

ORIGINAL ARTICLE

A Survey of Plant Items Eaten by the Low Income Groups of the Rural Population of Talbunia Village in Bagerhat District, Bangladesh with an Account of Their Folk Medicinal Applications

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ABSTRACT

Food scarcity is a common feature among the poor people of Bangladesh, particularly among the rural areas and the urban slums. While the staple food of Bangladesh people is rice, under conditions of food scarcity (caused due to non-availability of cash income), the people tend to eat non-conventional plants or such plant-derived food items. Since death from hunger or malnutrition is reportedly practically absent in the country, the consumption of non-conventional plants must therefore satisfy, at least, the basic nutritional needs of the people enabling them, at least, to stay alive. It was the objective of the present study to find out what sort of non-conventional plants were consumed by the poor people of Talbunia village in Bagerhat district, Bangladesh at times of food scarcity. Twenty five plants were observed as to being consumed by the poor people of Talbunia village. It was noted that while certain plants were not at all consumed during times of food availability, other plants were consumed but only occasionally. The pattern of cooking was quite different during times of food scarcity than in normal times. Under times of food scarcity, the use of spices, a normal feature of the cuisine of Bangladesh, was extremely curtailed. Consumption of non-conventional plants essentially took the mode of boiling whole plants or plant parts and then consuming them with salt. It was further recognized that the majority of the non-conventional plants consumed by the villagers had also folk medicinal uses, which corresponded well with malnutrition and other forms of ailments that arise out of obtaining less nourishment. The various folk medicinal uses of the non-conventional plants included treatment for vitamin deficiency, anemia, malnutrition, as tonic and energy stimulant, and diseases which were inter-related with insufficient nutrition, like helminthiasis and gastrointestinal disorders. It appears that the non-conventional plants eaten by the poor villagers of Talbunia village may serve two purposes – provide nourishment, as well as have a therapeutic function in the prevention of general and malnutrition-related diseases.

Key words: Medicinal plants, Low income populations, Talbunia, Bangladesh, Non-conventional food plants

Introduction

Bangladesh is a small developing country with a population of about 150 million. By all economic indicators, although the country is achieving economic growth, there still remains a huge section of the

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population living below the poverty line in particularly the rural areas and the urban slums. Around 40% of the population live in poverty, and 25% of them are classified by the Government of Bangladesh as extremely poor (Holmes, 2008). About 56 million people fall below the threshold level, for calorie intake of 2,122 kilocalories/person/day, as estimated in 2005 (Japan Bank for International Cooperation, 2007). The incidence of poverty is highest, in Khulna Division; however, poverty is overwhelmingly seen in all Bangladesh's rural areas (Japan Bank for International Cooperation, 2007). Occurrences of flooding and other adverse weather conditions; limited transportation options; illiteracy; lack of power and other infrastructure - all contribute to this severe poverty (Agricultural Development Bank (ADB), 2005). Furthermore, the above noted 25.2% of people living under extreme poverty are landless, while another 39.2% people living under extreme poverty owns less than 0.05 acre of land (Japan Bank for International Cooperation, 2007). As a consequence of this extreme poverty, the poorer households suffer from chronic food scarcity.

In poverty-stricken households, it is mainly the elderly, the women, and the children who are most vulnerable both to malnutrition, and the occurrence of various diseases. In a survey conducted on 457 randomly selected individuals aged 60 or older, in a rural area of Bangladesh, it was observed that 26% were undernourished and 62% were at risk of malnutrition (Ferdous, 2010). It has been also observed that household food security is a primary determinant of successful growth of children, in rural Bangladesh (Saha, 2009). In another survey conducted among 383 pregnant women, in the poor urban areas of the country, it was observed that about 40% of the women were anemic and 45% had low serum vitamin A levels; significantly, these facts also correlated highly, with the level of literacy among these women (Ahmed, 2003). Chronic energy deficiency (stemming from lack of intake of adequate kilocalories) has been noted in women from rural Bangladesh and which was more prevalent among the poor (Ahmed, 1998). There are seasonal dimensions to the rural poverty, with the wet season being the primary context, for food shortages, lack of work, malnutrition, and sicknesses (Chambers, 1979).

The staple food of the affluent people of Bangladesh is rice. Rice is eaten in the boiled form along with lentils, leafy vegetables, potatoes, fish and meat. The poorer populations usually eat rice with lentils and vegetables. Hot peppers are eaten with it, to make the rice more palatable, especially in the absence of vegetables or lentils. For breakfast, the farmers eat what is called "panta bhat" before setting off to work in the fields. Panta bhat is rice which has been soaked in water the previous evening and consumed the following morning. Usually such rice is mixed with hot peppers and salt to improve its taste. The affluent sections of the rural and urban population eat at least three times, if not more within a 24 hour time period. The three major meals are breakfast, lunch, and dinner with snack items in between these. The poorer sections of the population, particularly among the rural areas, and the urban slums, often have only one meal per day.

Because a substantial number of the population lives below the poverty level income of US\$ 1 per day, procurement of rice becomes difficult, due to lack of cash. This situation is aggravated, when the cost of rice become dearer as a result of a decrease in the rice harvest or a loss of livelihood among the people. The high rate of unemployment and low wages make such non-affordability, a common hardship, among millions of people of Bangladesh. Moreover, the northern regions of the country suffer an annual seasonal famine known as Monga (Jahan, 2010). During Monga, the poorer sections of the population rely on various non-conventional food items (mostly plant-derived) as a substitute for the daily diet of rice, vegetables and lentils. Although malnutrition is a well-documented fact, death due to the absence of commonly eaten foods, is scarcely reported. Given the absence of mortality, during the Monga famine as well as during times of food scarcity (which is quite common among the poor people), it is of interest to find out more about the non-conventional food items that the poorer people take on almost daily basis, since these mostly plant-derived non-conventional items are somehow enabling the poorer population to survive. Accordingly, a survey was carried out among the poor families of Talbunia village in Bagerhat district of Khulna Division to identify the non-conventional food plants that they eat to survive and mitigate hunger. In fact, non-conventional plant-derived items form practically the exclusive source of nourishment, for these people during periods of annual food scarcity.

The authors had been conducting ethnomedicinal surveys, in various regions of Bangladesh, including the tribal population, for quite some time (Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Hossan, Md. Shahadat, 2009; Hanif, 2009; Nawaz, 2009; Rahmatullah, 2010; Hossan, 2010; Mollik, 2010; Rahmatullah, 2010; Rahmatullah, 2010). During the above survey at Talbunia village, it was recognized that many of the plants or plant-derived parts, consumed by the poor people as substitutes for rice also are used by folk medicinal and tribal practitioners, for treatment of various ailments – a fact that had been observed, in numerous other surveys the authors had conducted throughout Bangladesh. Clearly, the non-conventional plant food resources consumed by the less affluent sections of Talbunia village satisfy multiple purposes – mitigating hunger, providing nutrition requirements, and therapeutic assistance, for a number of medical ailments. The present report, therefore, will document plants or plant products consumed for food, by the poorer sections of the rural people of Talbunia village as well as describe their folk medicinal uses.

