

SHAK

Uncultivated Leafy Greens

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Shak: Uncultivated Leafy Greens

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Introduction

This book is the product of a study conducted in four areas of Bangladesh, namely Tangail, Pabna, Natore and Cox'sbazar. The study was conducted by UBINIG field researchers during 1999-2000. A Bengali version of the research findings was published “Amader Kuriye pawa shak” in 2002.

Nayakrishi farming practices encourage the growth of uncultivated plants along with cultivated crops, with low-income farmers collecting nearly 40 percent of their food and nutrition from uncultivated sources. These food sources are also important for medicinal purposes, both for humans and animals (Mazhar, 2019). Functionally, Nayakrishi defines agriculture as the management of both cultivated and uncultivated spaces to ensure the maximum yield per acre of land—invigorating various ecological functions of the elements of living nature.

The uncultivated foods such as leafy greens, tubers, small fish and small animals are collected from agricultural fields, water bodies and forested areas where local biodiversity has been conserved. Amongst the very poor, landless members of these communities (comprising some 15% of the rural population, many of whom are women-headed households) dependence on uncultivated sources of food and fodder is

nearly 100%. Throughout the year, their daily survival and well-being is ensured through the collection of uncultivated foods directly, and through systems of exchange with rice farmers and the sale of goats and chickens in the local market to enable the purchase of oil and other food items they need but cannot collect directly [UBINIG, 2002].

According to a study carried out by UBINIG, it was found that for all social classes in the villages uncultivated food sources make up a large part of the daily diet during a time of the year when cultivated food sources are also relatively abundant. Far from being a minor supplement or simply a crisis food, the leafy greens, tubers and small fish collected by people from the lands and water bodies of their communities are a vital part of their daily diet.

Families in the categories of very poor (no cultivable land, without male income earner) rely on uncultivated foods averaging some 65%, the poor (has homestead land and a small amount of cultivable land less than an acre) derive about 55%, middle families (2 acres of cultivable land, homestead, cows) derive 52% and the better off families (over 3 acres of cultivable land, homestead, several cows etc.) derive 34% of food from uncultivated sources [Mazhar et al, 2007].

The number of uncultivated species used as food is also qualitatively and quantitatively very high. Some 102 species of leafy greens associated with agricultural fields, homesteads and common areas were identified by local people as food, mainly herbs, creepers, aquatic plants, shrubs and trees. Understanding the dynamic relationship of biodiversity and local food systems allows us to question the inevitability and desirability of a transition to diets based entirely on cultivated diversity. Increases in the production of so-called “staple crops” can only be considered an increase in food production if they really make a net contribution to the availability of food at the household level.

In this book we shall present the research findings and analysis with photos.

In this book, Nayakrishi, the biodiversity-based farming practice is being referred in relevant contexts. It is the ecological agriculture movement in Bangladesh led by the small scale farming communities, and women play a significant role in this movement. Nayakrishi follows ten rules to guide their production plans. Among the ten rules, one rule is about "producing cultivated and uncultivated food and manage spaces for both".

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What is Shak?

Is there anybody who does not know what is shak? No there is not. At least in the villages there is none, in the cities, it is part of the vegetables called *Shak-shoji*. Shak is the leafy part and shobji is the fruit, stem, root etc.. “*shak-shobji*” together means anything good and nutritious food. But the question remains what is shak? This question may puzzle anybody. This is so much known but one may take some time to answer. As researchers, we tried to know what is meaning of the word “Shak” in Bangla dictionary. According to Bangla Obhidhan “herbs, leaves of tree consumable after cooking”. Some examples cited are notey shak, Kolmi shak, lau shak. According to the dictionary, shak means vegetarian food. As an adjective, ‘*Shakanno*’ vegetarian food means food without ingredients, food for ultra-poor. Let’s

All leafy greens are not shak.

Consumption of raw leaf is not called shak. That means salad cannot be called shak.

Cooking of shak is different from cooking curry.

Plants can be herbs, shrubs or trees but only the tender leaf or its parts are shaks.





see the perception of women on Shak.

When the village women were asked, what is shak? They laughed! What a question? Can it be a question! what is shak? Who does not know, what is shak? However, we were desperate to get the answer. We really wanted to know what is shak? The first answer was—anything green is shak. Then the question is grass a shak, or banyan leaf? The reply was, no that is not. It must be edible. Can anything edible be shak? One woman responded, “Listen to me. We go out around the homestead area and collect shaks, mix with onion, garlic, green chili and then cook, and the finishing task of cooking is done by frying with onion, garlic and edible oil (bugar/shombar). Then it is called shak. We call it

curry when cooked with sauce. It is also called curry when cooked in admixture with other sobji (fruit, tuber, etc.). Then it is called shak. That means there is a direct relationship of shak with cooking. That is also an especial type of cooking to make shak. Women said, We do not feel happy if there is no shak in the meal. Now it is clear that any edible leaf should be cooked to be called shak. There can be no shak without cooking. The use of raw leaf is not called shak. That means thankuni leaf or pudina leaf when smashed raw will become salad in urban culture and will be ‘Varta’ in rural terminology, but it is not shak.



What is 'uncultivated' Shak?

The next question may come up why the word 'uncultivated' is attached with shaks? The word 'Uncultivated' is an indication to point out something which is not a cultivated. Shak is not something like rice, jute, lentils or other vegetables; shaks are not cultivated in that way. Here we are referring to shak that is not cultivated and collected from the surroundings by rural people in their everyday life. There are some cultivated leafy vegetables, of course. At present red amaranth, spinach, even bottle gourd leaf (shak) is cultivated commercially.

The commercially cultivated spinach have little link with women. The objective of this research was on uncultivated shaks, and not all leafy greens.



What do we mean by 'uncultivated'?

The rural women do not use the term 'uncultivated'. Different terms are used in different localities. There were differences in the areas of our research. In Pabna it was called '*khuitta shak*'; in Cox'sbazar Chittagonian dialect – '*Toainna fedaina shak*' and in Tangail '*Kuraina Karaina shak*'. The emphasis was on 'picking of shaks', not on cultivation. Based on the three areas, a common term was given to all as '*Kuriye pawa shak*' (collected shaks). And when it is collected, it is not the ones that are cultivated, so it is also called uncultivated or *Onabadi shak*. The perception of getting 'uncultivated' shaks is declining with time due to the extension of roads and construction of infrastructures as the common land area is shrinking. However, in cases of uncultivated and collected shaks, the habit of the rural women has not yet eroded.

There were other problems in defining the shaks. Those shaks which are not cultivated but consumed can be called '*Kuriye Pawa shak*' (picked or collected shaks) very easily. What about lau shak (bottle gourd leaf) or Kumra pata (pumpkin leaf)? These are very much tasty edible leaves that deserve to be included in the list of shak (leafy shaks). But these can neither be called cultivated nor uncultivated. This issue remained for debate throughout the research.

