

## CHALLENGES OF FOOD SUBSISTENCE IN MASSAR

Sentijungla<sup>1\*</sup> and B. T. Langstieh<sup>2</sup>

<sup>1</sup>Ph.D. Scholar Department of Anthropology, NEHU, Shillong. E-mail: [jungti92@gmail.com](mailto:jungti92@gmail.com)

<sup>2</sup>Professor, Department of Anthropology, NEHU, Shillong. E-mail: [langstieh.banrida@gmail.com](mailto:langstieh.banrida@gmail.com)

### Article History

Received : 16 July 2021

Revised : 19 August 2021

Accepted : 25 August 2021

Published : 30 December 2021

### Keywords

deaf, land use pattern, cash crops, food culture

**Abstract:** The present study is an ethnographic investigation on the food economy among a deaf as well as a hearing community, both belonging to a particular clan called “Nongsteng” in a War Khasi village in Meghalaya. The study presents the procurement of food crops against the challenging rocky terrain; both for personal consumption, as well as for commercial purposes. Delving further into the study, the paper explores the predominantly practised traditional agriculture, the associated rules and pattern of land use, the shift from a food economy to a non-food economy, and its implications. In addition, the study takes into account the revenue generated by selling the cash crops in the market; the supply and demand, and the extent of financial assistance sanctioned by these crops in supporting the families. Additionally, the extent and role of nutritional programmes, implemented for the alleviation of nutritional deficiency have been probed. Data were collected by conducting interviews and engaging in participant observation which was achieved by partaking in the tour to the fields and visiting the weekly markets during prolonged fieldwork. The study shows that the income produced by selling the cash crops is meagre and barely enough to sustain the family, let apart from affording a nutritional diet.

### 1. Introduction

Agriculture is the major occupation in the state of Meghalaya as approximately 83% of the population depends on it, despite the challenge that 70% of its area falls under a steep or moderate slope, which makes it unfit for permanent agriculture (Das and Lyngdoh, 2019; Tiwari *et al.*, 2012; Census of Meghalaya, 2011). Two broad farming practises are dominant in Meghalaya; one is the traditional method for farming known as *jbum*, while the other is cash-crop-based farming (Behara *et al.*, 2016). Traditional agriculture is chiefly

### To cite this article

Sentijungla & B. T. Langstieh (2021). Challenges of Food Subsistence in Massar. *Man, Environment and Society*, Vol. 2, No. 2, pp. 155-168.

practised by hill tribes of northeast India and the same trend has been reported in the state of Meghalaya. This form of agriculture principally relies on the ancient method where the entire field is burnt down to prepare it for cultivation, and this method is popularly known as shifting (slash and burn/*jhum*) cultivation, or the cafeteria system of cultivation.

*Jhum* cultivation is also locally known as '*rep syrti*' or 'swidden' in the present study area which is synonymously also referred to as '*rep bun*' among the Khasi settled agriculturists of the uplands, in this part of the country. Apart from this type of agriculture, domestication of animals which includes animal husbandry for non-dairy purposes such as pigs, cows and fowls are most common. The yield of food crops by this method is low and have been criticized by experts in this field for its environmental diseconomies resulting in the government taking up various measures to combat this issue (Behera *et al.*, 2016). However, tribal communities, including the Khasi in rural areas still practise this age-old subsistence agriculture which in tradition is closely associated with their ecological, socio-economic, cultural identity, and land tenure systems (Deka and Sarmah, 2010). Additionally, Tripathi and Barik (2003) evinced that this system of cultivation conserved the rich cultural diversity of more than 2000 tribes, inhabiting the northeast region. On the other hand, Jeeva, Laloo and Mishra (2006) reiterated the sustainability of the practice owing to the decomposition of plant debris, leading to the enriched fertility of the soil. However, in precipitous terrains where large-scale food cultivation is a challenge, alternate non-food economy like broom plantation has been adopted for their commercial advantages, in the warmer regions of the state. Therefore, it is not surprising that the brooms produced in Meghalaya find their way to local, national, and international markets (Tiwari *et al.*, 2012).