Materials and Methods

A preliminary survey of various villages in Bagerhat district, Bangladesh was conducted, which identified Talbunia village as one of the poorer villages. The main occupations, of the poorer people of this village are agriculture and agriculture laborer. Agricultural laborer refers to people who work on other people's land, in exchange for a cash wage or a portion of the harvest; agriculture refers to farmers who own and work their own land. Other forms of occupation are virtually absent, except for cultivation of the saltwater shrimp, *Penaeus monodon* in shrimp enclosures. Shrimp farming is mainly practiced by the affluent villagers, who have enough land to build shrimp farms and can afford the purchase of shrimp fries and shrimp food. Agriculture cannot be practiced, on a large-scale, because of the saline quality of the water. Paddy (rice) and vegetables are the main crops grown, during the rainy season, when enough monsoon rains reduce the salinity of the land and surface water. A preliminary survey of the village households was conducted to identify the least affluent. Around one hundred and twenty of these households (mainly agricultural laborers and marginal farmers) were selected, for extensive interviews. Interviews were conducted with the help of a semi-structured questionnaire, by means of which information was gathered about the household members, their economic statuses and particularly the food items which they consumed, when rice in the households is non-existent or below subsistence levels. Major attention was given to plants consumed during severe food scarcity which, apart from the post-monsoon rice harvest, was quite common during the rest of the year. Information was obtained about the local names of plants, plant parts consumed and how those entire plants or plant parts were cooked and eaten. Identification of plant specimens were done at the Bangladesh National Herbarium at Dhaka.

Ethnomedicinal survey data and the mode of obtaining such data have been reported previously (Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Rahmatullah, 2009; Hossan, Md. Shahadat, 2009; Hanif, 2009; Nawaz, 2009; Rahmatullah, 2010; Hossan, 2010; Mollik, 2010; Rahmatullah, 2010; Rahmatullah, 2010). Briefly, interviews were conducted, with folk medicinal practitioners (known as Kavirajes by Bengali-speaking population) as well as tribal medicinal practitioners, with the help of a semi-structured questionnaire and the guided field-walk method of Martin (1995) and Maundu (1995).

Results and Discussion

As noted, food scarcity can result from both insufficient cash income as well as inadequate harvest. Inadequate harvest can cause food scarcity among the landed class of farmers, while both inadequate harvest and very limited or no cash can be the causes of food scarcity among people who do not have or have only small pieces of land and generally owe their income, by working on other people's land or from the sale of home-made items. Scarcity of food was observed to be a common feature of the poverty-stricken households in Talbunia village for most of the year. The poverty was attributed by them to lack of land, lack of jobs, lack of markets for home-made products, as well as inadequate pay when working on somebody else's land. Moreover, when working on another's land, the job was not guaranteed throughout the year. Employment tended to be seasonal, and such people were mainly employed during planting of crops and during harvesting, when demand for labor was at its highest. It was observed that a total of 25 plants or plant parts were consumed by the poverty-stricken households of Talbunia village when there was insufficient rice to adequately feed family members. The plant parts primarily consumed were leaves and stems (new stems). These are summarized in Table 1. Quite a number of these plants can be classified as non-conventional plants.

Two types of non-conventions can be distinguished at this point. The first related to consumption of plants that were simply not consumed or rarely consumed (by the latter it is meant they were consumed may be on a few occasions per year, i.e. eaten on a few days in the year, when seasonally available and the price affordable) during normal day to day conditions of living, but were consumed during acute food scarcity as replacements, for rice as a nutrient source; or merely to mitigate hunger. Plants or plant parts belonging to this category were *Asteracantha longifolia*, *Alternanthera sessilis*, *Centella asiatica*, *Enydra fluctuans*, *Chenopodium album*, *Dryopteris filix-mas*, *Lathyrus sativus*, *Tamarindus indica* (leaves only, fruits are edible and consumed regularly), *Glinus oppositifolius*, *Oxalis corniculata*, *Bacopa monnieri*, and *Cissus trifoliata*. The second type of non-conventional plants relates to the cooking procedure used. In general the cuisine of Bangladesh is fairly elaborate and involves addition of at least three or four spices, if not more, to even a simple dish. During times of food scarcity, the poor villagers, for financial reasons, cut down on the spices and so the cooking of vegetables was seen to be a simple affair. Most plants or plant parts were cooked by boiling with water till they got soft and then eaten with the addition of a little salt. Plants or plant parts were also eaten, after being fried; as soup; or mashing them. In these forms, the use of spices was found to be much reduced. As noted, boiling is the primary preparation technique after which the plants are eaten with a small amount of water;

Table 1: Non-conventional plant items eaten during food scarcity by the poorer segments of the rural population of Talbunia village, Rampal Upazilla (sub-district), Bagerhat district, Bangladesh.