The rural women gave their explanations: bottle gourd leaf or pumpkin leaf are uncultivated as leafy shaks, this is because nobody grows these plants only for the leaves. These



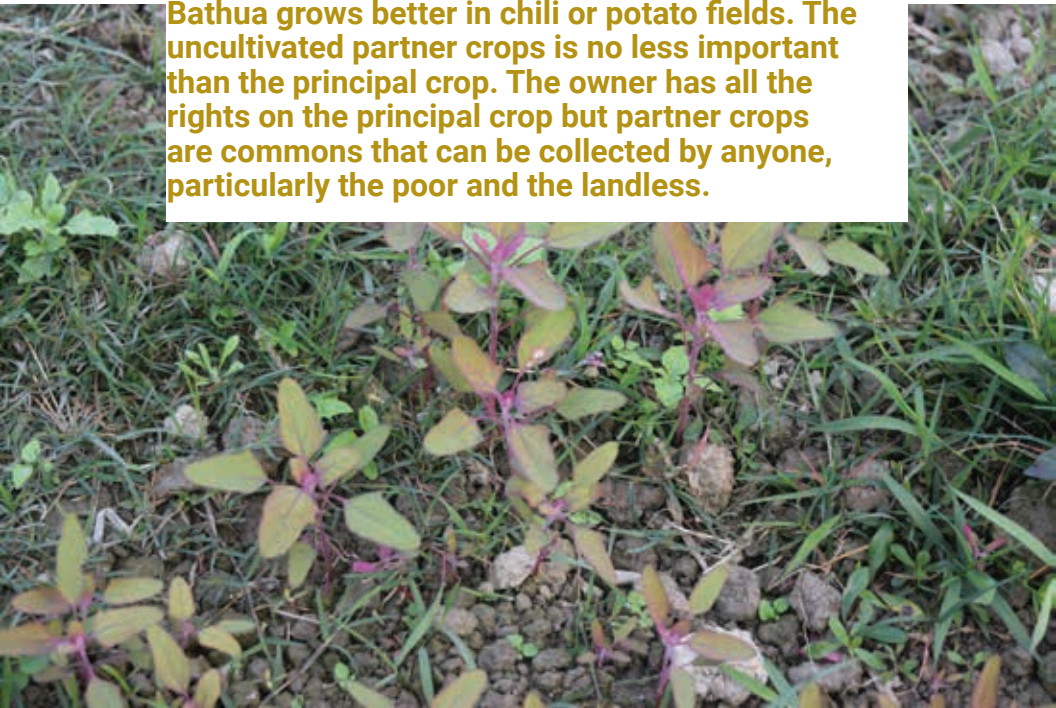
In bangla language the word 'uncultivated' is termed as *Onabadi*. It denotes a space that is always included in the concept of farming and integral to our relation with nature. Farming is defined, therefore, as the management of both cultivated and uncultivated space. It implies agriculture is also caring of nature so that human intervention is counteracted with caring and nurturing of the Mother Earth to ensure regeneration of the conditions of production.

are grown for their fruits—bottle gourd and pumpkin. These are very important homestead crops; are seen on roof tops of dwellings in the villages. Generally, women grow these plants. They earn income by selling the pumpkin, gourd etc. Family needs are also satisfied. The leaves of bottle gourd or pumpkin are also regularly consumed. The leaves are harvested taking all care of the fruits. Fruits remain the main objective. The leaves are the by-product. So it is not that the person who grows the plant will consume the leaves alone; the neighbours also have the right to pick the leaves. Moreover, 'give and take' is a cultural tradition. Picking from cultivated crops is a tradition of exchange. Those who take the leaves also share other things such as cowdung, other uncultivated shaks from roadside. Collection from common spaces is also considered as an agreed civic right.

Many shaks grow naturally in cultivated land space; those are called the companion crops of specific cultivated crops. These companion shaks or *sathi fosol* are grown when specific crops are cultivated in a mixed crop field. Among the companion shaks, most commonly known shak is bathua shak (*chinopodium album*). These shaks are grown abundantly in wheat field in the winter. There are many other companion shaks. We have divided the shaks as uncultivated, companion and cultivated shaks. Companion shaks are also uncultivated but grown only in cultivated areas with the cultivated crops.

Bathua generally grows in wheat, sugarcane, lentil or grass-pea fields and grows naturally as uncultivated partner crops.

Bathua grows better in chili or potato fields. The uncultivated partner crops is no less important than the principal crop. The owner has all the rights on the principal crop but partner crops are commons that can be collected by anyone, particularly the poor and the landless.





There is No Shak without a Name

Shak Names

There is no shak without a name. Every shak has a name which may differ in different areas. Women are very sensitive to knowing the names of shaks they collect. Those who do not know the name of shak, in fact, also do not know the art of eating the shaks.

The name of shaks is not the same in all places. Rather, the same shak is known by different names in different places. Most of the time the difference is only in the pronunciation of name or difference in dialect but in some other cases the difference in name is so different to indicate some other shak. In such situations, prior description or physical observation helps in identification. There was a discussion on the names of shak among the researchers of UBINIG. This exercise was very helpful for knowing the names of the shaks. This discussion was very interesting as the researchers themselves belonged different districts of the country. Separate lists were made for

uncultivated and cultivated shaks.

A list of 43 uncultivated shaks is given here. The names of companion shaks emerging in the crop fields are also included in this list.

The Nayakrishi women described the shaks in terms of leaf shape, habitat, taste and other attributes. This process helped enriching the knowledge of the field researchers about the shaks. It was interesting to note that leaf part was mentioned as shak in case of cultivated plants.

The work for collection of name of shaks did not end up here. We got names and primary information of 43 uncultivated and companion shaks and 31 cultivated leaves used as shaks. In addition the names of same herbs were available most of which are known for medicinal use, less used in daily food list, so they were not included here in the list. The names of uncultivated shaks are also found in the Plant Taxonomical names of Bangladesh. The names of cultivated shaks are presented along with the names of the principal crops.



Role of shaks in food and nutritional security has hardly been appreciated in mainstream conventional ideas of development and policies. Almost all development programmes bypass the poor because their strategies are mediated by the market. Landless & poor, particularly the women remain outside the orbit of market. Despite this desperate situation women have developed their own strategy of securing food from the uncultivated sources, Mother Nature does not make money for her possessions.

The least the rural communities ask is safe environment free from chemicals and poisons.

A Photographic Presentation of Uncultivated Shaks

The photos of shaks used in this book have been taken during different times of the year and presented with relevant information to highlight the role they play in food sovereignty and biodiversity. Apart from consumption, their role is critical in ensuring the biological foundation of farming and regenerating the conditions of agrarian production systems.



HelanCHA / *Enhydra fluctuans*



Hagra / *Xanthium strumarium*

The photos are taken from different places and of course only from the Nayakrishi villages where the availability of the shaks were abundant and above all safe and edible for all life forms since there are no use of pesticides, herbicides or any harmful chemicals.

TelakuCHA / *Coccinia grandis*





Bon Kochu / *Colocasia esculenta*



Kharkon / *Typhonium trilobatum*

Amkhaira- Notey / *Amarabthus viridis*



APANZALA

The vocabularies of farming communities are key to the understanding of the communities' relation to the universe, particularly the practicing and sensuous acts of belonging to the planet earth. More specifically *Apanzala* symbolizes the relation between biodiversity and human species.

"Zala" means sprouting, and *Apan* means on its own by the divine grace of nature. This beautiful metaphor is used to show that plants have their own creative agency and are therefore bestowed with powers that always remain hidden to the unwise lacking of knowledge of how human beings should interact with nature.

Uncultivated plants or creepers are not 'wild'; they are apparently unattended and are left without community management. But knowledge about their use, their nutritional and medicinal values make them as important as any cultivated food crop.



Katha peta / Alternanthera sessilis

Agriculture is the management of both cultivated and uncultivated spaces as food, fodder and medicine for all life forms



Gima sak / Glinus oppositifolius

Apanzala also implies the limits to ownership and denies privatization of nature. Nature has created the world with her immense power, diversity and forms; no one has right to claim ownership.



Helencha Tita / *Enhydra fluctuans*

Senchi sak / *Alternanthera sessilis*



Shaks are classified by the role they occupy in daily diets. Some are common in most areas of Bangladesh. They are used in the daily meals and naturally constitute the culinary tradition of rural people.

Morog sak / *Celosia argentea*





AMARANTHUS



Large number of leafy Shaks are from Amaranthaceae Family. Most of them are edible or used in medicine. Therefore conserving biodiversity means ensuring the source of uncultivated leafy vegetables as well as plants that are very useful in various diseases and health conditions.



