

HOUSEHOLD FOOD INSECURITY ACCESS SCALE (HFIAS)

A CASE STUDY OF MEGHALAYA AND NAGALAND

Bhogtoram Mawroh

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Bhogtoram Mawroh, Senior Associate, NESFAS

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"NO ONE SHALL BE LEFT BEHIND" INITIATIVE







North East Slow Food and Agrobiodiversity Society Kerrie Ville, Arbuthnott Road, Laitumkhrah, Shillong, Meghalaya, India 793003

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INTRODUCTION

The COVID-19 pandemic has resulted in great hardships throughout. The most vulnerable by the distress brought about by the pandemic have been the marginalised groups in the society. These include low-income groups, minorities and indigenous communities. Among them, the case of indigenous communities is a little different. Living in 22% of the world's area and numbering at least 370-500 million people (UNESCO, 2021), these groups have been disenfranchised by the process of colonisation. Independence from colonial powers has not completely changed their vulnerable status with the modern independent states continuing with the policies of the erstwhile colonial rulers. At the same time, in India, constitutional provisions formulated in the post-independence period guarantee many rights to indigenous groups, known as Schedule Tribes in the country. However, the condition of the indigenous communities has not changed. The areas inhabited by them are still one of the least developed in the country. In spite of constitutional protection, their rights have been constantly violated.

Around the world, even before the pandemic, indigenous communities were already in a disadvantageous position regarding provision of basic social services, like education, health care and food. Living at the margins of society, they are very vulnerable to many stresses. The focus of this report is on one particular stress, i.e., food insecurity which is defined as a state in which "all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences in order to lead a healthy and active life". There is emphasis on the multidimensional nature of food security, which includes, viz., the availability of food, access to food, biological utilization of food and stability over time. Because of the disadvantaged positions in which indigenous communities find themselves, attaining food security has always been a big challenge for them (FAO, 2006).

At the same time, Indigenous Peoples' Food Systems have been known to be resilient to various stresses and strains. That is achieved through diversity which is observed in terms of practises, food production systems and the agrobiodiversity built by those practices and found within those systems. Food availability varies throughout the year but the diversity of sources provides cushion for the hunger periods sustaining the population. The relative autonomy the system enjoys in relation to dependence on outside inputs means that it is to some degree shielded by the external stresses as well.

TIP and NESFAS in collaboration with FAO, hence, decided to assess the status of food security in the indigenous areas of North East India. Attempts are made to understand how the food system based on *jhum* has been able to cope with the disruptions caused by the COVID-19 pandemic. This report will assess food security among the indigenous communities of Meghalaya and Nagaland where the Indigenous Peoples' Food Systems are still found to be in a healthy state. In the process, it will also assess the impacts of the pandemic and test the resilience of the systems, *jhum* in particular.

STUDY AREA AND METHODOLOGY

Compared with the rest of India, the North East region has a higher proportion of indigenous population from the total population. Except Assam and Tripura, all the states in the region, in fact, have Indigenous People as the dominant community. Meghalaya and Nagaland are those states where more than 80% of the people are made up of indigenous communities. In Meghalaya, two groups are dominant viz., the matrilineal Khasi-Jaintia and Garo. Nagaland has 16 major tribes and many minor tribes. For this study, three of the major tribes were selected viz., Chakesang, Khiamniungan and Pochury. In total, 18 villages were selected from the two states.

Table 1 Villages that participated in the study along with the number of respondents

State	District	Village	Total number of respondents
		Khapmaw	32
		Mawhiang	32
		Mawkma	32
		Nongpriang	32
		Nongtraw	32
		Nongwah	32
Meghalaya	East Khasi Hills	Rasong	26
Megnaiaya		Khweng	32
	Ri Bhoi	Mawiong	29
		Sasatgre	32
	West Garo Hills	Darechikgre	32
		Wakringtonggre	32
	West Jaintia Hills	Samanong	32
	West Khasi Hills	Nongmawlong	32
Nagaland	Noklak	Pathso Nokeng	32
		Phek	32
Nagaland	Phek	New Phor	32
		Chizami	32

The criterion for selecting the villages was predominance of *jhum* as the main food production system. The participatory mapping of agrobiodiversity undertaken by NESFAS in 2018 had provided the dominant food production system in 32 villages selected from Meghalaya and Nagaland. An initial list of 17 villages was first made of villages where more than 50% of the respondents reported of practising shifting cultivation/*jhum* as the mode of food production.