The gradual, but inevitable shift from a food to a non-food economy has helped in stabilising the economic returns of regions where food crops do not glean many benefits. The produce is surplus owing to which ninety per cent of the brooms harvested is exported outside the state (Tiwari *et al.*, 2012). However, as more plots of land are devoted to commercial non-food, there arises an issue of accessibility to food diversity. This shifting economic practice invariably leads to a limited plantation of food crops, thereby reducing the availability of food variety and dependence on the market for the same. Taking all these factors into consideration, the study presents the transition of the food economy into a non-food economy and its subsequent ramifications over the dietary patterns in the village.

### ***1.1. The objective of the Study***

The current study will inform about the food dynamics in the studied population. It will explore the traditional land categories, the economic landscape, market and sale of commodities, biodiversity of the food system, and finally, the availability of food

programmes in the village. Taking all these factors into account, the study will attempt to mediate the gaps in the food economy and propose suggestions that might assist in tackling these issues.

## 2. Methodology

The present study was conducted in a small War Khasi village, called Massar, which is situated in a valley, on the southern slope of the state of Meghalaya. Massar consists of 2 villages, namely, Massar and Dymmiew, and is governed by the *Khyriem syiemship*, which is the traditional land governance by chieftainship in the constitutional provisions of Sixth Scheduled Tribe Areas of the state. As part of a current research project, a case study was initiated during the period 2017–2019, which revealed an alarming prevalence of varying degrees of hearing loss among the 45 related individuals in 18 households. The trait, which is hereditary, and relatively post-lingual in nature, is found among a particular clan called Nongsteng who has descended from the lineage of Shilot Nongsteng, while the *Nongsteng* who descended from the other lineage of Jer are all hearing. The sensory impairment has persistently been detected among the *Nongsteng* for five generations. Further, the trait is found to be largely progressive in nature, as the auditory impairment is found to intensify over time.

Data collection was executed by engaging in interviews with 18 deaf households and 20 hearing households from the clan “*Nongsteng*”, to probe into the history of the food procurement, distribution, and the transition of the food culture over the years. Interviews with the deaf informants were achieved with the help of a field guide and an interpreter, the earlier being the immediate relative of the deaf members and the latter being distant kin of the deaf community. Additionally, the researcher also participated in field visits and closely monitored the process of planting and harvesting which further assisted to validate the data obtained in the interviews and filling the gap, if any, and building up narratives.

## 3. Findings and Discussion

### 3.1. Land categories and tenure

The distribution of the land system is vital in understanding the pattern of settlement and the rules governing the cultivation/harvesting of crops. Among the Khasi, the land is known as “*R?*” and it has a deep association with their social organisation, as well as their socio-economic life (Shangpliang, 2010). These sentiments were reflected in Massar too, as the inhabitants strictly adhere to the rules laid down in association with land use in the village. During the fieldwork, two basic categories of land were identified in the village namely, *Ri Raid* (community land) and *Ri Kynti* (private land). These categories are further elaborated below to highlight their roles and functions.

3.1.1. *Ri Raid* (community land): *Ri Raid* is a traditional form of land that is managed and controlled by a particular community. Here, every member of the community has the right to use and occupy the land without payment of land revenue. *Ri Raid* in the current study is further categorised into forest lands and non-forest lands. The forested land can be further classified as

(i) *Ri Law Lyngdob*: *Ri Law Lyngdob* is forest land that is set apart for religious purposes, and rituals (*Bad Lyngdob*) are performed in this forest to appease the gods and deities. In the studied village, *Law Lyngdob* is located uphill of Massar, and rituals were earlier performed by an ordained priest, comprising three clans, namely, *Nongsteng*, *Khongbub*, and *Khongmassar*, who were selected on a rotation basis. However, this practice has ceased to exist in the last 5 decades with the coming of Christianity in the village. In addition to *Ri Law Lyngdob*, there are two additional sacred forests in Massar called *Krem khbla* and *Ri nger* or '*lei snget*' although, rituals were not performed in these two forests. Irrespective of the authority to perform rituals, cutting down of trees from all three sacred forests, either for timber or firewood is restricted as it is considered a taboo (*sang*). While fallen twigs and branches can be collected and used as firewood, the same is forbidden to be taken out of the village. Defaulters are believed to be reprimanded with bad omen, and in some unfortunate cases may even meet death.

(ii) *Ri Law Shnong*: This forest is reserved by the village for the members of the village for obtaining timber or firewood for personal use. One such land in the village that is reserved for this purpose is Umsain.