Farmers practicing Nayakrishi require to design their farming households in a way that could maximize the availability of uncultivated plants through efficient management of both cultivated and uncultivated space that ensure safe and nutritious food.

Agroecological designing demands experience and knowledge about the habitats of different plants in relation with other life forms. Nayakrishi practice, therefore, developed over many years is now more crucial and important.



Kolmi / *Ipomoea aquatica*

Shaks collected from aquatic plants from the water bodies are very important source of uncultivated food. During rainy season when other plants are less available or difficult to get, then aquatic plants become one major source of food. It is also fun for children to take bath in nearby river or pond and collect lotus flower and the stalk. Women go and collect Kolmi shak, which is a delicious shak to eat. However, these water bodies must be free from pollution with chemicals.



**Shapla
*Nymphaea
pubescens***

Uncultivated plants grown in the cultivable fields are not "Weeds"; rather they are companion to the cultivated crops in a mixed cropping field. The plants are carefully plucked to clean the field for the crop.

Farmers do not use herbicide against any plant or herbs in their cultivated field, rather those are considered as gifts of nature as food and fodder. There is no conception in ecological paradigm of "weeds" as enemy to be destroyed.



Dondokolosh/ *Leucus aspera*

Bathua / *Chenopodium album*





Roshun sak / *Allium sativum*



Henchi/*Endydra fluetuans*

Thankuni / *Centella asiatica*



Most Shaks are well known for their medicinal valueshepa. Some are antioxidants, antimicrobial and hepatoprotective, etc. Consumption of leafy vegetables is essential not only for health and nutrition but to avail medicinal elements that protect people from disease.



Gondhavadali / Paederia foetida

Gondhobadali is a very common twining climbing plant with very strong and unpleasant smell of the leaves. But still it is one of the most favourite shaks that women like to cook mixing with pulses. It tastes good after cooking. It has many medicinal qualities with anti-inflammatory and anti-arthritic qualities.





Pipul / *Piper longum*

Kalo keshi / *Eclipta Alba*





Kanai / *Cyanotis axillaris*

Some ferns, like Dheki shak is a very commonly used leafy Shaks. The tender leaves are only used. are available in plenty and found around the household and its surroundings.

Dheki sak/
Diplazium dialatum





Sajna Pata *Moringa Obifera*



Apart from being the uncultivated source of leafy vegetables and easily grown tree Moringa had always been known as cure from many ailments and diseases. These health functions of Moringa include among others, anti-inflammatory, antimicrobial, antidiabetic, antioxidant, anti-tumor, anticancer, antihypertensive, antiasmatic, antiurolithiasis, anthelmintic, antihyperthyroid, and anti-Alzheimer.

One of the roles of Moringa plants in dealing with COVID 19 as an immune booster. This is important because

one of the factors that cause the management of COVID 19 patients difficult, is lack of immunity. People with good body immunity tend to be able to survive infection and attacks by the SARS-Cov-2.

Uncultivated food sources serve an important and critical role as medicine and the source of nutrition and immunity. Commonly called as Sajna, in Bangla, this shak is collected from trees grown in the homestead land.



Lau (bottle gourd)/Lagenaria
siceraria

Crops, cultivated for the fruits, tubers or other parts also provide "shaks" - the leafy greens at their early stage, are collected by women of the village.

Lau (bottle gourd) is a very common creeper vegetable crop carefully grown in the homestead making a loft with bamboo. Before the fruit comes, the tender leaves provide very tasty shaks to be used both by the household owner and the neighbours.

Similarly leaves of potato, lentils, pulses, mustard, gram, jute become very good sources of food.

Where the Shaks are Available?

Uncultivated shaks naturally grow where there is an environment congenial for their growth and survival. The moisture-loving shak will grow in the village where there is a moist place, the absence of which will lead to the disappearance of the Shak. For example, helencha sak grows in a moist place. Women know that they can only find helencha from such place. Women will also not collect helencha, if the environment around where helencha is growing is poisonous.

Uncultivated plants are available on the roadsides, homestead area, bank of river and ponds, water bodies, shady place, low land, high land and in the cultivated fields. These are also available in different seasons of the year. Women remember the availability of the plants during the specific months, which they remember only by their Bengali calendar months.

Due to the extension of modern agriculture spearheaded with chemical fertilizer and pesticides, many shaks have eroded or even if those are available become unfit for picking shak as food. The perception of weed in modern agriculture is another cause of erosion of uncultivated shaks. Herbicides are used for weed control. In the forest plantations invasive plants like eucalyptus being planted, which do not allow any undergrowth. In our research we have learnt about the time and place for availability of shaks.



Sources of Uncultivated Shaks



Women go out to collect the uncultivated shaks in the vegetable crop fields, in the homestead area and also far from their houses.



Depending on the season, the knowledge about the specific shak and time of the day, these shaks are collected from different places.





The natural knowledge and education that children learn in an agrarian culture, is crucial for biodiversity, livelihood and food security. Children are taught by their mothers and grandmas from their childhood to picking shaks without hurting the plant, particularly without damaging the root. This may appear simple but is a very important practice to ensure the regeneration of the plant species and conservation of biodiversity.





Usually the shaks are collected in the afternoon and are cook for the lunch meal.

They have to make sure that the shaks are free from any spider nets, spider eggs, ants etc.



It is crucial to understand small farming households as units of ecological activities including both *in-situ* and *ex-situ* conservation of biodiversity and genetic resources. They are not 'subsistence farmers' as mainstream economists claim. Such economic category fails to grasp the agroecological function farming households perform.

Nayakrishi Andolon demands an understanding of the dynamics between economic and ecological relation, so that farming households are not judged by their performance in the market. They are fundamental to our lives and livelihood.

Farming by its very nature of experiential practice based on empirical observation, is a knowledge-based operation. Women possess the knowledge and experiences and sustain the livelihood of all.

Collecting & Picking

There is a deep agroecological and cultural relationship of collecting shaks in the location of their availability. Shaks are collected from different safe biogeographical locations including homestead area, crops fields, bank of the ponds, road sides, and fields. Shak means tender parts of plants. Nobody will cook hard leaves of plants. The process of picking varies with the type of shak. Women know the art very well. Even girls of five years of age are apt in this knowledge as well. There are generational continuity and close relationship of maintaining

diverse plants and picking leafy greens. Women never destroy a plant but the art of picking shak is also the art of regeneration of the plant in and around an ecosystem. This is biodiversity of both plants and knowledge systems and linked to our survival on earth.

Picking Shaks

Shaks are picked, not plucked or uprooted. Big tree, like *sajina* (drumstick) leaf, collection from the tree is also referred to as picking shaks. This is because in most of the cases shaks are picked from herbs or climbers. In Bangla it is called *Shak Tola*.

Women go for shak picking alone or in groups. They go out



with bamboo basket, aluminium bowl or cloth and pick shaks. Sometimes they need to go far away from home. They may not get shaks of their choice always. Especially for picking shaks that grow as companion crops in crop fields, they need to go far from home. Women from Tangail call it going to *chowk*; women in Ishwardi say ‘go to the field’ and the women in Badarkhali say ‘going to aisles of land’ for picking shaks. The feminine vocabulary matters in biodiversity.