As the term shifting cultivation suggests, *jhum* involves moving cultivation from one location to another. When a new plot is to be opened, an area is selected by community leaders and is cleared of most of its vegetation during December and January. Fallen material is left to dry for two or three months, and then it is burnt just before the onset of pre-monsoon showers, after which the seeds are planted. The crops are harvested at the end of the season, after which the land is left fallow for seven to 10 years to allow the fertility of the soil to recuperate. Being one of the most ancient forms of food production system, it is intimately

connected to the history and culture of the Indigenous Peoples around the world who still practise it. An important attribute of *jhum* is that it also harbours the greatest degree of agrobiodiversity, i.e., "the variety and variability of animals, plants and microorganisms that are used directly or indirectly for food and agriculture, including crops, livestock, forestry and fisheries" (FAO, 1999), which along with its linkage to the surrounding natural landscape makes it a very resilient food production system.

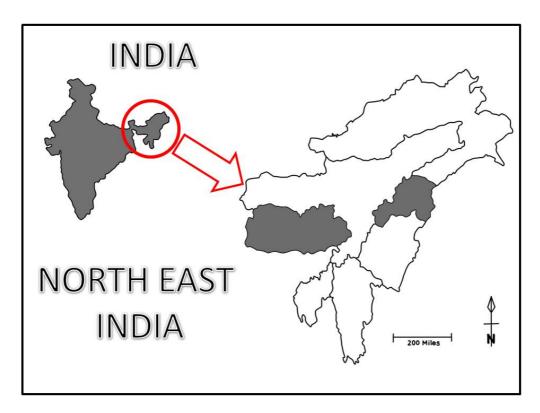


Figure 1 Map of the Study Area

However, the initial list of 17 villages had to be modified. Some of the villages were no longer part of the project. Substitution was made with other villages that had a prevalence of *jhum* as the main food production system. An additional village was also added which increased the total number of villages up to 18. The target was to interview 32 households from a particular village. Except in two villages, this target was achieved. A total of 567 respondents were interviewed. These households were interviewed using the HFIAS (Household Food Insecurity Access Scale) schedule.

MEASURING FOOD SECURITY

Due to the complexity and multidimensionality of the concept, measuring food insecurity (absence of food security) has been a challenge. Most methods of data collection on the topic consisted of household level measures of food access, which includes factors such as income and calorific adequacy, have been technically difficult, data-intensive and costly to collect. This limited the scope of the tools. In order not to miss the crucial elements which define food insecurity, but at the same time designing a tool which is not very complicated, HFIAS (Household Food Insecurity Access Scale) was brought out. This tool is an adaptation of the approach used to estimate the prevalence of food insecurity in the US. The method is based on the idea that the experience of food insecurity (access) causes predictable reactions and responses that can be captured and quantified through a survey and summarized in a scale. Based on research that provided insight into the ways in which households experienced food insecurity, FANTA (Food and Nutrition Technical Assistance) and its partner identified a set of questions that have been used across countries to distinguish food secure from food insecure households. The questions represent universal domains of the household food insecurity (access) experience and can be used to assign households and populations along a continuum of severity from food secure to severely food insecure (Coates, et al., 2007). The questions are as follows:

- Q. 1 You were worried you would not have enough food to eat?
- Q. 2 You were unable to eat healthy and nutritious food?
- Q. 3 You ate only a few kinds of foods?
- Q. 4 You had to skip a meal?
- Q. 5 You ate less than you thought you should?
- Q. 6 Your household ran out of food?
- Q. 7 You were hungry but did not eat?
- Q. 8 You went without eating for a whole day?

These questions can again be divided into three domains, viz., anxiety and uncertainty about the food supply (Q1); insufficient quality (includes variety and preferences of the type of food) (Q2 and Q3); and insufficient food intake and its physical consequences (Q4 to Q8). The placing of the households into the HFIAS depended on the fulfilment of certain conditions based on the response given for the questions above.

A food-secure household experiences none of the food insecurity (access) conditions. A mildly food insecure (access) household worries about not having enough to eat and/or is unable to eat preferred foods, and/or eats a more monotonous diet than desired. But it does not cut back on quantity nor experience any of the three most severe conditions (running out of food, going to bed hungry or going a whole day or night without eating). A moderately food insecure household has started to cut back on quantity by reducing the size of meals or number of meals. But it does not experience any of the most severe conditions. Finally, a severely food insecure household has experienced any of the three most severe conditions

(running out of food, going to bed hungry or going a whole day or night without eating) (ibid, et al., 2007).