In the non-forest land category, only *Ri Shnong* (village land) has been identified in Massar. It is a *Raid*/community land forming a part of the village and can be utilised by any member of the village. The village of Dymmiew (which falls under the jurisdiction of Massar is located 1.5 Km away from mainland Massar), the cemetery at Maw-Thamom, and *Ri Diengdob*, both at Massar are examples of such places in the village. On the community-based land, houses can be constructed for residence with the permission of the *Dorbar Shong* or village council. However, even if permission is granted, the inhabitants are required not to desert the house for more than 5 years, which will otherwise lead to the lapse of the land. Apart from this, the membership also demands some other contributions towards community service.

3.1.2. *Ri Kynti* (private land): The word '*Kynti*' means 'absolute possession'. Under this form of land ownership, the land is in absolute possession by an individual, a clan, or a family as a single unit. The following categories of *Ri Kynti* have been recognised in the village:

(i) *Ri Kur* (clan land): *Ri Kur* is a category of land under *Ri Kynti*, in which the land has not yet been divided among the different branches of the clan. This system of land

ownership is common in Massar and is prevalent among the clans of *Nongsteng*, *Khongsit*, *Khonghub*, etc., to name a few. In this particular form of land ownership, only clan members can exercise authority over the land and all decisions on land usage must be taken up collectively by the clan.

The deaf *Nongsteng* community is also governed by the same rules as discussed above and is entitled to equal privileges like their hearing counterparts. In addition to these facilities, the deaf *Nongsteng* community currently has three plots of land that is owned by their clan/*kur* which is stated below:

- (i) Mawiong in Mawah is located just 2 km away from Massar and is owned by the members of the deaf *Nongsteng* clan. The land here has less rock composition compared to Massar hence, the produce from this region yields more in quantity than their land holdings in Massar.
- (ii) Maw-kynih-syiar in Massar is chiefly rocky and is used extensively for broom harvesting alone, and
- (iii) Kharai, which translates to ‘uncultivable land’ is another plot of rocky land and is located in Massar and the *Nongsteng* with hearing loss are currently settled here.

The distribution of landholdings of the studied clan above gives us an idea of the extent of cultivable land and ownership. It was observed that with the increasing demographics of the human population, the holding capacity of the land and its limited natural resources has now comparatively decreased over the years, and this might prove to be insufficient to support the entire deaf *Nongsteng* community in the future. Additionally, the prolonged fallowing period practised for a duration of 5–10 years further adds up to the land pressure. In such cases, the land for farming is usually borrowed from big landholders/clans for a minimum of 5 years for a sum not less than Rs 4000. However, in certain cases, the landowners may freely loan their land for a stipulated period in exchange for a substantial revenue generated by the produce. This system of land borrowing partially alleviates the land burden, but the returns are marginal, and in some unfortunate years, the standing crops are eaten or destroyed by the bears, who live in the neighbouring hills. In one of the cases, Bat Nongsteng (30) borrowed a land, called Mawnei for free from the Khongsit clan for a year. However, a bear encroached into her field and ate a large portion of the job’s tears, while the pumpkin and tapioca plants were uprooted, leaving them to rot. Thus, the targeted economic profit could not be generated from this field in that particular year.

### ***Economic Landscape***

Massar, like many rural settings in Meghalaya, subsists on its agrarian economy. However, the topography of the village posits a unique challenge as it is predominantly made up of

a rugged and rocky terrain where the cultivation of both subsistence, as well as edible cash crops, is restricted owing to the limited availability of viable land. In order to combat this issue, the growth of broom grass (hereon addressed as a broom) was presented as an economic alternative in the 1970s. A surge in the economy was rapidly observed thereon with the replacement of the low-yielding edible cash crops like millet, tubers, etc., with that of the broom, which ultimately led to the adoption of the broom as a cash crop on a large scale. Broom harvesting also boomed as it required low investment, provided good returns, and needed less care and attention as is it slashed and burnt only once in every 4–5 years. However, the extensive growth of the broom may also invite ecological calamities in the future as a study conducted by the Tribal Research in 2011 asserted that the cultivation of broom in some parts of Meghalaya has led to some adverse effects on soil humidity as it dries up the land, and consequently streams and rivulets as well.