Picking of shaks requires special knowledge and experience which the women learn from childhood. The art of picking indicates their depth of knowledge and extent of experience. Shaks are picked with the use of nail and finger without the use of any equipment. It is difficult to explain this technique without practical experience. Nobody will assign the task of

regenerating the shaks for those engaged in picking. Therefore shak picking is also maintaining the plant diversity. So the shaks will be picked with much attention and care so that the natural regeneration is ensured. The process of germination is carried forward from self-sown seeds. The part/parts of cultivated plants picked as shaks are taken at early stage of the life cycle of the plants. The plant also remains tender. Application of any undue force in course of picking may affect the plant. Not a single case of damage on record was found during research. In case of mixed cropping, the picking of shaks was done so wisely the work of weeding was accomplished systematically. Here we did not say anything about cleaning weeds knowingly because companion growth of desired plants is, in no way weed. These are self-grown type of crop



and are nutritious food.

It is nothing surprising for rural women to walk one or two kilometer for picking shaks. Shaks are also picked, if available, on way back home from any other trip. Some shaks, which not available in own locality, are picked from distant places coming back home visiting relatives. In that case the distance can be 8 to 10 km. Picking shaks from road side or from the bank of river, women or children pick shaks on the way to goat grazing. Thus the issue of distance was needs to be mentioned (as shown in the table).

A sort of relation is established among the women of poor and rich families, especially those who have land and who are landless. There is a type of give and take relation; the exchange of money

is minimum. The women from rich or middle-class families cannot go out for picking shaks because of social restrictions, so they get shaks from poor women. Even the children of such families do not go out for such trip. Poor women or girls pick shaks from those sources and offer to rich families. In return the poor families are given rice or share of other crops, broken rice, bran, puffed rice, etc. in exchange.

Centering this give and take, the women of rich and middle class are not deprived of the pleasure of eating shaks; equally the women of poor families get security of other food items in return. The women in rich families ask small children, “we give money if you bring us shaks”. They are given food for a time. Old dress is also shared. The poor families also



get many other items in return of shaks like oil from traders, earthen cooking pot from potters, and thread for sewing embroidered quilt from weavers. Women of rich families in Ishwardi are very happy if they get arum leaves and bathua sak. In Tangail, they are happy if they get natapeta, grass-pea leaves, and pea leaves. In Badarkhali, they appreciate to get arum leaf, hori sak, naris sak and rai sak. The women of rich families are very happy to get kolmi sak picked from water in *Bhadra* (mid August—mid September).

There is difference in picking of shak for own consumption and selling in the market. Only the useful part of the shak is picked for own consumption but for selling in the market a bigger size is cut to make it fit for bundling.

There is song on picking shaks. Famous song of poet Nazrul Islam “Nudir nam shoi Anjona,” (the name of the river Anjona, my friend) but in fact, it is not about the name of the river, rather this is the song of shapla and kolmi (water lily and water spinach). Again vaoia song of Rangpur, “Ore dola matir mor bathuare sak, bathua hol fol korey”, it is full to the brim with picking and cooking shaks.



Cooking ¹

The collection of uncultivated leaves are turned into shak through the art of cooking. The shaks are cooked as soon as they are collected in the afternoon for lunch or are left overnight for the morning meal. From health considerations, shaks are eaten at lunch mostly or in the morning but not at dinner. A very common picture is while the mother is preparing the 'chula' to begin cooking lunch, children gather shaks from the surrounding areas and get fresh shaks.

Girls (and sometimes boys) learn to pick the right parts of the leaves from the cultivated and uncultivated plants available to them. The boys usually collect aquatic plant leaves and combine them with the collection of small fish using a small aluminium pot or a small fishing net from the nearby pond or waterbodies.

Once the Shaks are brought home, the most important task is to sort and check the leaves or spider nets, spider eggs, and insects, and washed until the last water is cleaned of dirt. They are then drained on a bamboo tray or kept in a bowl, depending on whether the water on the leaves

is to be used during cooking. While cooking, women try to be sure about the use of the water content of the shaks. This reflects their knowledge of the nutritional benefits of retaining cooking water.

The shaks are cooked over a chula, on a deep aluminium fry pan. A bamboo stick or an aluminium cooking spud is used to stir the ingredients, alternating stirring to distribute the heat and covering with a lid at regular intervals. Oil is added at the end of the cooking process, called *baghar*. Shak cooking has less use of oil for health reasons and economic reasons because of affordability. If oil is used it is mustard oil.

Shaks are cooked as a single shak or a mixture in very precise combinations of species and with particular cooking styles. In the mixing of the shaks, typically one species is used as the main item and others are added for taste or other properties. For example, Shenchi sak is mixed with smaller quantities of Kolmi sak and Kalai sak cooked together with onion and green chilli. Sweet potato leaves are cooked with Bathua, Shanti, Dondo Kolosh and several other leafy greens.

In this research, consistent combinations of shaks, in patterns

1 For more information see Mazhar, Farhad, et al; Food Sovereignty and uncultivated Biodiversity in South Asia: Essays on the Poverty of Food Policy and the Wealth of the Social Landscape, IDRC, Academic Foundation, New Delhi, 2007 and the Amader Kuriye Pawa Shak book in Bangla

2 Chula is a conical clay stand used to concentrate the fire on the cooking pot / or stove made of mud

two, three, four and five species were found.

Women know very well the tastes and medicinal qualities of different shaks individually and combined taste after mixing. The main criteria for combining particular species is based on a local classificatory system that divides leafy greens into sweet (no taste), sour, and bitter types. Bitter types are usually of medicinal value while the sweet and sour types have particular taste values. Mixing of these types is based on specific knowledge of the properties of each plant, their combined effect, and the particular circumstances of the household. Ideally, the bitter sak Gima is not mixed with a sweet shak because mixing reduces its medicinal qualities. It is eaten in late March and early April to strengthen the body against diseases in the coming

days. However, it may be mixed with vegetables such as brinjal, or potato so that children can tolerate the bitter taste and yet benefit somewhat from its medicinal qualities. Women tell stories to children while feeding the bitter shaks so that they ignore the bitter taste. There are other shaks such as Jute leaves or Kanai shak which become sticky after cooking with water and are therefore not mixed with other types. Netapeta is a sweet tasting shak cooked with henchi (a bitter sak) and amaranthus (a sweet sak). Sometimes, one shak is taken as the major shak, which is combined in lesser proportion with other shaks of different tastes.

Cooking is also a collective work among neighbours for sorting and cutting. Cooked shaks are shared with others if found very special.



Shaks are cooked in different forms: Bhaji is the most common preparation, made from chopped shaks, onion and garlic fried in oil. Red or green chillies are added, to taste. Turmeric is not used in bhaji. The use of oil depends a lot on the economic condition of the household. For the rich households, they even use “Ghee” (butter oil) to cook Gima (bitter) shak and make it a special treat for the guests.



Shaks are hardly cooked alone. It is often a mix of different leafy greens for the combination of taste and nutritional qualities

Bhorta is a mashed preparation of cooked or raw shaks, mixed with onion, garlic, green chillies and mustard oil. It is considered as cooked only partially, they are steamed and the final preparation cannot contain water. In some areas of Bangladesh Bhorta is also known as Chana or Bata. In some cases



they are simply mashed by hand and onions and chillies are added just like salad. So Bharta may not have any direct relation with fire or the cooking pot; the process of their preparation is derived from the cooking of other dishes. Because of this particular process of cooking the collection of the leaves or the part of the plant should be tender and very young. Not all shaks are good for bharta.

Torkari is a curry preparation of shaks with fish, vegetables, spices, oil, and water for cooking. In Tarkari, turmeric must be used. Besides coloring and taste, the

use of turmeric is to conserve cooked shak overnight.

Ghonto and Jhol are soupy mixtures of shaks and vegetables cooked with spices, small fish or the bones of big fish.

Bora is a mixture of shaks with pulses and spices fried in deep oil. Pulses are made into a paste and mixed with shak and spices.

Chorchori is a dry dish of shaks cooked in oil, often with small fish and spices such as coriander or chili paste. The dish is ready when the combination makes typical ‘char char’ sounds

Gima shak is cooked with potato to reduce its bitter taste.



indicating water has dried up and the vegetable and the fish oil are now properly mixed.

