areas. *Baidyas* lack any organised platform or avenue to voice their demands and problems, and also to share and exchange idea and information.

Conclusions: Clues on Improvement

The age-old practice of *Baidya* is currently threatened by a host of problems including limited availability of the required plants and herbs; rapid destruction of natural forests; lack of formal arrangement or institution to train and nurture this knowledge; lack of organised propagation nurseries; inadequate institutional and external support and patronisation (especially from the government); low quality and poor stock of raw materials in the open market; and unwillingness among the youngsters to learn and adopt the practice. Despite the rather dismal present state of affairs, this deeply rooted social practice, which has significant value as a community service, still holds great potential and remains too important to be ignored. Drawing on the respondents’ comments and our observation during the fieldwork, the following ideas and clues on possible improvement may be considered:

- With the active participation of the local people, the existing medicinal plants should be systematically documented and recorded; the document may also be made available in major local languages in a simple and user-friendly manner.
- Organised motivational and awareness raising campaign regarding medicinal plants and their benefits (e.g. free from negative side effects, low cost) may be carried out at the community level, especially amongst the younger population, by involving the community leaders and local community based organisations (e.g. schools and religious institutions) and NGOs.
- Experimental propagation nurseries may be established under government and non-government initiatives to ensure sustained supply of seedlings.

- The mainstream research institutions in the country, especially the forest and agricultural research institutes and universities may be encouraged to provide the much-needed research support for proper documentation and dissemination of the knowledge on medicinal plants and associated folk and herbal treatment methods.
- The local press, media and folk cultural practices (e.g. folk theatres) may be utilised as community-based extension and dissemination media to highlight the importance of conserving this traditional practice and heritage.
- Local base and community relations—two of the major benefits of some of the local NGOs and community based organisations may also be exploited for initiating a network or platform to bring the *Baidyas* together.

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References

1. Alam, M.K., Chowdhury, J. U. and Hasan, M. A.(1996).. 'Some Folk Formularies from Bangladesh'. *Bangladesh J. Life Sci.* **81(1)**: 49-69.
2. Alam, M. K. (1992).. 'Ethnomedicobotany of the Marma Tribe of Bangladesh', *Economic Botany* **46(3)**: 330–335.
3. Ara, R., Mohiuddin, M., Alam, M. K. and Rashid, M. H. (1990). *Bangladesher Oushhadhio Gach Gachrar Ful O Faler Dinpanji* (in Bengali). NTFP Series-3, Bangladesh Forest Research Institute, Chittagong. 12pp.
4. Chowdhury, J. U., Alam, M. K. and Hasan, M. A.(1996). 'Some Traditional Folk Formularies Against Dysentery and Diarrhea in Bangladesh'. *J. Econ.Tax.Bot.* **12**: 20-23.
5. IMAGE (2002). *The Third Quarterly Report On Documentation Of Folk And Indigenous Medicines Specially Popular Among Tribal People With Information On How And Against What Diseases They Are Used*, submitted to Sustainable Environment Management Program (SEMP), IMAGE (Social Welfare Organization), Chittagong.
6. Khan, N. A., Alam, M. K. and Khisa, S. K. (Editors) (2002). *Farming Practices and Sustainable Development in the Chittagong Hill Tracts*, Chittagong Hill Tracts Development Board, Government of Bangladesh and Village and Farm Forestry Project, Intercooperation, 272 pp.
7. Khan, N. A. (2001). *The Vision and Visage of the Chittagong Hill Tracts*, Chittagong Hill Tracts Development Board, Government of Bangladesh and Bangladesh Resource Center for Indigenous Knowledge, 104pp.

8. Khan, N. A. and Sen, S. (eds.) (2000). *Of Popular Wisdom: Indigenous Knowledge and Practices in Bangladesh*, Bangladesh Resource Center for Indigenous Knowledge, 150pp.
9. Khisa, B. (1996). *Chakma Talik Chikitsa (Traditional Chakma Medicine; in Bengali)*, Herbal Medicine Center, Rangamati, Bangladesh. 136pp.
10. Rashid, M. H. and Rashid, A. Z. M. Manzoor (2002). *The Prospects of Medicinal Plant Cultivation and Floriculture in the Upland Farming System*, In *Farming Practices and Sustainable Development in the Chittagong Hill Tracts*, Khan, N.A. (eds.), Chittagong Hill Tracts Development Board and Swiss Agency for Development and Cooperation, 272 pp.
11. Rashid, A.Z.M. .Manzoor and Rashid, M. H. (2000). *The Status of Herbal Medicines in Bangladesh*, In *Of Popular Wisdom: Indigenous Knowledge and Practices in Bangladesh*, Khan, N.A. and Sen S. (eds.),. Bangladesh Resource Center for Indigenous Knowledge, Dhaka, 150 pp.
12. Rashid, M. H., Mohiuddin, M., Ara, R. .and Alam, M. J. (1990). *Vashoj Udvid O Ehar Chashabad. (in Bengali)*.NTFP Series-4, Bangladesh Forest Research Institute,Chittagong.17pp.
13. Rashid, M. H., Alam, M. J., Ara, R. and Merry, S. R (1987). *Crude Drug Market of Survey*, Bangladesh. Bangladesh Forest Research Institute, Chittagong (Unpublished).
14. WHO.(1990).*A Manual for Health Workers in South-East Asia*. SEARO Regional Health Paper No.19.World Health Organization.143pp.
15. Zuberi, M. I. (1999). *Medicinal Plant Diversity: the Present Situation and Conservation needs in Bangladesh*, In *The Role of Medicinal Plants Industry in Fostering Biodiversity Conservation and Rural Development*, Karki, M and Johari, R. (eds.), *Medicinal and Aromatic Plants Program in Asia (MAPPA)*, IDRC/SARO, New Delhi, India, 121 pp.