Serial Number	Scientific Name	Family Name	Local Name	Plant part(s) eaten	Mode of eating
1	<i>Asteracantha longifolia</i> (L.) Nees syn. <i>Hygrophila auriculata</i> (Schumach.) Heine English: Hygrophila, Marsh Barbel	Acanthaceae	Kule khara	Leaf, new stems	Cooked, fried.
2	<i>Alternanthera sessilis</i> (L.) DC syn. <i>Alternanthera nodiflora</i> sensu Stewart, <i>Alternanthera repens</i> Gmel, <i>Illecebrum sessile</i> (L.) L. English: Sessile Joyweed	Amaranthaceae	Malancha	Leaf, new stems	Cooked, fried, soup.
3	<i>Amaranthus gangeticus</i> L. syn. <i>Amaranthus tricolor</i> L. English: Chinese amaranth, Chinese spinach, Joseph's coat, Summer-poinsettia, Tampala	Amaranthaceae	Lal shak	Leaf	Cooked, fried, soup.
4	<i>Centella asiatica</i> (L.) Urb. syn. <i>Hydrocotyle asiatica</i> L., <i>Hydrocotyle erecta</i> L. f. English: Asian pennywort, Asiatic coinwort, Asiatic pennywort, Indian pennywort, Indian water navelwort, Marsh penny, Marsh pennywort, Pennyweed, Sheep-rot, Spadeleaf, Thick-leaved pennywort, Water pennywort, White rot	Apiaceae	Thankuni	Leaf	Cooked, fried, soup, raw intake.
5	<i>Colocasia esculenta</i> (L.) Schott syn. <i>Arum esculentum</i> L., <i>Caladium esculentum</i> (L.) Vent., <i>Colocasia antiquorum</i> Schott, <i>Colocasia antiquorum</i> Schott var. <i>esculenta</i> (L.) Schott English names: Cocoyam, Dasheen, Eddo, Elephant's ear, Taro, Taro potato	Araceae	Kochu	Leaf, rhizome	Cooked, fried.
6	<i>Typhonium trilobatum</i> (L.) Schott syn. <i>Arum trilobatum</i> L. (basionym) English: Bengal arum, Lobed leaf Typhonium	Araceae	Ghatkul, Ghetkun	Leaf	Cooked, fried, soup.
7	<i>Enydra fluctuans</i> Lour. syn. <i>Cryphiospermum repens</i> P. Beauv., <i>Enydra anagallis</i> Gardner, <i>Meyera fluctuans</i> (Lour.) Spreng. English:	Asteraceae	Helencha	Leaf, new stems	Cooked ¹ , fried ² , soup ³ , mashed ⁴ .
8	<i>Basella alba</i> L. syn. <i>Basella cordifolia</i> Lam., <i>Basella rubra</i> L. English: Malabar nightshade, Malabar climbing spinach, Malabar spinach	Basellaceae	Pui shak	Leaf	Cooked, fried, soup, mashed.
9	<i>Chenopodium album</i> L. syn. <i>Anserina candicans</i> Montandon, <i>Atriplex alba</i> (L.) Crantz, <i>Blitum viride</i> Moench, <i>Chenopodium viride</i> L. English: Common lamb's quarter, Fat hen, Lamb's quarter, Lamb's quarters, Meldweed, White goosefoot	Chenopodiaceae	Beto shak	Leaf, new stems	Cooked, fried, soup (with addition of tamarind, i.e. fruit of <i>Tamarindus indica</i> added).
10	<i>Spinacia oleracea</i> L. syn. <i>Spinacia domestica</i> Borkh. English: Spinach, Cultivated spinach	Chenopodiaceae	Palong shak	Leaf	Cooked, fried, soup.
11	<i>Ipomoea aquatica</i> Forssk. syn. <i>Ipomoea reptans</i> (L.) Poirét, nom. Invalid. English: Chinese water spinach, Water convolvulus, Water spinach, Swamp cabbage, Swamp morning glory, Tropical spinach	Convolvulaceae	Kolmi	Leaf, new stems	Cooked, fried, soup, mashed.
12	<i>Raphanus sativus</i> L. English: Radish	Cruciferae	Mula shak	Leaf	Cooked, fried, soup.

Table 1: Continue

13	<i>Lagenaria vulgaris</i> Ser. syn. <i>Lagenaria siceraria</i> (Molina) Standl., <i>Cucurbita lagenaria</i> L., <i>Cucurbita siceraria</i> Molina, <i>Lagenaria leucantha</i> Rusby, <i>Cucurbita leucantha</i> Duchesne English: Bottle gourd	Cucurbitaceae	Lau shak	Leaf	Cooked, fried, soup, mashed.
14	<i>Dioscorea bulbifera</i> L. syn. <i>Dioscorea sativa</i> Thumb auct. non LD English: Air potato, Air yam, Bitter yam	Dioscoreaceae	Matae alu	Tuber	Cooked, fried, soup.
15	<i>Dryopteris filix-mas</i> (L.) Schott syn. <i>Polypodium filix-mas</i> L., <i>Lastrea</i> <i>filix-mas</i> (L.) C. Presl., <i>Aspidium</i> <i>filix-mas</i> (L.) Swartz, <i>Filix-Mas</i> <i>filix-mas</i> Farwell, <i>Polystichum</i> <i>filix-mas</i> (L.) Roth, <i>Tectaria</i> <i>filix-mas</i> Cav., <i>Thelypteris</i> <i>filix-mas</i> Nieuwl. English: Common male Fern, Male Fern	Dryopteridaceae	Dheki shak	Leaf, new stem	Cooked, fried.
16	<i>Lathyrus sativus</i> L. English: White pea, Grass pea	Fabaceae	Keshari shak	Leaf	Boiled ⁵ .
17	<i>Tamarindus indica</i> L. syn. <i>Tamarindus occidentalis</i> Gaertn., <i>Tamarindus officinalis</i> Hook., <i>Tamarindus umbrosa</i> Salisb. English: Indian date, Sweet tamarind, Tamarind	Fabaceae	Tetul	Leaf, fruit pulp	Soup.
18	<i>Glinus oppositifolius</i> (L.) Aug. DC. syn. <i>Mollugo</i> <i>oppositifolia</i> L., <i>Mollugo spargula</i> L. English: Bitter leaf (Australia)	Molluginaceae	Ghema shak	Leaf, new stems	Cooked, fried, soup.
19	<i>Nymphaea nouchali</i> Burm.f. syn. <i>Castalia acutiloba</i> (DC.) Hand.-Mazz., <i>Castalia stellaris</i> Salisb., <i>Castalia stellata</i> (Willd.) Blume, <i>Leuconymphaea stellata</i> (Willd.) Kuntze, <i>Nymphaea acutiloba</i> DC. English: Blue lotus	Nymphaeaceae	Shapla	Flower stems	Cooked, fried, soup (with fish if it can be afforded).
20	<i>Oxalis corniculata</i> L. syn. <i>Oxalis micrantha</i> Bojko, <i>Oxalis repens</i> Thunberg, <i>Xanthoxalis corniculata</i> Small English: Yellow wood-sorrel, Creeping wood-sorrel, Creeping oxalis, Creeping lady's sorrel, Procumbent yellow-sorrel	Oxalidaceae	Ambali shak	Leaf	Cooked, fried, soup.
21	<i>Bacopa monnieri</i> (L.) Pennell syn. <i>Bacopa monnieri</i> (L.) Wettst., <i>Bramia monnieri</i> (L.) Pennell, <i>Bramia monniera</i> (R. Br.) Pennell, <i>Gratiola monnieri</i> L., <i>Herpestis monniera</i> (L.) Kuntze, <i>Lysimachia monnieri</i> L., <i>Septas repens</i> Lour. English: Bacopa, Brain plant, Coastal waterhyssop (Wang) , Herb of grace, Indian pennywort, Moneywort, Monnier's bacopa, Thyme-leaved gratiola, Water hyssop, White hyssop	Scrophulariaceae	Brahmi	Leaf, new stems	Cooked, fried, soup, mashed, raw extract ⁶ .
22	<i>Corchorus capsularis</i> L. syn. <i>Corchorus cordifolius</i> Salisb., <i>Corchorus marua</i> Buch.-Ham., nom. Nudum English: Bangla white jute (India), Jute, White jute	Tiliaceae	Pat shak	Leaf	Cooked, fried, soup.