Fish that are collected from the open water or available for cooking are usually those that also rot quickly. But these species of fish are particularly suitable for Charchari. If fish starts degrading the village women often use two different types of plants: Pipul Shak (Piper Longum) and Gonail Shak. These plants go very well with partially fermented or rotten fish and indeed provide very high level of nutrition.

Ghonto: In Ghonto cultivated vegetables and uncultivated shaks are mixed and the purpose

is to extract the nutritional and medicinal value of the plants in the medium of water. The mix is with shaks with potatoes or eggplants. Ghonto is mixing of unrelated plants or unrelated parts of plants. The use of spices in Ghonto is minimal, since dissolving the water-soluble nutritional and medicinal elements of plants or parts of plants is critical in this preparation. The mixing of unrelated items is therefore necessary to manage the taste as well. Many plants or parts of plants could be very bitter or tasteless if cooked alone, but they might have very high nutritional and medicinal value.

Pulse is added to Helencha shak, having slight bittertaste, to make Bora, fried in deep oil.



Fourteen Shaks: Celebration of Chaitra Sangkranti

Shaks are not only cooked for daily meal but also the important aspect of culture and means of regenerating community relations and the sense of collective responsibility of maintaining biodiversity. Celebration of Chaitra Sangkranti is an example. It is the most important celebration of women for maintaining biodiversity and a way to the health and nutrition of family members.

The number 14 is symbolic; it indeed expresses the intention that uncultivated food sources should always be numerous and must be conserved as an integral practice of agriculture as the means to regenerate life in infinite manifestation and expression. Uncultivated spaces, where rare plants are available, are sacred places for women.



Chaitra Sangkranti

The 30th day of the month 'Chaitra' is also the last day of the year in Bangla calender. For the village women this has great significance. The village women celebrate it across all religions. In Bengali culture, celebrating Chaitra Sangkranti is more important than celebrating Pahela Baishakh or New Year's Day. Pahela Boishak is inherited as a colonial legacy and originally initiated by moneylenders and Zaminders during British colonial period. Therefore so called Bengali New Year could hardly be claimed as 'national heritage'. Pahela Boishak is celebrated by the business people with the opening of new accounting book called *Halkhata*. There are festivals on the new year, but such occasions are not related to women's cultural practices. Chaitra Sangkranti is grounded in Bengal's agrarian tradition and cultural history where even Shiva comes down from Himalaya to become a farmer in the delta.

The word 'songkranti' implies the moment of transition that has no beginning and no end; the notion of time in agrarian culture is not linear, but cyclical. The sun moves through space and every month crosses each of the signs of the zodiac, known as *Rashi*, to complete twelve cycles in each year. So in non-linear cyclical time there is no 'new' year but only the eternal return of the cycle, or the '*chakra*'.

In the cyclic movement, every point is literally the end of the cycle as well as the beginning. There is no 'new' beginning, and therefore no 'past' in the linear sense of the term. The word 'songkranti' captures this notion of the eternal



In Bengali culture, celebrating Chaitra Sangkranti is more important than celebrating Pahela Baishakh or New Year's Day.

3 Halkhata is an Account-book changed at the beginning of a new year (Bengali Calender year). It is 1st day of Boishakh (mid April).



return of the 'origin', where the 'origin' cannot be located in any linear scale of time but is omnipresent everywhere. If we draw a line we can locate a point where the line begins and ends. Any point could be the beginning. This is not the case with a circle. A point in a circle is both its origin as well as its end; it starts and closes a cycle.

In Bangla, the cyclical return of time is also known differently and distinctly and experienced as 'Ritu'. The word 'Ritu' is usually translated as 'seasons' and thus it loses the context of the cyclical notion of time. Time is not merely any objective time outside human beings, but the eternal return of a unique being in the womb of the universe. Time presupposes this corporeal being, the human. Human beings are the unity of

both biology (*Jiva*) and (*Porom*) spirit.

The celebration of 'songkranti' is very amazing, both philosophically and culturally. In 'songkranti' there is no notion of 'new' and 'old' year. Secondly, the moment of transition is not very brief. So celebration to mark the transition can be as long as one wishes. In the villages of Bangladesh, it could be a week or more, and may include the first day of Baishakh as well. Since the notion of time follows the seasonal pattern, it defies linearity. The time in 'songkranti' comes back again and again and it is never a 'new' time. The last becomes the first again. If we intend to keep ourselves linked with the local practices, with the 'bhab' or the way of being in our culture, it is important that we

understand 'songkranti' more deeply and situate ourselves in the rich metaphors, imaginations and cultural practices of our people. So celebration of Chaitra Sangkranti is very important for women.

Women are particularly active in the Chaitra Sankranti and they carry out environmental and ecological audits to find the natural balance in their areas. Women go out to collect uncultivated green leaves (Shak). They must find *Chowddho rokrom shak* (14 different kinds of shak), which are uncultivated, grow in the homestead land as well as in the further places and in open water bodies. This act of collecting and picking shaks becomes the most important part of Chaitra Sangkranti - cooking 14 different kinds of shak (herb), preferably uncultivated; among them, one shak must be bitter. Usually they find the bitter Gima Shak in their surroundings.

Shak cooking is very special and is full of diversity. The 14 shaks with beautiful names such as kolmi, lune, henchi, notey, dheki, kumra shak, shushni, lau shak, gima, etc. are cooked as mix and individually. On this day, fish, meat or eggs are strictly prohibited. However, different kinds of pulses and lentils are cooked. It is a full vegetarian day for people of all religions, castes and, classes. This is extremely significant from the perspective of ecology and biodiversity. Collection of uncultivated shaks is also a kind of ecological auditing during Chaitra Sangkranti. Unavailability of a particular plant is seen as an ecological crisis and sign of wrong agricultural practices. So vegetarianism in the Chaitra Sangkranti is not merely a ritual; it is deeply related to the practice of ecological auditing of the farming practices of rural Bengal and new pledge to maintain biodiversity.

Another important aspect of Chaitra Sangkranti is to consume Paira-Chhatu (barley) or powder cake from millets. This is a particular way to appreciate certain plants that are drought resistant and can save lives in times of famine.

Chaitra Sankranti is the celebration of biodiversity. Irrespective of religious and social differences Chaitra Sangkranti is enjoyed with songs and dances.

It is celebration for all.

Principles of Chaitra Sangkranti



- 1. It is the Celebration of the conservation and regeneration of biodiversity through collective acts of collection and cooking of Chowddho (14) different type shaks or leafy greens. The number 14 is symbolic; it expresses the deeply revered tradition and the collective intention of the community that the uncultivated food sources are conserved since farming also intervene into nature to meet immediate needs of human beings. The collection of 14 uncultivated shaks has not been difficult in the past in a country rich in biodiversity, but gradually the number is shrinking in the chemical and poison-based agricultural fields.**
- 2. Consumption of drought-resistant cereals, (barley, millet) is very important and must be consumed in Sangkranti. Although they are not staples in Bengal people survive on these crop if drought hits in any unfortunate seasons. These crops must be remembered. They are important sources of nutrition and extremely important in difficult times.**
- 3. Consumption of bitter food is important for good health. Chaitra or mid-April is hot, therefore eating bitter herbs is good for health and prevents diseases.**
- 4. Drinking sharbet made of green mango, and eating yoghurt, cheera, chhatu helps to ensure diversity in food and food security.**
- 5. It is the day to strictly avoid all meat, in order to celebrate the sanctity of life, at least for a day or two. Consumption of greens also symbolises that we are closer to sun. The greens are the source of energy transformed by the plants with the help of photosynthesis.**
- 6. It is also a message on the importance of the seasonality of vegetables, edible greens, fruits, and other cultivated crops.**

As long as we can generate principles from diverse practices, we can redesign our festivals that are appropriate for our time.