### ***3.2. Implications on the Present Studied HOH Households***

The *Nongsteng*, who are deaf or hard of hearing/HOH (hereon, ‘deaf’ will be used for representing the HOH as they recognize themselves with the deaf community) also practise agriculture with a handful of them indulging in animal husbandry alongside. The deaf *Nongsteng* in the village, like the hearing members, chiefly rely on broom harvesting owing to the ostensible returns.

In Massar, the cash crop is grown in monoculture and needs little care and attention. It is semi-domesticated and usually harvested from mid-January to early March before the monsoon hits. However, the villagers usually prefer to harvest the cash crop before the end of February as the plant collected after February falls into the third grade and yields lesser profits. After harvesting, the broom is staked into bundles and hung upside-down on sturdy bamboo poles, and the stems of the broom are allowed to sun-dry to avoid rotting. The broom is left to dry for at least two weeks and is covered by tarpaulins at the slightest sign of rain. The dried broom is then manually piled up, and carefully stored in godowns. In the months of July-August, middlemen come to the village with their trucks to collect the broom. They inspect the quality of the broom and separate them according to their grades. Grade-1 would fetch a higher price than Grade-2 while Grade-2 will bid higher revenue than Grade-3. After this categorisation is completed, the cash crop is weighed and the payment is made on the spot. While the broom has acted as a boon to the village economy, the price of the broom is reported to fluctuate every year instead of the demand in the market. It was reported by A. Nongsteng (45) that, in 2014, 1 kg class-1 broom sold for Rs 94, while it decreased to Rs 41 in 2018 and increased to Rs 60 per kg again in 2019. Thus, we see the wavering nature of the broom economy, and the villagers have expressed their fears as this crop decides the fate of their sustenance.

On the other hand, for the cultivation of edible subsistence, as well as cash crops, jhum cultivation or *rep syrti* is practised in the village. In this system of cultivation, the field is slashed and burnt in the dry months of January to March. The fields are never ploughed, however, the seeds are sowed by digging the soil with a shouldered hoe called *Mobkhiem* or simply by a bill-hooked machete called *Wait*. The crops are grown as an intercrop and are irrigated by rainwater alone. For generations, the farmers in the village have refrained from using fertilisers, including organic dung/manure for cultivation, apart from the ash that is left behind after burning the field. This lack in the usage of organic dung can be attributed to the absence/negligible amount of livestock in the village. Additionally, owing to the lack of modern equipment and inadequate cultivable land, the produce is moderate, but the farmers have resorted to organic farming as the harvest is also set aside for personal consumption. Fallowing is practised every 5–10 years depending on the amount of land the individual possesses, and crop rotation is circulated between the broom and the other cash/subsistence crops, in areas where the cultivation of both the crops are possible. However, if the terrain is rocky and unfit for cultivating food crops, the broom is cultivated on a permanent basis.

### ***3.3. Market and Sale of Commodities***

The harvested cash crops find their way to either Pynursla or Laitlyngkot markets, or both, depending on the amount of the produce. Generally, the villagers prefer to sell the cash crops directly to the wholesalers in bulk as it brings them assured returns compared to selling off the items individually as vegetable vendors. Massar has only one regular vendor named S. Nongsteng (65), with partial hearing loss (HOH) who goes to both the markets to sell the personal products, as well as some supplementary items bought from the wholesalers. According to her, the reason for the non-engagement as a vegetable vendor by the villagers was because of the scanty produce and lack of transportation that rendered the trade inconceivable. On the other hand, the non-feasibility of the trade for the deaf counterpart was not solely because of market logistics, but due to the communication demanded in the transaction. However, despite these challenges, her engagement in the trade was obligated to meet the educational needs of her three deaf daughters, all of whom were enrolled in a special school.