Respondents were asked if they had experienced any of the above conditions in the last 12 months. It was almost a year ago (2020) that the national lockdown was announced which signaled the beginning of restrictions put in place to check the spread of the virus. It also marked the beginning of the hardships and distress experienced by common people throughout the country. The timeline of one year was therefore apt for assessing the impact caused by COVID-19 on household food security.

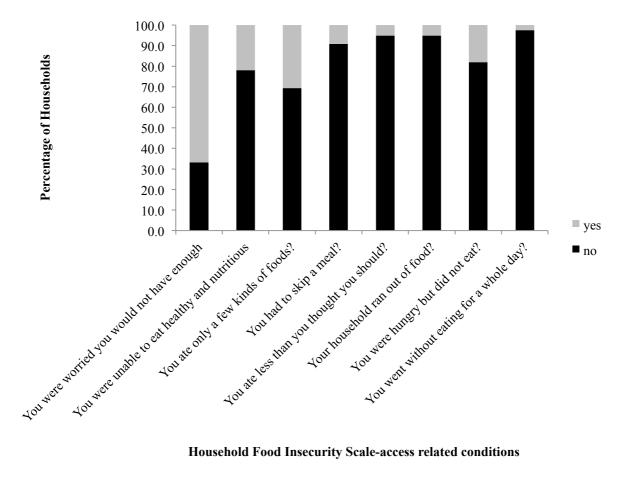
RESULTS AND DISCUSSIONS

The discussion is divided into two sections, viz., household food insecurity access-related conditions and household food insecurity access prevalence. The former is concerned with providing disaggregated information about the behaviour and perception of the surveyed households. It analyses each condition (as represented by the specific questions) separately and finds out which is the most pressing among all. The latter section categorizes households into four levels of household food insecurity (access) viz., food secure, mild, moderately and severely food insecure. Households are categorized as increasingly food insecure as they respond affirmatively to more severe conditions.

Household Food Insecurity Access-Related Conditions

Among all the food insecurity access related conditions, the worry that the household will not have enough to eat was the most important concern for two-third of the households. This is quite understandable since during the initial period when restrictions were being announced, there was great fear and uncertainty. The period when the nation-wide lockdown was announced coincided with the planting season of the communities. Harvest from last year had either been consumed or were in low supply. People were preparing the land for the new season and buying essential inputs that will be required for the agricultural operations. The lockdown being broad in its scope meant that agricultural production for the whole year was in threat. Farmers in shifting cultivation/jhum-based systems do not depend on a lot of inputs from the market. However they do depend on the market for agricultural tools and some of the modern seeds (like potato), which they incorporate into the farming system. This planting season is also known as the 'hunger season' because food is scarce during this time. Hence, a lot of food is bought from the market to tide over this difficult period. It was obvious that a majority of the people were concerned about not having enough to eat in the coming days.

Among the districts, many from East Khasi Hills, Ri-Bhoi, West Garo Hills and West Khasi Hills voiced such concerns. Surprisingly, very few households from Noklak, Phek (from Nagaland) and West Jaintia Hills expressed such fears. The villages in Nagaland are mostly inaccessible because transportation facilities are highly lacking. As a result, connection with the market is quite weak. The district of Noklak is in fact located close to the Indo-Myanmar border and villages in this part are very isolated. It is possible that such areas have always been compelled to rely on their own production with little influence from the outside. As such restrictions don't really affect these communities as much as those that are strongly connected to the external markets. To some extent the same might also be true of villages in West Jaintia Hills. This is not the case with villages in Ri-Bhoi, West Garo Hills and West Khasi Hills and especially East Khasi Hills where access to markets is generally quite good. The lockdown must have put a scare into the minds of people who are accustomed to the ease of access to food from the market during this period.



Household Food Insecurity Scale-access related conditions

Figure 2 Responses of households on Household Food Insecurity Scale-access related conditions

There is another reason why people might have felt concerned about their food security when the lockdown was announced. For the poorer sections in the country, the Government is responsible for the provision of subsidized food grains to up to 75% of the rural population and 50% of the urban population of all states and Urban Territories through the Public Distribution System under the National Food Security Act. Two groups of people are eligible for this help, viz., Antyodaya Anna Yojana (AAY) households (households headed by widow or disabled person of age 60 or more years with no assured means of subsistence) and Priority Households (PHH), i.e., economically weaker sections. Initially with the sudden announcement of lockdown, the supply chain was disrupted and there was a big fear among the community that the food support would be affected. In fact, the Meghalaya Food and Civil Supplies Minister, James Sangma acknowledged "shortage" of essential commodities in some districts in the wake of the nation-wide lockdown (Nagaland Post, 2020) announcement of the Prime Minister on 24th March 2020 (The Hindu, 2020). When villages in Noklak, Phek (from Nagaland) and West Jaintia Hills did not express any fears of food shortage despite the restrictions announced, it revealed the lack of penetration and efficient functioning of the PDS in their areas. This is something that has to be rectified. While it is really commendable that these areas are not dependent on outside support for food, such support can nevertheless be very useful during very difficult times, i.e., at times of disasters or famines induced by adverse climatic events.