Biodiversity is Life-affirming

Biodiversity is life-affirming and crucial in the lives of the village people, particularly for women in the poorer households. The Nayakrishi farming households practicing biodiversity-based farming, depend both on diversity of cultivated crops as well as on the availability of 'uncultivated' leafy greens that are food, fodder, medicine and necessities of daily household needs.

The poor village families depend largely on the harvesting of food from uncultivated sources for their daily meals. The common scene of a rural household in the morning hours is the collection of different leaves, spinach, fish and fruits etc. from the surrounding areas of the households. The poor families do not have enough homestead land, therefore, go around the roadsides, the paddy fields belonging to others, the ponds, near the canal, and other common land of the village. The mother knows that her children have gone for bathing in the pond or canal or river. They will come back with shak, fish etc. She will then quickly cook food for all. This

is a common scenario among the poor families.

Irrespective of the economic status of the rural families, the uncultivated leaves and fruits become part of the daily meal and the varieties of uncultivated food become a source of nutrition and medicine as well. The diversity of the shaks adds taste and nutrition. Rural families also believe strongly that the wide diversity which are grown naturally in different seasons have the required food values. The recognition of uncultivated food from own land or from common land property of the community is very important. The poor and non-farming wage earning families depend on the roadside, waterbodies, and common land to "collect" with genuine right to the uncultivated food, while the rich families have homestead and cultivable land owned by them. The traditions in the villages, however, acknowledge the right to collect uncultivated crops by the neighbours and other members of the community.

Poor and landless families still have access to crops left in the field after harvesting by the farmers. The farmer considers it as the right of the small children if they pick up the paddy, potatoes or any other vegetables after harvest.

In this section we have used information from the presentation of UBINIG Research on Uncultivated Shaks: Food Security of the Poor by UBINIG; the Proceedings of South Asian Workshop on Uncultivated food and plants, 2 – 4 October 1999, Tangail, Bangladesh organized by Using Agricultural Diversity Research Award UADRA), South Asian Network on Food, Ecology and Culture (SANFEC), supported by IDRC, Canada published 1 July 2000

Important Issues of Uncultivated Shaks

a. Erosion & non-availability of Uncultivated crops

The sources of uncultivated food are gradually reducing. As more and more roads are being built in the villages, embankments are constructed, and chemicals are used for cultivation of the HYV rice, wheat and vegetables, the uncultivated foods are found less in quantity and less in varieties.

b. Source of earning: ecology is also economy

The uncultivated food items also become a source of earning for the poor. For example, poor people catch small fish and sell it in the market for buying the staple food, particularly rice. Children sell shaluk, kolmi sak, shapla etc. and get some cash for meeting other needs.

c. Taste, nutrition and biodiversity

Taste of uncultivated shak is integral to health and nutrition. Shaks are therefore very common concern of women. It also helps develop tastes of diverse food among children and contribute to boost immunity.

d. Nature is the best school, children learn by collecting shaks

For the poor families, they must have children over age of 8 years to be able to bring shaks from outside before cooking time or there must be somebody in the family, who will go out to pick up the green leaves and other leafy vegetables or fruits, fish etc. Girls are very helpful to their mothers in this work; boys are useful to catch fish from the water bodies. Women take daughters with them to teach the art of picking shaks.

e. Collection of uncultivated shak is a sharing of fodder as well

Livestock rearing is a common economic activity of the poor village families. Poor women have children to take the goat out for grazing. During this time, women or children collect the leaves and other shaks, which the goat is not eating. They will never take the leaves that the goat is supposed to eat. The extra-ordinary form of sharing food among human and animal is found in the uncultivated sources of food.

Significant Portion of Food Items in the Daily Diet Comes from Uncultivated Sources

A calculation with the farmers show that 40% of their food items and 85% of fuel comes from uncultivated sources. In the daily diets, except rice, sometimes potato and cultivated vegetables come from cultivated sources, but the rest of the food comes from uncultivated sources.

This changes by socio-economic categories of the households. Very poor families depend on uncultivated sources of food and

fodder by an average of 65% of food by weight; varying by economic classes, the poor derive 55%, middle families derive 30% and better off families derive 20%.

This indicates that the uncultivated food sources make up a large part of the daily diets of rural families among the poorer households. This however depends on the availability which can only be enhanced by biodiversity-based ecological farming practices in the villages .

f. Monoculture is a hindrance

Monoculture destroys diversity. Therefore the modern rice varieties have always been destructive to uncultivated crops.

In the monoculture and chemical-based agricultural fields, uncultivated plants are less available and are not safe as food or fodder. The weeding and use of pesticides and herbicides renders plant toxic. Women do not get uncultivated shaks anymore.

g. Threat to the safety of uncultivated crops

Village people are very careful about the sources of the uncultivated food. For example, they know that the Heloncha found on the aisles of irri-paddy field, where chemical fertilizer and pesticide has been used may not be safe for human consumption. But the high road sides are relatively safer, as the pesticide has not been sprayed on those places.

The livestock keeping is affected by the non-availability of the different kinds of grass and green plants. There are many plants, creepers which are used both for human consumption and as fodder for livestock. For example, the tender leaves of Bathua sak is used as shak, while the older leaves and the rest of the plant is used as a fodder. It is very nutritious for the cow.

Similarly, the kind of fish culture affects the availability of aquatic sources of uncultivated food. The HYV variety of fish does not need aquatic feed. They are given extra feed with fertilizer, and waste materials of the livestock from outside. This has destroyed the variety of fish in the ponds and other water bodies.

Since the introduction of industrial food production and use of chemical fertilizers, pesticides, and irrigation water the gradual erosion of uncultivated food sources occurred. In addition, the negative impact of the embankments caused the loss of "uncultivated" fish coming from the rivers to flooded land for food and spawning.

In Nayakrishi 'cultivaton' is understood as human intervention, so counter arrangement must be undertaken to maintain the uncultivated spaces. Biodiversity is Not 'Cultivated'. Unlike industrial food production, farming is not a 'factory'. Agriculture is the management of both cultivated and uncultivated spaces. Nature must be nurtured and preserved as it provides food, fodder, fiber, medicine and fuel to the people.

Biodiversity is not
cultivated

Information on Shaks

Shaks are picked almost regularly by farming families. These leafy vegetables constitute the wealth of biodiverse farming systems.

Tables are presented with English names and botanical names and other relevant information for uncultivated and cultivated shaks.