In Table 1, a comparison of agricultural income between the hearing members and the *Nongsteng* from the deaf community is presented. A very narrow margin was observed in the income between these two groups, as the agrarian practice mainly demands physical skills, which was easily accomplished by the *Nongsteng* with the sensory impairment too. Broom, Job's tears and Perilla seeds were found to bring a higher amount of revenue while crops like sweet potato leaves and *Ja-ing* bring substantially lower profits. Further, I was

Table 1: Cultivated Cash Crops in Massar with an Approximate Annual Generated Revenue

| Cash crop                                    | Months for cultivation | Months for Harvesting                     | Rate of items                       | Hearing households | Hard of Hearing (HOH)      |                 |
|----------------------------------------------|------------------------|-------------------------------------------|-------------------------------------|--------------------|----------------------------|-----------------|
|                                              |                        |                                           |                                     |                    | Avg. production per family | Avg. net income |
| Broom ( <i>Synniam</i> )                     | No cultivation season  | January-April                             | Rs 6000/ quintal                    | 5 quintal          | Rs 30,000                  | Rs 33000        |
| Job's tears ( <i>Sobren</i> )                | April-May              | December-January                          | Rs 6000/ quintal                    | 2 quintal          | Rs 12,000                  | Rs 12000        |
| Ginger ( <i>Syng</i> )                       | March-April            | (i) July- August<br>(ii) December-January | Rs 35/kg                            | 10 kg              | Rs 350                     | Rs 210          |
| Turmeric ( <i>Syynrai</i> or <i>Syymit</i> ) | March-April            | July-August                               | Rs 40 kg                            | 5 kg               | Rs 200                     | Rs 80           |
| Sweet potato leaves ( <i>sla Phan</i> )      | April-May              | June- July                                | Rs 5/500g                           | 500 bundles        | Rs 2500                    | -               |
| Perilla seed ( <i>Nei rit and Nei hel</i> )  | February-April         | November- December                        | Rs 200/kg                           | 5 kg               | Rs 1000                    | Rs 2500         |
| <i>Ja-ing</i>                                | February-April         | June-September                            | Rs 5/250g                           | 300 bundles        | Rs 1500                    | Rs 305          |
| Cucumber ( <i>Sohkhitu</i> )                 | March-April            | June-September                            | Rs 150 per <i>kauri</i> (20 pieces) | 5 <i>kauri</i>     | Rs 750                     | Rs 300          |
| Average total income per annum               |                        |                                           |                                     |                    | Rs 48,300                  | Rs 48395        |

\**kauri*: a woven bamboo basket



also informed that the yield from food crops like ginger, turmeric and cucumber are negligible on an annual income basis. The sale of sweet potato leaves was found to be absent among the *Nongsteng* as it was used as pig fodder for the reared pigs. The table also highlights the disparity in income among different cash crops, indicating that the terrain has failed to support in producing sufficient food, primarily with the broom economy taking over, thereby threatening their livelihoods and food security.

### 3.4. Biodiversity of the Food System

In Massar, seasonal green leaves like *Ja-ing* and perennials like, *Ja-hynniar* and *Ja-li* are grown and consumed. Jobs' tears (*Sobrien*), oilseed/perilla seed of two varieties (*Nei rit/ Nei beh*), ginger (*sying*), taro (*shren*), and turmeric (*shyeng/ shynrai*) are grown as cash crops while cucumber (*sobkbia*), sweet potato (*phan Garo*), potato (*soblah*), tapioca (*phan dieng*), tamarillo (*sobbaingon kwai/ sobbaingon dieng*), snake beans (*phyrngop*), soyabean (*rymbai*) and pumpkin (*pathan*) are grown as subsistence crops, and surplus, if any, are sold in the market. Seasonal fruits like passion fruit (*sobbrap*), jackfruit (*sobphan*), local sour fruits like *Myrica esculenta* (*sobphie*) and *Myrica nagi* (*sobphie nam*), *Prunus nepalensis* (*sobiong*), *Elaeagnus caudate* (*sobkhlur*), and a variety of plums are either obtained from the backyard or fetched from the forest and the excess is also traded in the market. The consumption of food variety was found to be the same among the hearing and the *Nongsteng* with the hearing loss. There are two weekly markets named, Pynursla market and the Laitlynkot market that are accessed by all the members of the village, including the deaf community. The Pynursla market is located 25 km away from the village and is held every four days, while the Laitlyngkot market is 16 km away and operates once a week. There are no shops in the village that sells butchered meat or vegetables other than potato (*soblah/phan*), onion (*piat*), garlic (*rynsun*), where the villagers can buy meat and vegetables, apart from the locally available vegetables in the village.