Table 1: Continue

23	<i>Corchorus olitorius</i> L. syn. <i>Corchous catharticus</i> Blanco, <i>Corchous decemangularis</i> Roxb., <i>Corchous lobatus</i> Wildem., <i>Corchous quinquelocularis</i> Moench English: Bangla tossa jute (India), Bush okra, Jew's mallow, Long-fruited jute, Nalta jute, Nalita jute, Red jute, Tossa jute, West African sorrel	Tiliaceae	Pat shak	Leaf	Cooked, fried, soup.
24	<i>Trapa bispinosa</i> Roxb. syn. <i>Trapa natans</i> L. var. <i>Bispinosa</i> (Roxb.) Makino, <i>Trapa bicornis</i> Osbeck var. <i>bispinosa</i> (Roxb.) Nakano English: Singhara nut	Trapaceae	Panifol	Fruit pulp	Raw intake, cooked, fried.
25	<i>Cissus trifoliata</i> (L.) L. syn. <i>Vitis trifoliata</i> (L.) Morales, <i>Sicyos trifoliata</i> L., <i>Cissus incisa</i> (Nutt. ex Torr. & A. Gray) Des Moul. English: Arizona Grape Ivy, Sorrelvine				Vitaceae Amla lota Matured fruit pulp Soup.

¹Cooked. At times of food scarcity and in poverty-stricken households, cooking usually takes the form of boiling the washed plant part(s) or vegetables in water till they get soft enough to eat. The plant part(s) are then eaten with a little added salt. Under normal cooking conditions for vegetables, raw or powdered dried pepper, ginger, garlic, cumin, onion, coriander, turmeric and salt is added to hot oil at first and fried a little followed by addition of vegetable and water, which is then cooked for some time. Shrimp and fish pieces form normal additions to cooked vegetables and are added to vegetables during cooking.

²Fried. At times of food scarcity and in poverty-stricken households, frying usually takes the form of turning over washed plant part(s) in a little hot oil with the addition of salt. Under normal cooking conditions, plant part(s), i.e. vegetables are fried usually in the following manner. Vegetables are first boiled along with hot peppers, turmeric and salt; then garlic, onion and cumin is added to the boiled portion and the mix is fried in oil. Very affluent households use ghee (clarified butter) for frying.

³Soup. At times of food scarcity and in poverty-stricken households, soup usually takes the form of boiling washed plant part(s) in water with the addition of a little salt and turmeric, the latter being added as a spice. Normally, in affluent households, soup making is an elaborate process utilizing various spices like ginger, hot peppers, garlic, onion, coriander, cumin and slow cooking over a low flame. Corn flour is added also as a thickener. Soups in affluent households are usually of fish or meat; vegetable soup apart from lentil soup is not a usual food item in Bangladesh.

⁴Mashed. At times of food scarcity and in poverty-stricken households, mashed items usually take the form of boiling plant part(s) i.e. vegetables in water till they are soft. The plant part(s) are then taken out and grinded with a shil-nora (flat piece of stone on which materials are grinded with another piece of stone). They are then made into a dough-like shape with hands and eaten. Salt, oil, hot peppers and onion slices may be added to the mash depending on financial ability of the household. In normal times and in poverty non-stricken households, mashed items can include leafy vegetables, tubers like potatoes, fish or even meat. The vegetable is first cooked with spices beforehand before mashing, and then mustard oil is usually added to the mash prior consumption. The vegetable can be fried slightly after mashing (as with potatoes), and more spices like onion added during the mash making process.

⁵Boiled. The leaves are simply boiled in water and eaten.

⁶Raw extract is taken only during times of food scarcity. The plant or plant part is crushed to squeeze the juice and the juice taken orally. Occasionally, the whole plant or plant part may be chewed in the raw state.

Table 2: Folk medicinal uses of various plants consumed by the poor people of Talbunia village during times of food scarcity.

Scientific name of plant	Plant parts used	Ailments treated by folk and tribal medicinal practitioners
<i>Asteracantha longifolia</i> (L.) Nees	1. Seed	1. Insomnia, kidney stones.
	2. Seed	2. Low sperm count. Gum of <i>Lannea grandis</i> is mixed with seeds of <i>Asteracantha longifolia</i> and soaked with water overnight. The following morning, the water is drunk as treatment for low sperm count.
	3. Fruit	3. To increase libido. Pills are made from a mixture of crushed bark of <i>Alstonia scholaris</i> and fruits of <i>Asteracantha longifolia</i> . 1 pill is taken with honey thrice daily.
<i>Alternanthera sessilis</i> (L.) DC	1. Whole plant	1. Poultice used for boils, eye trouble.
	2. Whole plant	2. Tiger bite, colic.
	3. Whole plant	3. Anal pain, diarrhea.
	4. Whole plant	4. Strong spasms, fever.
	5. Leaf, root	5. Stomachache.
	6. Root	6. Analgesic, blood clotting.
	7. Leaf	7. Gonorrhea, low semen, leucorrhea.
	8. Whole plant	8. Snake bite, eczema, fistula, vitamin source, anti-inflammatory.
	9. Whole plant	9. Stomachic, skin eruption, poultice, wound, insect repellent, cough.
	10. Whole plant	10. Red eyes.
	11. Whole plant, leaf	11. Dysentery. The whole plant or leaves are cooked and eaten for 3 days.