An important concern that people reported was that in the last 12 months there were periods when they were unable to eat healthy and nutritious food. Villages from Ri-Bhoi and West Garo Hills were the ones who revealed that they had faced such a problem. The number of people who did that was however not very high, just over 30%. In East Khasi Hills just over 20% of the respondents answered in the affirmative. However, the majority of the people faced no such problems. *Jhum* is a storehouse of agrobiodiversity with many of the food plants found in it considered to be highly nutritious. This also includes the very food plants and animals harvested from the wild which is an integral part of the *jhum* system. Indigenous communities know this very well. Therefore, except for a few who might have personal reasons (perception of what constitutes healthy and nutritious food) for experiencing the problem, the rest were satisfied with the quality of the food.

However this was not the case when people were asked if during the last 12 months they had the experience of eating fewer numbers of foods. While only 30% of the respondents in total answered in the affirmative; all the households in West Jaintia Hills and more than 30% of the respondents in Ri-Bhoi and East Khasi Hills reported that they had faced the problem. It is important to remember that people do not divide the food they eat into nutritional groups, like the FAO model of the 10 Food Groups- Starchy Staples, Leafy Vegetables, Other Vegetables (which include Mushrooms), Vitamin-A Rich Plants, Pulses, and Nuts and Seeds, Dairy, Eggs, Meat, Poultry, and Fish (FAO and FHI, 2016). They have their own definitions, which can divide food according to culinary principles, place of origin etc. While *jhum* does have a lot of agrobiodiversity, many food plants and animal products, which are not part of the local landscape, are absent from these plots. For example, potato, which is an important food, plant grown in jhum fields across Meghalaya, was introduced only in the 19th Century by David Scott, a British administrator. Crops and animal products that are not found from *jhum* can be bought from the market provided adequate cash is available. When the functioning of the markets got disrupted during the lockdown and the subsequent restrictions, many such foods became unavailable. With economic activities coming to a standstill, income also took a dip reducing the purchasing capacity. All this must have reduced the ability to eat a variety of foods for the households that have reported the problem in West Jaintia Hills, Ri-Bhoi and East Khasi Hills. As for those who did not face the problem, the diversity available from their *jhum* fields and the surrounding landscape must have been sufficient. Hence, they had no such problems.

There are two ways in which households facing food shortage cope with it, viz., skipping a meal or eating less than they normally do. Except in West Garo Hills where more than half of the respondents reported skipping a meal during the last 12 months, almost all the households from other districts did not report such a problem. It is to be reminded that West Garo Hills had also voiced its concern of the possibility of running out of food. It would appear that at least in this case local production is not enough to satisfy local demand. The deficit is removed by buying food from the market. However the restrictions and the decline in income because of the disruptions in economic activities must have limited the households' capacity to practise that coping strategy. While local production may have not proved sufficient, households practising *jhum* depend on the local landscape for sourcing

food, plants and animals. These could range from wild edibles, wild fruits, insects, birds, rodents and other mammals from the forest, and amphibians, crustaceans and other aquatic animals from the water bodies. This does not seem to have happened in Garo Hills, which is a bit surprising. A possible reason could be that with the increasing linkage with the market, dependence on these local food sources must have declined over the years. Also, although *jhum* still provides a lot of food crops, cash crop cultivation like cashew nut, arecanut has been increasing in the district. This might have weakened the food production system. As a result, households in West Garo Hills had to skip meals in order to cope with food shortage. Another coping strategy, i.e., 'eating less than you should' does not seem to be a big problem even in West Garo Hills. When households in West Garo Hills eat their meals, just 15% reported reducing the amount of intake. In other districts the problem was either not reported or by 5% or less of the households. But taking the two coping strategies together, West Garo Hills seems to have faced a problem of food shortage in the last 12 months.