The diet in the village primarily consists of 3–4 courses of meal comprising a plateful of rice, a fried vegetable (*jbur*); usually potato and other green leaves and occasionally a salad made of finely chopped tomato, onion and green chillies, and a non-veg item in the form of salted dried fermented fish (*ketung mlub*) or an omelette. The diet is monotonous and usually rotates around these items. Pulses apart from soyabean are not cultivated in the village therefore, horse gram, which is the cheapest available pulse in the market is consumed regularly, while '*tungrymbai* (fermented soyabean) is consumed largely during the winter months. Spices like turmeric, ginger, garlic, pepper, salt and occasionally chilly are chiefly used to cook the vegetables. The villagers basically survive on vegetables cultivated in the village like *Ja-ing*, *Ja-li*, *Ja-hynniar* and mustard leaves, while vegetables like beet, carrots, turnip, radish, etc., are absent in the village are occasionally consumed in the village. It was

also observed that the villagers enjoyed 4–5 cups (100 ml/cup) of red tea (*sha san*) with sugar throughout the day.

Non-vegetarian flesh foods like pork (*dob sniang*), beef (*dob masi*) and fish (*dob kha*) are consumed once or twice a week depending on the visit to either of the two markets as there is no butcher/broiler poultry shop in the village. Apart from the seasonal fruits that are obtained from the village, other fruits like apples, mangoes, grapes, etc., that have been imported into the state are hardly eaten by the villagers, except for the village elites, owing to the exorbitant prices. Tubers such as sweet potato, tapioca and taro or yam are usually boiled and taken as a snack while oilseed/perilla seed is typically pounded and added in many Khasi ethnic cuisines, including *tungrymbai* (fermented soyabean).

Pastoralism is a recent practice in many regions of Meghalaya as Behera *et al.* (2016) have pointed out that the Khasi has never been a pastoral society. Rearing of cattle, sheep, cows, goats and buffalo were also found to be absent in the current study, attesting to the seldom consumption of dairy and associated products. Pig and chicken are the main livestock reared in the village, and four deaf or HOH Nongsteng households breed local chicken while the pig is reared by only two households. While local chickens are occasionally consumed, pigs are rarely slaughtered for personal consumption as they bring handsome returns to meet bigger, or unforeseen expenses. In fact, one of the deaf informants, S. Nongsteng (65) reported that the amount generated by selling one of her pigs came as an economic respite for the new season school admission of her children. Thus, the rearing of livestock aids in the economic stability of the villagers. Additionally, the villagers are fond of wild game meat like bear (*dngiem*), deer (*skei*), birds (*sim*), termites (*krui*) and frog (*jakoid*), which are occasionally hunted and consumed during the winter.

Probing into the history of food availability in the village, K. Nongsteng (78) recollected memories of how traditional crops like millet (*krui*), taro (*sbriev*), yam (*phan sbriev*) and sweet potato (*phan karo*), etc. predominated her childhood. She recalls consuming rice for the first time when she was 14 years old, in the 1940s. With the introduction of rice, the production of millet subsequently decreased, while taro, yam and sweet potato were replaced by potato. While she believes that the transition of the food culture was convenient, given their ready availability in the market, she is sceptical about the quality of the relatively modern food as she believes that fertilisers were used for their cultivation. Another HOH informant, R. Nongsteng (54) added that the adoption of these modern foods will invite more ailments, given the use of pesticides. He asserts that the consumption of traditional food has significantly reduced, and more non-local (Foreign or Indian) food found its way into their platter owing to the reduction in the cultivation of traditional plants, which were now only relished occasionally as snacks. According to him, this trade-off between the traditional food economy and the broom initially looked tempting and yielded good income.

However, with the fluctuating market prices for the cash crop, the returns proved unrewarding, compelling him to opt for additional means to sustain his family.

### ***3.5. Food and Nutritional Assistance Programmes***

A few dietary schemes have been implemented in the village by the collective collaboration of state and central government for crucial age groups, in order to combat malnutrition. Some of the schemes that have been in action in the village are discussed below:

#### ***3.5.1. Supplementary Nutritional Programme (SNP):***

Supplementary Nutritional Programme (SNP) was launched under Integrated Child Development Scheme (ICDS) and its primary objective is to bridge the gap between the Recommended Dietary Allowance (RDA) and the Average Daily Intake (ADI) of children aged 6 months to 6 years, and pregnant and lactating mothers (Social Welfare Department). The Supplementary Nutrition Programme functions at an Anganwadi Center (AWC) and has two components:

- (i) To serve morning snacks and hot-cooked meals daily to children between 3-6 years, attending pre-school at the AWC for 25 days a month.
- (ii) To distribute Home Ration in the form of RTE Energy Dense Food to be given to children above 6 months to 3 years, and pregnant and lactating mothers.