Table 2: Continue

<i>Amaranthus gangeticus</i> L.	1. Leaf, stem, bark 2. Leaf, stem, root 3. Whole plant 4. Leaf	1. Anti-hemorrhagic, vitamins, skin diseases. 2. Tonic, vitamins, colic, stop bleeding. 3. Increase blood, energy stimulant. 4. Dysentery.
<i>Centella asiatica</i> (L.) Urb.	1. Whole plant 2. Whole plant 3. Whole plant 4. Whole plant 5. Whole plant 6. Whole plant 7. Whole plant 8. Leaf 9. Root 10. Leaf 11. Leaf 12. Whole plant 13. Leaf 14. Whole plant 15. Whole plant 16. Leaf 17. Leaf, whole plant 18. Whole plant, leaf 19. Whole plant 20. Whole plant 21. Leaf 22. Leaf 23. Whole plant 24. Whole plant 25. Leaf 26. Whole plant 27. Whole plant 28. Whole plant 29. Whole plant 30. Leaf 31. Whole plant 32. Leaf 33. Whole plant 34. Whole plant 35. Whole plant 36. Leaf 37. Leaf, root 38. Leaf juice 39. Whole plant, root 40. Root 41. Leaf, root 42. Whole plant 43. Whole plant, leaf 44. Leaf juice, whole plant 45. Whole plant 46. Whole plant 47. Leaf, root	1. Tonic, sedative, fever, cold, leucorrhea, anxiolytic. 2. Dog bite, asthma, carminative, itch, leucorrhoea, malaria, tumor, wound. 3. Diarrhea (child), liver disease, itch, constipation, increases blood. 4. Dysentery, lunacy. 5. Carminative, sexual disorder. 6. Dysentery, fever, wound. 7. Dysentery. 8. Dysentery, eye sight improvement, headache, burning sensation in hand or leg. 9. To control urine, increase eye sight, sex stimulant. 10. Diuretic, stomach disorders. 11. Helminthiasis, stomachache. 12. Body ache, dysentery. 13. Indigestion, stomach infection. 14. Skin diseases, improving memory. 15. Carminative, gonorrhea. 16. Stomach ache, intestinal disorders. 17. Common cold (leaf); rabies, gastric ulcer, dysentery, intestinal disorders (whole plant). 18. Tonic, cleansing herb for skin problems, dysentery, digestive disorders; cataract, eye problems (leaf). 19. Bone fracture. 20. Acne, dysentery, energy yielding. 21. Blood disorders, fever. 22. Dysentery. 23. Lack of breast milk after childbirth. 24. Insecticide, blood dysentery, tumor, virility, tuberculosis, boil. 25. Gastric disorder, stomach pain, diarrhea, blood dysentery, fever, cough. 26. Intestinal disease, cataract and other eye disease, wound, dysentery. 27. Conjunctivitis, toothache, laxative, leucorrhoea, eczema. 28. Eye disease, fever, colic. 29. Tuberculosis, hypertension, cholera, nerve stimulant, helminthiasis, colic. 30. Passing of semen with urine. 31. Fever, mucus, skin diseases, dysentery, increase strength, appetite stimulant, digestive, pain, children's fever and mucus (very fast action). 32. Blood purifier, fever, diabetes. Leaves are boiled in water and the decoction taken with honey to purify blood. Leaf juice is mixed with leaf juice of <i>Nyctanthes arbor tristis</i> and a little sugar to cure fever. Crushed leaves are taken with powdered mishri as remedy for diabetes. 33. Dysentery, stimulate brain power. 34. Dysentery, intestinal pain. 35. Dysentery, fever. 36. Diarrhea, gastric problems. 37. Cataract in goats (leaf), to keep head cool (leaf), diabetes (leaf), swelling in eyes, conjunctivitis (root). Leaf juice is applied with salt to eyes of goats. Leaf juice is applied to head to keep it cool. Leaf juice is taken to control diabetes. Roots are tied around the ear (right ear for problems in the left eye and vice-versa; if problem is in both eyes, root should be tied around both ears) for swelling in eyes or conjunctivitis. 38. Dysentery, fever, coughs. 39. Dysentery (whole plant), stoppage of menstruation (root). 40. Piles. 41. Leprosy, fever, blood dysentery, diarrhea. 42. Indigestion, appetite stimulant. 43. Dysentery, stomachache, to increase memory. 44. Dysentery, cataract, stomach problems.

Table 2: Continue

		<p>45. Gastrointestinal disorders. Whole plant is either boiled or cooked and eaten once daily for 1 day.</p> <p>46. Ulcer. Seeds of <i>Carum copticum</i> are soaked in water and the water taken every night followed by taking of <i>Centella asiatica</i> juice in the morning.</p> <p>47. Anemia, vomiting, stomach pain. Leaves and roots of <i>Centella asiatica</i> are macerated with whole plants of <i>Cynodon dactylon</i> and mishri (crystalline sugar). One teaspoonful of the decoction is taken with one teaspoonful of honey twice daily.</p> <p>Infection of the uterus. Leaves and roots of <i>Centella asiatica</i> are macerated with whole plants of <i>Cynodon dactylon</i>, <i>Amaranthus spinosus</i> and mishri (crystalline sugar). The decoction is taken with a little sugar for 21 days.</p>
<i>Colocasia esculenta</i> (L.) Schott	<ol style="list-style-type: none"> 1. Leaf, root, stem 2. Whole plant 3. Whole plant 4. Whole plant 5. Whole plant 6. Whole plant 7. Leaf, stem 8. Whole plant 9. Leaf juice, stem 10. Whole plant 11. Whole plant 12. Plant sap 13. Whole plant 14. Whole plant, stem 15. Leaf, stem 16. Whole plant 17. Tuber 	<ol style="list-style-type: none"> 1. Indigestion, cancer, baldness, abortion, piles, tuberculosis. 2. Cancer, edema, stomach ache, boil. 3. Piles, diarrhea, dysentery, wound, cow's/goat's dysentery or cooling. 4. Indigestion, anti-poisonous. 5. Allergic disorders. 6. Tonic, gastritis, piles, alopecia. 7. Alopecia, constipation, tumor. 8. Astringent, vitamin, colic, dermatitis. 9. Astringent, vegetable, carminative, scar, tumor, to induce male/female fertility. 10. Indigestion, stimulate energy, colic, scar, dermatitis, poultice, wound. 11. Astringent, dermatitis, carminative, tiger bite, helminthiasis, emetic. 12. To stop bleeding. 13. Colic, indigestion. 14. Anti-hemorrhagic (whole plant), blood purifier, to strengthen bones (stem). 15. Rheumatic pain, debility. 16. Severe jaundice, digestive aid, constipation. 17. Rheumatic pain, paralysis. Tubers are fried in ghee (clarified butter) or mustard oil and massaged onto affected areas.
<i>Typhonium trilobatum</i> (L.) Schott	<ol style="list-style-type: none"> 1. Stem, bark, leaf 2. Whole plant 3. Whole plant 4. Leaf 5. Leaf, tuber, tuber root 6. Leaf, petiole, root 7. Leaf 8. Whole plant 9. Leaf, stem 10. Leaf 11. Whole plant 12. Whole plant 13. Whole plant 14. Leaf 15. Leaf juice 16. Leaf, stem 	<ol style="list-style-type: none"> 1. Tonic, cancer, piles, boil. 2. Rheumatoid arthritis, appetizer, edema. 3. Snake bite, dermatitis, male/female sex stimulant, nerve stimulant. 4. Appetite stimulant. 5. Cancer, tumor, stomachache. 6. Cattle ulcer. 7. Rheumatism. 8. Body ache, arthritis. 9. Body ache. 10. Eczema. 11. Tonic, piles. 12. Piles, liver disease, stimulate energy. 13. Helminthiasis, antidote to poison, spleen enlargement. 14. Loss of appetite, mucus. 15. Body ache. 16. Blood dysentery.
<i>Enydra fluctuans</i> Lour.	<ol style="list-style-type: none"> 1. The whole plant 2. Whole plant 3. Whole plant 4. Whole plant 5. Whole plant 6. Whole plant 7. Whole plant 8. Leaf, stem 9. Whole plant 10. Whole plant 11. Whole plant 12. Whole plant 13. Whole plant 14. Leaf 15. Leaf juice 16. Whole plant 	<ol style="list-style-type: none"> 1. Nervous disorders, hepatitis, edema, skin diseases, colic. 2. Dermatitis, astringent. 3. Dysentery. 4. Liver disease, stomachache, tiger bite. 5. Tonic, dysentery. 6. Hepatitis. 7. Skin diseases, hepatitis. 8. Chicken pox. 9. Anti-inflammatory, liver diseases, boil, diuretic. 10. Nerve disorders, constipation. 11. Tonic, stomachache, edema. 12. Rabies, CNS cooling, carminative, vegetable, dermatitis. 13. Rheumatoid arthritis, constipation, itch, virility, appetizer, edema. 14. Diabetes, low semen density, debility, leukorrhea. 15. Poisoning of body.

