

## CHAPTER 5

### TRADITIONAL TECHNOLOGY AND SUSTAINABILITY

“Human communities with a historical continuity of resource use practices come to acquire a deep knowledge base about the complex ecological systems with which they interact. This encyclopedic knowledge is largely qualitative. It is also resource specific and locale specific. It is accumulated gradually over very long periods of time through learning-by-doing and communicated through oral traditions of songs, stories, and proverbs. This traditional ecological knowledge, while being an integral part of a cultural continuum of understanding of these communities, also represents a “world view” of their resource system and its functioning. They can be considered as “practice–knowledge–belief” expressions” (Kurien, 1998).

Earlier in Lokampur, agriculture was practiced using traditional methods, inputs, tools and implements. The method that was earlier used in agricultural fields was purely traditional where oxen and buffaloes were used for tilling the land through ploughing. The inputs to agricultural fields include local manures (usually cow dung, wood ash, etc.), traditional seeds (seeds that are locally available) and irrigation (water from streams, ponds and rainwater). However, no crop protection measures were undertaken earlier due to which insects attacked the crops and many farmers suffered heavy loss in cultivation. Because of this problem few farmers shifted their farming from rice to tea. Tea is one time showing process and maintenance need every year. So after 2007, there is little area under tea cultivation.



**Plate 5.1:** Tea plantation in Lokampur village

Besides, threshing was done with the help of oxen and buffaloes and even some people do it on their own. In traditional method time and people required more. Also the over rain and less rain affected the crops in early period.



**Plate 5.1:** Traditional methods of cultivation, cow dung and local seeds





**Plate 5.2:** Banana trees and kitchen garden

It was mainly after 2012 that the people of the village had shifted from traditional way of agriculture to modern methods, tools and techniques. Agriculture now-a-days is practiced using tractors for tilling the land, thresher for threshing, insecticides and pesticides to get rid of insects and pest, use of diesel water pumps for irrigation, planting HYV , transgenic and GMC (Genetically Modified Seeds), etc.. According to survey there are 44 farmers in Lokampur village i.e. 13.3 % households are farmer out of total households. About 27.3 % (12 households) of the 44 households use tractors in their fields, 47.7 % use threshers (21 HH), 63.6 % use insecticides and pesticides (28 HH), 11.4 % use diesel water pumps (5 HH), 77.3 % use HYV and other modern seeds (34 HH).





**Plate 5.3:** Modern methods of cultivation and HYV seeds

**Table 5.1:** Change in implements and inputs for cultivation

		Implements used and inputs			
		Before 2003	Status	After 2003	Status
<b>Methods</b>	Ploughing	Oxen, Buffaloes	Available (100%)	Oxen, buffaloes, tractors	O - 52 % B - 7 % T - 41 %
	Harrowing	Oxen, Buffaloes	Available (100%)	Oxen, buffaloes, tractors	O - 57% B - 7 % T - 36 %
	Threshing	Oxen, Buffaloes	Available (100%)	Oxen, buffaloes, Threshers	O- 51 % B- 4 % Th- 45 %