The Anganwadi Centre at Massar comes under the Pynursla Block, and it caters to supplying food commodities in lieu of the guidelines laid down by the ICDS. Currently, the Anganwadi centre has 38 pre-school students ranging between 3 to 6 years, 35 children between 6 months to 3 years and 6 pregnant and nursing mothers. The pre-school has one teacher, and a cook, who prepares the meals for the school children on every working day from February to November. Kitchidi (porridge) made of horse gram and rice, suji (semonila), kheer (Indian rice pudding), black gram or yellow pea, *cheera* (flattened rice), chapati (unleavened flatbread) and 300 ml milk are the meals provided in the school. Apart from milk, which is a constant, the other items are rotated on a daily basis. On days when the staff is unable to cook, the estimated amount of these items is given in a raw form to the pre-school children so that they can take it home for consumption. At present, the pre-school has two *Nongsteng* children from the deaf clan enrolled in the program. While one has not developed any signs of hearing loss, the other one has a sensory impairment and is unable to walk at 4 years.

#### ***3.5.2. Mid-day meal***

The mid-day meal scheme was introduced in Meghalaya in 1995 as a joint effort by the state and central government to ease nutritional deficiency during early childhood by giving

**Table 2: Distribution of food items to beneficiaries under the SNP scheme from July to September 2019 in Massar**

| <i>Category</i>                | <i>No. of beneficiaries</i> | <i>Items</i>          | <i>Quantity</i> | <i>Days</i> |
|--------------------------------|-----------------------------|-----------------------|-----------------|-------------|
| 6 months- 3 years              | 35                          | Atta (flour)          | 76.9 kg         | 17          |
| Pregnant and lactating mothers | 6                           | Atta (flour)          | 15.8 kg         | 17          |
|                                |                             | Suji (semonila)       | 16.7 kg         | 18          |
|                                |                             | Atta (flour)          | 15.8 kg         | 17          |
|                                |                             | Suji halwa (semonila) | 16.7 kg         | 18          |
|                                |                             | Black gram/yellow pea | 49.1 kg         | 20          |
| 3- 6 years                     | 38                          | Rice                  | 32.7 kg         | 13          |
|                                |                             | Horse gram            | 12.2 kg         | 12          |
|                                |                             | Mustard oil           | 7.6 kg          | 75          |
|                                |                             | Sugar                 | 4.9 kg          | 42          |
|                                |                             | Salt                  | 1.3 kg          | 33          |
|                                |                             | Milk powder           | 14.kg           | 75          |

dry ration initially to lower primary (LP) schools, which eventually shifted to preparing cooked meals for both lower primary (LP) and upper primary (UP) schools (Social Welfare Department). Under this programme, a cooked mid-day meal containing 480 calories and 13 grams of protein per child is provided for 200 days for LP school while 700 calories and 20 grams of protein per child for 220 days are supplied to UP schools. All three schools in the present study, namely, Jingkyrmen SSA UP school, Massar RC LP school and Massar Government LP school in the village with a total number of 86 students have been reported to enjoy this benefit, including 6 children from the deaf *Nongsteng* clan. The food items distributed in the schools under the scheme include eggs, fried vegetables (mainly potato), horse gram, nutrela (soya chunks) and 100g of rice per student. A cook is employed for preparing the meals from February to November and the estimated amount spent on food and condiments is approximately Rs 4000 per month.

#### 4. Conclusion

From the present study, it was found that the rules concerning land tradition in the village are still rigid even in the face of changing food diseconomies, from a food to a non-food crop economy. It is evident that the traditional *jhum* cultivation is deeply engrained as a form of agricultural practice among the inhabitants of Massar, even with the broom

economy sweeping over the village. This shift has undoubtedly boosted the economy of the village. However, with the non-food crop taking over the subsistence crop, there forms a large gap in the availability of food variety in the village, leading to food insecurity. In addition, although fallowing for a longer duration provides more time for the soil to recuperate the lost nutrients, it compels the smaller landowners to borrow land from bigger landlords thereby, invariably decreasing the returns from the cultivated cash crops.