Table 2: Continue

	17. Leaf, stem 18. Leaf 19. Leaf juice 20. Stem	16. Biliary problems, burning sensations in hands and legs, eye sight improvement. 17. Malnutrition. 18. Any ailment related to blood, leucorrhea. 19. Gastric ulcer. ½ glass juice obtained from squeezed leaves of <i>Enydra fluctuans</i> is mixed with ½ glass juice obtained from crushed whole plants of <i>Scoparia dulcis</i> and taken every morning on an empty stomach for 3 weeks. 20. To keep head cool, burning sensations in the body. Roots of <i>Coccinia grandis</i> are macerated with roots of <i>Costus speciosus</i> , stems of <i>Ipomoea aquatica</i> and <i>Enydra fluctuans</i> and applied to the head to keep head cool and reduce burning sensations in the body.
<i>Basella alba</i> L.	1. Leaf, stem, bark 2. Whole plant 3. Mucilaginous cooked shoots 4. Leaf, immature seeds (fruit) 5. Whole plant 6. Whole plant 7. Whole plant 8. Leaf, seed 9. Leaf, root, seed 10. Leaf juice, seed 11. Whole plant 12. Leaf, stem 13. Leaf 14. Leaf, stem	1. Syphilis, intestine disorders, tumor, leucorrhoea, acne. 2. Carminative, dwarf tonic. 3. Intestinal disorders. 4. Intestinal disorders. 5. Insomnia. 6. Syphilis, stomachache, insecticide. 7. Cancer, indigestion. 8. Earache, carminative, syphilis, itch. 9. Syphilis, sore throat, acne, itch, liver diseases. 10. Vegetable, blood producer, scabies, colic. 11. Tonic, tumor, stop bleeding, burn. 12. Anemia in women, coughs, cold (leaf with stem), old infections (leaf). Leaf and stem is eaten as remedy for anemia infections. 13. Burns, to increase weight (fattiness). 14. Acne, abscess, skin diseases.
<i>Chenopodium album</i> L.	1. Whole plant 2. Whole plant	1. Liver diseases, analgesic, helminthiasis, purgative. 2. Hepatic disorder, tiger bite, scar, energy increaser, vitamin source.
<i>Ipomoea aquatica</i> Forssk.	1. The whole plant 2. Whole plant 3. Whole plant 4. Leaf 5. Leaf, whole plant 6. Leaf 7. Leaf, stem 8. Whole plant 9. Leaf, stem 10. Whole plant 11. Whole plant 12. Root 13. Leaf 14. Whole plant 15. Stem	1. Ecboic, nervous disorders, helminthiasis, piles, hurt. 2. Boil, anti-inflammatory, eczema. 3. Blood purifier. 4. Chicken pox. 5. Stop bleeding from external wounds. 6. Rheumatic swelling. 7. Diabetes. 8. Helminthiasis, edema, colic. 9. Vegetable, snake bite, astringent, skin disorder. 10. Snake bite, piles, indigestion, burns. 11. Gall bladder stones. Juice from crushed whole plant is mixed with powdered <i>Polyalthia longifolia</i> and taken. The mixture should not be taken too often. 12. Diabetes. 13. Increase lactation in nursing mothers, leucorrhea. 14. Gonorrhea, low sperm count. 15. To keep head cool, burning sensations in the body. Roots of <i>Coccinia grandis</i> are macerated with roots of <i>Costus speciosus</i> , stems of <i>Ipomoea aquatica</i> and <i>Enydra fluctuans</i> and applied to the head to keep head cool and reduce burning sensations in the body.
<i>Raphanus sativus</i> L.	1. Root (fleshy portion) 2. Leaf, fruit 3. Root 4. Root 5. Root	1. Expectorant, indigestion, liver diseases, insomnia. 2. Gastritis, blood dysentery, sexual disorder. 3. Kidney disorders. 4. Increases digestion, decreases acidity. Roots are eaten. 5. Edema.
<i>Lagenaria vulgaris</i> Ser.	1. Leaf, seed, fruit 2. Leaf, stem, fruit 3. Leaf, seed, fruit 4. Leaf, fruit, seed 5. Leaf 6. Fruit 7. Leaf juice	1. Tonic, helminthiasis, acne. 2. Earache, gastritis, edema, gout, heart disorder. 3. Jaundice, cooling, fever, cough. 4. Swelling, rheumatoid arthritis, small pox, eye disorder, dermatitis. 5. Ear disease (pus formation in ears). 6. To keep head cool, cholera in children. The juice that comes out while cutting the fruit is applied to head to keep head cool. The same juice is taken with orange peels as remedy for cholera in children. 7. Pain in the umbilicus due to worm, vitamin source, anemia.