Table 2 Inter-District variation on Household Food Insecurity Scale-access related conditions

Questions	Response	nse Districts (% of households)						
		East Khasi Hills	Noklak	Phek	Ri Bhoi	West Garo Hills	West Jaintia Hills	West Khasi Hills
You were	No	11.9%	96.9%	80.2%		18.8%	100.0%	12.5%
worried you would not have enough food to eat?	Yes	88.1%	3.1%	19.8%	100.0%	81.3%		87.5%
You were	No	75.2%	96.9%	88.5%	67.2%	63.5%	96.9%	93.8%
unable to eat healthy and nutritious food?	Yes	24.8%	3.1%	11.5%	32.8%	36.5%	3.1%	6.3%
You ate only	No	68.8%	96.9%	77.1%	59.0%	80.2%		78.1%
a few kinds of foods?	Yes	31.2%	3.1%	22.9%	41.0%	19.8%	100.0%	21.9%
You had to	No	99.5%	100.0%	100.0%	100.0%	46.9%	100.0%	100.0%
skip a meal?	Yes	.5%				53.1%		
You ate less	No	94.5%	100.0%	99.0%	100.0%	84.4%	100.0%	96.9%
than you thought you should?	Yes	5.5%		1.0%		15.6%		3.1%
Your	No	94.5%	100.0%	99.0%	100.0%	84.4%	100.0%	96.9%
household ran out of food?	Yes	5.5%		1.0%		15.6%		3.1%
You were	No	90.8%	100.0%	100.0%	90.2%	21.9%	100.0%	96.9%
hungry but did not eat?	Yes	9.2%			9.8%	78.1%		3.1%
You went	No	99.1%	100.0%	100.0%	100.0%	87.5%	100.0%	100.0%
without eating for a whole day?	Yes	.9%				12.5%		

West Garo Hills indeed faced a problem of food shortage because 80% of the respondents reported that there were periods of time when they were hungry but did not eat and it is one of the symptoms of severe food crisis in the household. The other signs of a

severe food crisis are households running out of food and going the whole day without eating. Again, households in West Garo Hills reported facing these two problems. Fortunately the number of households that reported going through the experiences was comparatively lower, 15% or less of the households. Nonetheless, households in this district are highly vulnerable to food shortage. At other times, this vulnerability might have been hidden but the COVID-19 pandemic exposed it this time around. At the same time, it is heartening to note that despite the restrictions and the disruptions, *jhum* and its associated land uses (which includes fallow and the natural landscape) has been able to shield the indigenous communities in Meghalaya and Nagaland from the adverse impact on food security. However this might change in the future as the system is weakened by entry of external forces. A prelude to this can already be discerned in the case of West Garo Hills.

Household Food Insecurity Access Prevalence

Among the four levels of household food insecurity (access), more than half of the households fall in the mild food insecurity category. These are households that worry about not having enough to eat and/or are unable to eat preferred foods, and/or eat a more monotonous diet than desired. But they did not cut back on quantity nor experience any of the three most severe conditions (running out of food, going to bed hungry or going a whole day or night without eating). Initially when the lockdown was announced, a lot of households were indeed worried about their food security. However with time, as restrictions eased and they were able to resume with their agricultural operations, they were able to delay any major food shortage problems. In some cases, because of disruption of the markets, the variety of food for consumption is reduced. For a large majority though, the produce from *jhum* and the associated land uses was able to compensate for any loss. This was true of almost all districts except Noklak, Phek and West Garo Hills. Just over 20% or less of the respondents belong to the mildly food insecure category. The condition of food insecurity in these three districts is however completely different.

The districts of Phek and Noklak from Nagaland have very few households who are in the mildly food insecure category because the overwhelming majority are in the food secure access category. This is the category where households have not experienced any food insecure conditions. Districts in Meghalaya, on the other hand, had concerns that the COVID-19 pandemic would lead to food shortage in their area. It was not the case for the two districts of Nagaland. Because of their inaccessibility, they had already adapted to depend on local food production from their *jhum* fields and other associated food sources. An important source among the latter is the forest. The 2018 participatory mapping exercise and Dietary Diversity Score (DDS) survey conducted by NESFAS in these two districts had revealed that both big and small mammals are hunted for food, viz., wild boar and squirrel respectively and insects harvested from the forest are also an important part of the daily diet, viz., snails, bee larvae. Rivers were also found to be rich in fish and other aquatic foods. Own production from the *jhum* fields and from forest and water bodies had given the confidence to the communities in Phek and Noklak that they would not suffer from any food shortage during the COVID-19 lockdown and restrictions. Indeed, this was found to be the case as more than

75% of the respondents from these two districts did not report any household food insecurity access issues. In general, just over 20% of the total households from the study area were found to be food secure, the second highest category after mildly food insecure.