The yield of the crops practised in *jhum* cultivation is low and is further aggravated when there are drastic changes in climatic patterns with torrential rains or damage of crops by wild animals. Therefore, the introduction of other alternate livelihood activities like animal husbandry and cultivation of viable food crops on a larger scale can also act as an alternative in the chiefly broom-reliant economy so as to add wider dietary choices, as well as to strengthen economic stability. In addition, the establishment of a stable market like that of the broom is required in order to achieve a resilient food enterprise. In terms of income, the study found that there was no marginal economic disparity between the *Nongsteng* of the hearing community and that of the deaf community. However, the marketplace remains a challenge for the latter because of the barrier in communication.

Nutritional programmes like the SNP and the mid-day meal were found to be functional in the current study. These programmes greatly contributed to bridging the nutritional gap for these crucial age groups, where dietary patterns play an important role in shaping the physical and cognitive well-being of an individual. These food programmes acted as a support system to improve the dietary intake in the otherwise limited and seasonally reliant food ecology. While all the mentioned programmes are functional in the village, it may be noted that cooks employed for the programmes are paid an amount of Rs. 1000 per month for the mid-day meal and Rs. 2250 per month for the SNP scheme, which is meagre given the assigned number of working days. This calls for better effective monitoring by the government so as to increase the efficacy of the schemes as well as the standard of living of the workers.

#### ***4.1. Recommendations***

The findings of the study have highlighted the problems of accessing a proper nutritional regime. However, further scholarships are required to carry out an in-depth study on the nutritional status of the community so that specific nutritional programmes targeting the nutritional gaps can be modelled.

#### **Acknowledgement**

The researchers would like to express their gratitude to her field guide, Battimon Nongsteng, and interpreter, Pyndap Wankhar for their continuous assistance during the entire duration of the fieldwork.

The researcher is also thankful for all the households; both HOH (deaf) and hearing, who willingly permitted the interviews.

## Reference

- Behera, Rabi N., Debendra K. Nayak, Peter Andersen, and Inger E. Måren. (2016). From jhum to broom: Agricultural land-use change and food security implications on the Meghalaya Plateau, India. *Ambio*. 45(1):63-77.
- Census of Meghalaya (2011). Government of Meghalaya, viewed 28 December 2019 from <https://www.census2011.co.in/census/state/meghalaya.html>
- Das, Jayanta K. and Lawanrisha Lyngdoh. (2019). Relationship between Socio-Economic Variables and Production and Income in Agriculture-A Multifactor Analysis. *International Journal of Current Microbiology and Applied Sciences* 8(7): 612-618.
- Deka, Parag K. and Dinesh Sarmah. (2010). Shifting cultivation and its effects in regarding of perspective in Northern India. *International Journal of Commerce and Business Management* 3(2):157-165.
- Jeeva, Solomon R. D. N., Roytre C. Laloo and Bhanu P. Mishra. (2006). Traditional agricultural practices in Meghalaya, North East India. *Indian Journal of Traditional Knowledge*, 5 (1): 7-18.
- Shangpliang, Rekha M. (2010). *Forest in the life of the Khasis*. New Delhi: Concept Publishing.
- Social Welfare Department, Government of Meghalaya, viewed 15 December 2019, from <https://megsocialwelfare.gov.in/icds.html>
- Tiwari, Brajesh K., R.P. Shukla, Marvelous B. Lynser, and Hero Tynsong. (2012). Growth pattern, production, and marketing of *Thysanolaena maxima* (Roxb.) Kuntze: An important non-timber forest product of Meghalaya, India. *Forests, Trees and Livelihoods*. 21 (3):176-187.
- Tribal Research Institute. (2011). *Socio-economic and cultural survey, Pynursla Block, 48 pp. Shillong*. Directorate of Arts and Culture, Government of Meghalaya, Meghalaya.
- Tripathi, R.S. and Saroj K. Barik. (2003). Shifting Cultivation in North East India. *Approaches for Increasing Agricultural Productivity in Hill and Mountain Ecosystems*, 317-322.