Table 2: Continue

<i>Dioscorea bulbifera</i> L.	<ol style="list-style-type: none"> 1. Leaf, stem, fruit 2. Leaf, seed, fruit 3. Fruit, tuber root 4. Leaf, fruit 5. Root, fruit 6. Leaf, fruit 7. Leaf, fruit 8. Root, fruit 9. Root, fruit 10. Root, fruit 11. Fruit 12. Fruit 13. Whole plant 14. Root 15. Fruit 16. Fruit 	<ol style="list-style-type: none"> 1. Goiter, cancer, syphilis, anti-hemorrhagic, antidote, piles. 2. Cancer, syphilis, goiter, hurt, piles, hernia, astringent, itch. 3. Anti-inflammatory, tumor, scabies. 4. Syphilis, diarrhea. 5. Goiter, sex stimulant, dermatitis. 6. Elephantiasis. 7. Vegetable, diarrhea, aphrodisiac. 8. Cancer, hernia, anti-inflammatory. 9. Hernia, stimulate sex. 10. Tonic, goiter, cancer. 11. Goiter, anti-hemorrhagic, gargle, carminative, diarrhea, analgesic. 12. Nutritive, sexual diseases. 13. Sprain, anti-inflammatory. 14. To increase sexual prowess. 15. Diarrhea, indigestion. Boiled fruits are mixed with salt and boiled rice and pills are made from the mixture the size of marbles. 1 pill is taken thrice daily. 16. To increase libido. Roots of <i>Urena lobata</i> are mixed with fruit of <i>Dioscorea bulbifera</i>, roots of <i>Asparagus racemosus</i> and <i>Aristolochia indica</i>, whole plants of <i>Rauwolfia serpentina</i>, <i>Rauwolfia tetraphylla</i>, and <i>Cyperus rotundus</i>, milk, sugar, and honey and cooked. The cooked product is taken once daily for 7 days.
<i>Lathyrus sativus</i> L.	<ol style="list-style-type: none"> 1. Leaf, bark, seed 2. Seed 	<ol style="list-style-type: none"> 1. Antidote, wound, dysentery, carminative. 2. Scabies, eczema, allergy. 4-5 leaves of <i>Datura metel</i> are boiled with 1 poa (local measure approximating 250g) seeds of <i>Lathyrus sativus</i> in water in a vessel till the water dries up. The vessel is then tilted to one side, when juice flows from the dried portion to the tilted side. 4 drops of that juice is taken twice daily in the morning and night time on an empty stomach for 3 weeks.
<i>Tamarindus indica</i> L.	<ol style="list-style-type: none"> 1. Leaf, fruit, seed 2. Leaf, fruit, seed 3. Leaf, fruit, seed 4. Leaf, seed 5. Whole plant 6. Fruit, seed 7. Fruit, seed 8. Fruit juice, seed 9. Fruit 10. Fruit, seed 11. Leaf juice, fruit 12. Gum 13. Seed 14. Leaf, fruit 15. Fruit, seed 16. Fruit, seed 17. Stem, fruit, seed 18. Fruit, seed 19. Whole plant 20. Leaf 21. Leaf 22. Leaf, fruit 23. Fruit 24. Seed 25. Ripe fruit 26. Leaf 27. Leaf juice, flower 28. Fruit 29. Gum 	<ol style="list-style-type: none"> 1. Diabetes, appetizer, jaundice, eczema, conjunctivitis. 2. Conjunctivitis, rheumatoid arthritis, heart diseases, piles. 3. Sperm mortality, analgesic. 4. Dysentery, skin disease. 5. Diabetes, anorexia, insect repellent, cow's/goat's inability to move tongue, cattle dysentery. 6. Jaundice, anti-inflammatory, diuretic. 7. Diabetes, fever. 8. Gastritis, diabetes, cold, anorexia, indigestion. 9. Skin infections. 10. Diabetes, fever. 11. Rheumatoid arthritis, carminative, obesity. 12. Lack of milk in women before and after childbirth. 13. Diabetes. 14. Gynecological disorders, hurt, appetizer, colic. 15. Rheumatoid arthritis, appetizer, itch. 16. Blood and gall bladder diseases, cooling, to increase semen, sex stimulant, strengthen heart, aids digestion. 17. Jaundice, anorexia, diabetes, sore throat, piles, diarrhea in cows and pigs. 18. Fever, stop vomiting (fruit), asthma (seed). 19. Diabetes, jaundice, anorexia, waist pain, malaria, dysentery, cow's/sheep's loss of tongue movement. 20. Syphilis, infections within the penis, difficulties in urination, burning sensations during urination. 21. Dysentery, burning sensations during urination. 22. Chronic dysentery, rheumatic pain, cold, oral lesions (leaf), burning sensations in hands or feet (fruit). Leaves, boiled in water are taken for chronic dysentery. Boiled leaves are applied to areas of rheumatic pain. Boiled leaves are taken with a little salt for cold. Water in which leaves have been boiled is gargled for oral lesions. Water in which fruit has been soaked is taken every morning to treat burning sensations in hands or feet. 23. Coughs. 24. Diabetes. 25. Spleen problems, to reduce obesity. 26. Bleeding due to piles. 27. Eye diseases, cataract, rheumatism, dysentery.

Table 2: Continue

		28. High blood pressure. Fruits are soaked in water and the water taken once daily on an empty stomach. 29. To increase milk production in cows. Roots from small <i>Melia azedarach</i> plants are mixed with gum of <i>Tamarindus indica</i> and fed to cows twice daily for 7 days.
<i>Glinus oppositifolius</i> (L.) Aug.	1. Leaf 2. Whole plant 3. Leaf 4. Leaf, root	1. Digestive aid. 2. Stomachic, itch, skin diseases, earache. 3. To keep the body cool. Leaves are cooked and eaten. 4. Burning sensations in hands, feet or head. Stems of <i>Ipomoea aquatica</i> and leaves and roots of <i>Glinus oppositifolius</i> are macerated together and applied to hands, feet or head.
<i>Nymphaea nouchali</i> Burm.f.	1. The whole plant 2. Whole plant 3. Stem 4. Immediate upper portion of root 5. Root tops 6. Root cluster 7. Whole plant 8. Whole plant 9. Whole plant 10. Leaf, flower 11. Stem	1. Indigestion, perfume, heart diseases, anti-hemorrhagic. 2. Stomachache, heart disease. 3. Cancer. 4. Menstruating women and men having urinary difficulties. 5. Urinary problem, leucorrhea. 6. Urinary problem, burning sensations in urinary tract, leucorrhea in women. 7. Stomachache, menstruation control. 8. Astringent, menstruation control, diarrhea, indigestion. 9. Indigestion, diabetes. 10. Anti-hemorrhagic, wound. 11. Anemia, biliary disorders, menstrual disorders.
<i>Oxalis corniculata</i> L.	1. Leaf 2. Whole plant	1. Indigestion in cattle. 2. Carminative, dysentery.
<i>Bacopa monnieri</i> (L.) Pennell	1. Whole plant 2. Whole plant 3. Whole plant 4. Whole plant 5. Whole plant 6. Leaf 7. Whole plant	1. Nervous disorders, epilepsy, rheumatoid arthritis, asthma. 2. Tonic, nervous stimulant. 3. Insomnia, brain tonic, fever. 4. Tonic, nervous disorders, rheumatoid arthritis, coughs. 5. To keep brain healthy, to increase memory. 6. Memory improvement, epilepsy, mucus, broken voice. 7. Blood pressure, dyspnea (labored or difficult breathing).
<i>Corchorus capsularis</i> L.	1. Whole plant 2. Leaf	1. Indigestion, edema, diarrhea, itch, cow's/goat's dysentery or diarrhea. 2. Stomachache.
<i>Trapa bispinosa</i> Roxb.	1. Tuber or tuber root 2. Fruit	1. Cancer, bronchitis, edema, astringent, fever, dysentery. 2. Vitamin C source, iron-deficiency diseases.

Information on the various folk medicinal uses described for the plants in Table 2 have been collected from folk medicinal and tribal medicinal practitioners throughout various regions of Bangladesh.

as soup; or fried in a little oil; or mashing them. Salt was the common ingredient used to season the food and make it more palatable. In three instances, raw plant parts were consumed e.g., leaves of *Centella asiatica*; leaves and new stems of *Bacopa monnieri*; and fruit pulp of *Trapa bispinosa*. In the case of the first two plants, plant parts were squeezed to extract the juice, which was then eaten as such; or the plant part was simply chewed.