1. Names of Uncultivated Shaks

Sl #	Name of shaks (Bangla)	English names	Botanical name
1.	Helencha sak	Buffalo Spinach	<i>Enhydra fluctuans</i>
2.	Dheki sak	Edible fern	<i>Diplazium dialatum</i>
3.	Senchi sak	Alligator Weed	<i>Alternanthera sessilis</i>
4.	Notey sak	Notey Shak	<i>Amarabthus viridis</i>
5.	Morog sak	Cockscomb Flower Leaf	<i>Celosia argentea</i>
6.	Kharkon	Bengal Arum	<i>Typhonium trilobatum</i>
7.	Gima sak	Dime shak, Bitter Cumin	<i>Glinus oppositifolius</i>
8.	Kosturi	Kosturi	<i>Abelmoschus moschatus</i>
9.	Telakucha	Ivy gourd	<i>Coccinia grandis</i>
10.	Thankuni	Indian pennywort	<i>Centella asiatica</i>
11.	Bathua	White goosefoot	<i>Chenopodium album</i>
12.	Pipul	pipul	<i>Piper longum</i>
13.	Kanai Sak	Kanai Sak	<i>Cyanotis axillaris</i>
14.	Amrul	Indian Sorrel, Creeping Wood-sorrel	<i>Oxalis corniculata</i>
15.	Nunkhuria (Bulkhuria)	green amaranth	<i>Amaranthus viridis</i>
16.	Bon Kochu	Taro	<i>Colocasia esculenta</i>
17.	Bish kochu	One kind of Taro	<i>Alocasia macrorrhizos</i>
18.	Gondhovadali	Skunkvine, stinkvine	<i>Paederia foetida</i>
19.	Dudholi	Dudholi	<i>Euphorbia parviflora</i>
20.	Roshun sak	Garlic leaves	<i>Allium sativum</i>

21.	Khure kata (Kata notey)	spiny amaranth	<i>Amaranthus spinosus</i>
22.	Kolmi	Water spinach leaves	<i>Ipomoea aquatica</i>
23.	Dondokolosh	Thumbai or Thumba.	<i>Leucus aspera</i>
24.	Katha peta	Katha peta	<i>Alternanthera sessilis</i>
25.	Chirkuti	Chirkuti	<i>Xeromphis spinosa</i>
26.	Nunia sak	Nunia sak	<i>Portulaca oleracea</i>
27.	Shushni sak	Shushni sak	<i>Marsilea quadrifolia</i>
28.	Shial Muti	Shial Muti	<i>Blumea lacera</i>
29.	Kata kochu	Spiny Taro	<i>Lasia heterophylla</i>
30.	Nilichi	Nilichi	N/A
31.	Munshi sak	Munshi sak	N/A
32.	Hori sak	Hori sak	N/A
33.	Than thaney	Than thaney	N/A
34.	Gin naris	Gin naris	N/A
35.	Khatkheti	Khatkheti	N/A
36.	Chukakola	Chukakola	N/A
37.	Hutka	Hutka	N/A
38.	Panidanga (Gangkola)	Panidanga (Gangkola)	<i>Jussiaea repens</i>
39.	Bonjhuri	Bonjhuri	N/A
40.	Hagra	Hagra	<i>Xanthium strumarium</i>
41.	Bon Kachu	Bon Kachu	<i>Lasia spinosa</i>
42.	Morich pata	Morich pata	<i>Solanum nigrum</i>
43.	Bon pat	Wild Jute	<i>Corchorus acutangulus</i>



2. Names of Cultivated Shaks

Sl.No.	Name of shaks (Bangla)	Name of shaks (English)	Botanical names
1.	Misti Alu	Sweet potato	<i>Ipomoea batatas</i>
2.	Gol Alu	Potato	<i>Solanum tuberosum</i>
3.	Shim	Hyacinth bean	<i>Lablab purpureus</i>
4.	Lau	Bottle gourd	<i>Lagenaria siceraria</i>
5.	Misti Kumra	Pumpkin	<i>Cucurbita maxima</i>
6.	Mesta pat	Roselle	<i>Hibiscus sabdariffa</i>
7.	Tosa pat	Jute	<i>Corchorus olitorius</i>
8.	Dhundul	Sponge gourd	<i>Luffa aegyptiaca</i>
9.	Jhinga	Ridged gourd	<i>Luffa acutangula</i>
10.	Chal Kumra	Ash gourd	<i>Benincasa hispida</i>
11.	Pyajj pata	Onion leaves	<i>Allium cepa</i>
12.	Rasun pata	Garlic leaves	<i>Allium sativum</i>
13.	Napa	Napa	<i>Malva verticillata</i>
14.	Shajna	Shajna (drum stick)	<i>Moringa oleifera</i>
15.	Patharkuchi	Patharkuchi	<i>Kalanchoe pinnata</i>
16.	Khesari	Grass pea	<i>Lathyrus sativus</i>
17.	Chola	Gram	<i>Cicer arietinum</i>
18.	Dalim	Pomegranate	<i>Punica granatum</i>
19.	Uche	Bitter gourd	<i>Momordica charantia</i>
20.	Potol	Pointed gourd	<i>Trichosanthes dioica</i>
21.	Motor	Pea	<i>Pisum sativum</i>
22.	Beter aga	Cane top	<i>Calamus tenuis</i>
23.	China badam	Pea nut	<i>Arachis hypogaea</i>
24.	Barboti	String bean	<i>Phaseolus vulgaris</i>
25.	Kakrol	Teasel gourd	<i>Momordica dioica</i>
26.	Sharisha	Mustard	<i>Brassica nigra</i>
27.	Pati betar phul	Flower of pati bet	<i>Calamus tenuis</i>
28.	Shon pater phul	Flower of Sunhemp	<i>Crotalaria juncea</i>
29.	Paina mathar	Paina mathar	<i>Erythrina variegata</i>
30.	Cockscomb flower leaf	Morog phul leaves	<i>Celosia argentea</i>
31.	Padina Pata	Padina pata	<i>Mentha spicata</i>

3. Availability of Uncultivated Shaks

Sl.No.	Name of shaks	Place of availability	Time of availability
1.	Helencha sak	In shady place, on water	More in rainy season. Round the year
2.	Dheki sak	Around roads and houses	Grows better in rainy season
3.	Senchi sak	Damp place	Kartik—Poush (mid October—mid January)
4.	Notey sak	In high land	More in winter season
5.	Morog sak	Around houses	Winter season
6.	Kharkon	High land	Baishakh—Jaista (mid April—mid June)
7.	Gima sak	High land, homestead, near ponds, roads	Falgun—Jaista (mid February—mid June)
8.	Kosturi	Shady low land	Baishakh—Bhadra (mid April—mid September)
9.	Telakucha	Bushes	Boishakh—Ashin (mid April—mid October)
10.	Thankuni	Shady place	More in rainy season. Round the year.
11.	Bathua	Cultivated land	Kartik—Falgun (mid October—mid March)
12.	Pipul	Homestead area, better in bamboo grove	Boishakh—Magh (mid April—mid January)
13.	Kanai Sak	Homestead area	Boishakh—Poush (mid April—mid December)
14.	Amrul	Wet soil	Ashin—Poush (mid September—mid January)
15.	Nunkhuria (Bulkhuria)	Sugarcane field, mixed crop	Falgun—Jaista (mid February—mid June)
16.	Bon Kochu	Road side, bank of pond, forest	Round the year
17.	Bish kochu	Forest	Round the year
18.	Gondhovadali	High land	Round the year
19.	Dudholi	Wet soil	Ashin—Poush (mid September—mid January)
20.	Roshun sak	Homestead, roads	Round the year
21.	Khure kata (Kata notey)	Homestead, road side	Round the year. More in winter season
22.	Kolmi	Pond, ditch, beel	Rainy season

23.	Dondokolosh	High land	Winter season
24.	Katha peta	Road, around field	Round the year
25.	Chirkuti	High land	Bhadra—Chaitra (mid August—mid April)
26.	Nunia sak	Wet land	Jaista—Ashar (mid-May—mid July)
27.	Shushni sak	Wet soil	Boishakh—Ashar (mid April—mid July)
28.	Shial Muti	High land	Agrahayon—Magh (mid November—mid January)
29.	Kata kochu	High land, near ditch	Round the year
30.	Nilichi	Wet land	Round the year. More during Jaista—Ashin (mid May–October)
31.	Munshi sak	Wet land	Round the year
32.	Hori sak	Pond, canal, water	Round the year
33.	Than thaney	Sesame and rice field	Magh—Chaitra (mid January—mid April)
34.	Gin naris	High land	Boishakh—Bhadra (mid April—September)
35.	Khatkheti	High land	Winter season
36.	Chukakola	Homestead area	Agrahayon—Chaitra (mid November—mid April)
37.	Hutka	Jute and sugarcane field, wet, shady place	Boishakh—Jaista (mid April—mid June)
38.	Panidanga (Gangkola)	Aquatic	Rainy season
39.	Bonjhuri	High land	Round the year
40.	Hagra	Sandy soil, near canal, pond, ditch	Magh—Chaitra (mid January—mid April)
41.	Bon Kachu	Wet land	Winter season
42.	Morich pata	Homestead	Ashin—Magh (mid October—mid February)
43.	Bon pat	Moist land	Bhadra—Ashin (mid August—mid October)