In contrast, the low number of households in Garo Hills belonging to the mildly food insecure access category points are not found in the food secure category. Instead they are distributed among moderately food insecure and severely food insecure categories. More than 60% of them are in the food insecure category. Households in this category are those that have started to cut back on quantity by reducing the size of meals or number of meals. They however do not experience any of the most severe conditions (running out of food, going to bed hungry or going a whole day or night without eating). As already discussed above, this probably can be attributed to demand for food exceeding local production and increasing dependence on the market. The latter must have been facilitated by the increasing importance of cash crops like cashew nut and arecanut. When COVID-19 related lockdowns and disruptions brought about a halt to the economic activities and shutting down of markets, households in West Garo Hills experienced food shortage. In such a situation, skipping a meal and to some extent reducing their intake of food, is the coping strategy adopted by the households to tide over the food shortage. In general, just over 10% of the households suffered from moderately food insecure conditions. The problem was therefore highly specific to West Garo Hills.

Food Secure ■ Mildly food insecure ■ moderately food insecure ■ severely food insecure

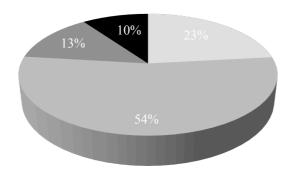


Figure 3 Percentage of households belong to the four Household Food Insecurity Access

Prevalence categories

West Garo Hills, again, had a third of their households in the severely food insecure category. These are households that had experienced the most severe food insecurity conditions, viz., running out of food, going to bed hungry or going a whole day or night without eating. Among these three conditions, going to bed hungry was the most common

one. Apart from the factors discussed above in relation to West Garo Hills, poverty seems to be a major problem for the households in this category. Because of the disruption of the market and PDS supply chain especially in the initial period, members of these highly vulnerable households must have been forced to go hungry. This is a very distressing finding. Fortunately, less than 10% of the households fall in this category with very few households in East Khasi Hills, Ri-Bhoi and West Khasi Hills.

Table 3 Inter-District variation on Household Food Insecurity Scale-access prevalence categories

District	HFIAS categories					
	Food secure	Mildly food insecure	Moderately food insecure	Severely food insecure		
East Khasi Hills	11.5%	74.3%	5.5%	8.7%	100.0%	
Noklak	96.9%	3.1%			100.0%	
Phek	75.0%	24.0%	1.0%		100.0%	
Ri Bhoi		91.8%		8.2%	100.0%	
West Garo Hills		4.2%	63.5%	32.3%	100.0%	
West Jaintia Hills		100.0%			100.0%	
West Khasi Hills	12.5%	81.3%	3.1%	3.1%	100.0%	
Total	23.3%	53.6%	13.2%	9.9%	100.0%	

In general, household food insecurity was not found to be a big problem in the study area. Despite the various restrictions and disruptions brought out by COVID-19, people were able to cope up by relying on the agrobiodiversity found from their *jhum* plots and the associated land uses. In any case, production in *jhum* is mostly for household consumption with the surplus deemed for the market. Linkages with markets exist for sourcing new crops and selling food harvested from the field and forest. But it is not overwhelming to handicap the community in case the markets are not functioning. This is assisted by the fact that *jhum* has very little dependence on the market for inputs for farming operations. All in all, those that practise jhum, if it is in a healthy state, enjoy some autonomy and food security. Changes or distortion in it, however, can be quite inimical to food security. This is seen in the case of Garo Hills, which was the only region that suffered from food insecurity.

CONCLUSION

During the 2021 COVID-19 period, TIP and NESFAS in collaboration with FAO further studied the prevalence of moderate or severe food insecurity in 18 Indigenous Peoples villages in North East India using FAO's Food Insecurity Experience Scale. The study showed that severe food insecurity is virtually non-existent in these 18 villages while moderate food insecurity in 2020 was experienced at 13.2% as against the South Asia level of 43.8% and the global level of 30.38%. This demonstrates that several Indigenous Peoples communities whose food system (in this case based on *jhum*) may have already reached the UN target of Zero Hunger because of their local biodiversity resources of wild plants and trees and their food systems. There is thus a need to ensure that the Indigenous Peoples' Food Systems are protected and efforts should be directed for their rejuvenation and revitalisation where they are under threat or have been distorted. Only then the Zero Hunger target can be achieved.

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