Among the other plants listed in Table 1, *Amaranthus gangeticus* is a popular leafy vegetable in Bangladesh. It is easy to grow and is grown throughout the country. Being common, it is less pricey than other leafy vegetables and so is consumed by poor people, more so during times of food scarcity. However, it is to be noted that during times of food scarcity, the mode of cooking and consuming it were quite different from the methods used during normal times. *Colocasia esculenta* and *Typhonium trilobatum*, two plants consumed more during times of normal or no income and food scarcity were also consumed during normal times, but less frequently, because some varieties cause allergic reactions such as an itching of the throat following consumption. It also needs to be pointed out, in this regard, that food scarcity need not be caused by adverse weather conditions or floods but can also be caused by loss of entitlements ensuing from non-availability of jobs or land; or lack of demand for cottage industry items produced by a particular household. In fact, these latter are the reasons why a number of villagers in Talbunia had income much below the poverty level income of US\$ 1 per day and had to depend on non-conventional food plant consumption for survival.

Basella alba is a leafy vegetable common throughout Bangladesh and is highly prized and normally fetches a higher price. The vegetable is cultivated on a large scale, but almost every household in rural Bangladesh has several plants growing by the homestead throughout the year. Since it is a climber plant, the plant can easily climb to top of roofs and spread out from there. The plant is usually sold to urban affluent and middle income consumers but, during times of food scarcity, the rural poor of Talbunia village fall back on consumption of this plant themselves. Once again, it is to be noted that consumption of the plant by the poor households at Talbunia, was different from that of affluent households. In affluent households, the plant is usually cooked with fish or shrimp and not taken as soup or mashed, as was observed in the poorer households

of Talbunia. *Ipomoea aquatica* grows beside bodies of water while *Nymphaea nouchali* grows in water itself. Both plants grow under wild conditions. The plants are eaten during times of food scarcity by the village poor, but they are sometimes also consumed during other times and form a cheap source of nutritious vegetables. Regarding prices, they are one of the cheapest vegetables offered in the market. The succulent root of *Raphanus sativus* (radish) is normally consumed. However, in times of food scarcity, the leaves are consumed by the poor people, while the roots are sold at a higher price. *Corchorus capsularis* and *Corchorus olitorius* are also two plants not often consumed by the people of Bangladesh, but consumed by poor villagers of Talbunia, as well as the poor sections of the urban slums, during times of food scarcity or when they were unable to afford costlier vegetables. The fruits of *Lagenaria vulgaris* are normally consumed by the Bangladesh people; the leaves were usually eaten by the poorer sections of the population of Talbunia during when food is scarce. The consumption of tubers of *Dioscorea bulbifera* is almost exclusively restricted to the rural and urban poor. Seeds of *Lathyrus sativus* are the part consumed by the poor households of Bangladesh; at times of food scarcity, the poverty-stricken people of Talbunia village were observed to consume the leaves as well. The consumption of the fruits of *Trapa bispinosa* is also almost exclusive to the poor people of the country.

It was of interest to note that, out of the 25 plants listed in Table 1, as consumed during times of food scarcity, 21 plants were also used by the folk medicinal and tribal medicinal practitioners throughout Bangladesh. The list of plants with medicinal properties and the ailments they are used to treat are shown in Table 2. It can be seen from Table 2 also that some plants used by folk and tribal medicinal practitioners have a direct bearing on health consequences resulting from food scarcity. For instance, *Alternanthera sessilis*, *Amaranthus gangeticus*, *Colocasia esculenta*, *Chenopodium album*, *Lagenaria vulgaris*, and *Trapa bispinosa* are often prescribed by the folk medicinal practitioners to provide necessary vitamins. Deficiency of vitamins, particularly vitamin A and other micronutrients is prevalent among the population of rural Bangladesh (Faruque, 2006; Alam, 2010; Jamil, 2008), and these deficiencies are likely to be exacerbated during times of food scarcity. As such, the above plants can be good sources for some daily vitamin requirements and provide relief from different manifestations of micro-nutrient deficiency. One such manifestation is anemia. Anemia has been widely reported in both children and adults in rural Bangladesh (Faruque, 2006; Akhter, 2010; Shakur, 2010; Ziauddin Hyder, 2001). Among the non-conventional plants, consumed by poor households, in Talbunia, *Amaranthus gangeticus*, *Centella asiatica*, *Basella alba*, *Lagenaria vulgaris*, *Nymphaea nouchali*, and *Trapa bispinosa* are used by folk medicinal practitioners for treating anemia. Thus these plants can also play a vital role in eradicating consequences of food deficiency.

Enydra fluctuans is also used by the folk medicinal practitioners to assuage malnutrition. Thus consumption of this plant can be of direct benefit to the people of Talbunia during periods of food scarcity. Other ethnomedicinal plants - *Amaranthus gangeticus* and *Chenopodium album* are prescribed by the folk medicinal practitioners as energy stimulants. Consumption of these plants can also then be useful during times of food scarcity when the body's energy level is low, due to insufficient caloric intake. Various plants like *Amaranthus gangeticus*, *Centella asiatica*, *Enydra fluctuans*, *Basella alba*, *Dioscorea bulbifera*, and *Bacopa monnieri* are prescribed by the folk medicinal practitioners as tonic, which is understood as invigorating the physical and mental state of people.

Because of the general lack of sanitation and due to poor quality of drinking water, helminthiasis and gastrointestinal disorders are endemic in rural Bangladesh. A study with 123 Bangladeshi children aged 2-5 years showed a prevalence of *Ascaris lumbricoides* in 78% of the children, a prevalence of *Trichuris trichiura* in 65%, and a prevalence of hook worm in 4% of the children (Northrop-Clewes, 2001). Helminthiasis has been observed to decrease nitrogen absorption from food (Brown, 1980). Children with hook worm infection are also prone to iron deficiency anemia (Persson, 2000). Thus, a vicious cycle can develop, when malnutrition occurring from food scarcity can lower the body's immune status making the people more susceptible to disease(s), and such diseases like helminthiasis or gastrointestinal disorders can adversely affect proper utilization or absorption in the body of nutrients of whatever food the affected people eat. Interestingly, among the plants consumed by the poor villagers of Talbunia mostly during food scarcity, six plants, namely, *Centella asiatica*, *Colocasia esculenta*, *Typhonium trilobatum*, *Chenopodium album*, *Ipomoea aquatica*, and *Lagenaria vulgaris* are also used by the folk medicinal practitioners for treatment of helminthiasis. Fifteen plants consumed by the poor people of Talbunia during times of food scarcity are also used by the folk medicinal practitioners to treat various gastrointestinal disorders.

Overall, findings suggest that the choice of plants consumed by the poverty-stricken people of Talbunia during times of food scarcity may not be haphazard choices but, rather, choices made upon careful selection of plants which probably is based upon many years of trial and error-based experiences. These plants need careful evaluation of their contents, as a basis for providing their wider use, among the population at large.

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