4. Availability of Cultivated Shaks

Sl.No.	Name of shaks	Place of availability	Time of availability
1.	Sweet potato	High land, sandy soil	Kartik—Chaitra (mid October—mid April)
2.	Potato	High land	Agrahayon—Magh (mid November—mid January)
3.	Hyacinth bean	High land	Ashin-Falgun (Mid September—mid March)
4.	Bottle gourd	Homestead, high land	Round the year
5.	Pumpkin	Homestead, high land	Round the year
6.	Roselle	High land	Boishakh—Agrahayon (mid April—mid October)
7.	Jute	Medium high land	Boishakh—Srabon (mid April—mid August)
8.	Neem	High land	Round the year
9.	Mango	High—Medium land	Boishakh—Jaista (mid April—mid June)
10.	Sponge gourd	High land	Srabon—Ashin (mid July—mid October)
11.	Ridged gourd	High land	Ashar—Ashin (mid June—mid October)
12.	Ash gourd	High land	Ashar—Ashin (mid June—mid October)
13.	Onion leaves	High land	Kartik—Agrahayon (mid October—mid December)
14.	Garlic leaves	High land	Kartik—Agrahayon (mid October—mid December)
15.	Napa	High land, Homestead	Round the year
16.	Shajna (drum stick)	High land	Round the year
17.	Patharkuchi	High land	Round the year
18.	Grass pea	High, medium land	Poush—Magh (mid December—mid February)
19.	Gram	High, medium land	Poush—Magh (mid December—mid February)
20.	Pomegranate	Homestead, high land	Round the year
21.	Bitter gourd	Homestead, high land	Falgun—Chaitra (mid February—mid April)

22.	Pointed gourd	High land	Falgun –Chaitra (mid February—mid April)
23.	Pea	High land	Kartik—Magh (mid October—mid February)
24.	Cane top	Forest	Round the year
25.	Pea nut	High land, sandy soil	Poush—Magh (mid December—mid February)
26.	String bean	High land	Jaista—Bhadra (mid May—mid August)
27.	Teasel gourd	High land	Ashar—Bhadra (mid June—mid September)
28.	Mustard	Medium, high land	Agrahayon—Poush (mid November—mid January)
29.	Flower of pati bet	Dry, wet, high-low land, near homestead	Srabon—Bhadra (mid July—mid September)
30.	Flower of Sunhemp	High land	Poush—Magh (mid December—mid February)
31.	Paina mathar	Dry land	Round the year
32.	Morog phul leaves	Homestead area	Jaista—Asher (mid May—mid July)
33.	Padina pata	Homestead area	Round the year



5. Parts of Uncultivated Shaks Picked

Sl.No.	Name of shaks	Distance covered	Plants part/parts, picked
1.	Helencha Sak	A quarter mile	Soft top cut
2.	Dheki sak	Homestead/one km.	Soft portion broken
3.	Senchi sak	Homestead, one km.	Soft top picked
4.	Notey sak	Homestead	Top, soft leaves
5.	Morog sak	Homestead	Top picked, many branches emerge
6.	Kharkon	Homestead	Tender leaves picked
7.	Gima sak	½ km.—1km	Leaves picked
8.	Kostori	Homestead, 1 km.	Tender leaves picked
9.	Telakucha	Homestead	Leaves
10.	Thankuni	½ km	Leaves picked
11.	Bathua	1 km.	Soft top, branches, leaves picked
12.	Pipul	Homestead	Leaves picked
13.	Kanai sak	Homestead	Top, leaves picked
14.	Amrul	Homestead	Only leaves picked
15.	Nun khuria (Bulkhuria)	½ —1 km.	Tender parts of plant picked
16.	Bon kochu	Homestead—1/2 km.	Tender leaves picked
17.	Bish kochu	Homestead	Tender leaves picked
18.	Gondhovadali	½ km.	Leaves picked
19.	Dudholi	1 km.	Tender top with leaves
20.	Roshun sak	Homestead, field ¼ km	Tender leaves picked
21.	Khurekata (Kata notey)	½ km.	Tender top picked
22.	Kolmi	1 km	Soft top, leaves
23.	Dondo Kilosh	Homestead— 1 km.	Tender top, leaves picked
24.	Kathepata	Homestead— 1 km.	Top, leaves picked
25.	Chirkuti	Homestead— 1 km.	Tender top picked
26.	Nunia sak	1 km	Tender top, Leaves picked
27.	Shushni sak	½ km	Leaves picked
28.	Shialmuti	½ km	Tender top picked
29.	Kata kochu	Homestead to ½ km	Inner tender leaves picked
30.	Nilichi	Homestead to ½ km	Tender top picked
31.	Munshi sak	Homestead	Tops are picked

32.	Hori sak	Homestead to ½ km	Leaves with top picked
33.	Thantheny	Homestead	Top with tender leaves picked
34.	Gin naris	Homestead to ½ km	Top leaves picked
35.	Khatkheti	Homestead to ½ km	Top leaves picked
36.	Chukacola	2/3 km	Top leaves picked
37.	Hutka	Homestead to ½ km	Top with leaves picked
38.	Panidanga	Homestead to ½ km	Top with leaves picked
39.	Bon jhuri	Homestead	
40.	Hagra	1 km.	Top with tender leaf
41.	Chiniguri	Homestead, 1 km.	Leaves picked
42.	Morich pata	Homestead	Leaves are picked
43.	Bonpat	1 km.	Tender leaves

Parts of Cultivated Shaks Picked

Sl.No.	Name of shaks	Distance	Plants part picked
1.	Sweet potato	Homestead	Tender leaves
2.	Potato	½ km	Tender leaves
3.	Hyacinth bean	Homestead, 1km.	Tender leaves
4.	Bottle gourd	Homestead, 1km	Tender top leaves
5.	Pumpkin	Homestead, ½ km.	Tender top leaves
6.	Roselle	1 km.	Leaves
7.	Jute	1 km.	Tender leaves
8.	Neem	Homestead	Tender leaves
9.	Sponge gourd	Homestead	Leaves
10.	Ridged gourd	Homestead	Leaves
11.	Ash gourd	Homestead	Leaves
12.	Onion leaves	½ km	Leavs
13.	Garlic leaves	½ km	Tender leaves
14.	Sajna	Homestead, ½ km	Tender leaves
15.	Pathor kuchi	Homestead	Tender leaves
16.	Grass pea	1 km	Tops and tender leaves
17.	Gram	1 km.	Tops
18.	Pomegranate	Homestead	Tender leaves
19.	Bitter gourd	Homestead, ½ km.	Tender leaves

20.	Pointed gourd	1 km.	Tender leaves
21.	Pea	1 km.	Top, tender leaves
22.	Cane top	2/3 km.	Tender top
23.	Pea nut	2/3 km.	Tender top, leaves
24.	Teasel gourd	Homestead	Tender leaves
25.	Mustard	½ km.	Tender top, leaves
26.	Flower of pati cane	Homestead, ½ km.	Flowers
27.	Flower of sun-hemp	½ km.	Flowers
28.	Paine madar	½ km.	Tender leaves
29.	Morog phul	Homestead	Tender leaves
30.	Pudina	¼ km.	Tender leaves



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