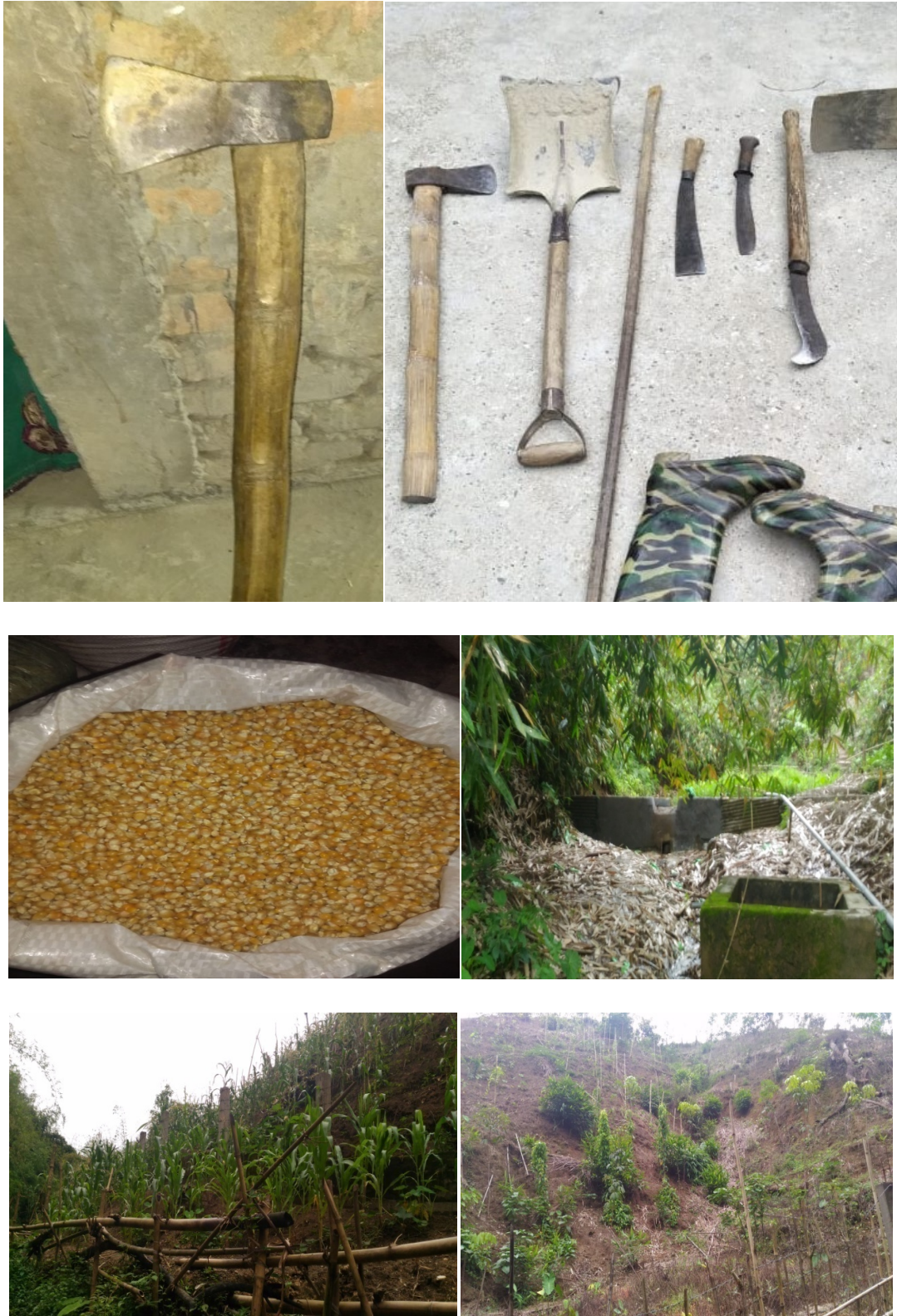
<b>Inputs</b>	Irrigation	By Hand	Available (100%)	By hand, Diesel water pumps	BH- 63 % D- 37 %
	Seeds	Local Seeds	Available (100%)	Local Seeds HYV	L- 47 % H- 53 %
	Crop protection measures	No measures	-	Insecticides Pesticides	I – 51 % P – 49 %
	Manure	Cow dung	Available (100%)	Fertilizers	Available (61%)

Source: Field Survey, 2017-18

(Note: O-Oxen, B-Buffalo, T-Tractor, Th- Threshers, BH- By hand, D- Diesel water pump, L- local seed, H- HYV, I- Insecticide, P - Pesticides)

It is very important to mention that in Dolicoto village nothing has much changed over the years either in methods, inputs, implements used and techniques. The people still use traditional implements like *da* (machete) and *kuthar* (axe) for clearing the forests and *kur* (hoe) for tilling the land. However, traditional inputs like local seeds of maize, vegetables and local banana without using pesticides and insecticides instead cow dung is mainly used as manure in the jhum fields. On the other hand, the farmers are still dependent on rain water for irrigation as it is difficult for them to carry water to the fields and provide artificial irrigation.





**Plate 5.4:** Tools and seeds used in jhum cultivation

Earlier, when the forest patches were burnt after harvesting the crops to regain soil fertility, the entire hill was burnt along with which several species of plants, animals, birds, insects and microorganisms were burnt. Thus, there occurs huge ecological loss. But with due course of time, people have become aware of that fact and in 2001 and 2004, when the fire spread to a large extent the locals called the fire brigade to save the forests from there fire. Thereafter, no such incident of burning the entire forests in the hill took place as people monitor the area after setting fire to the fields and whenever there is a chance of the fire to go out of control, the farmers simply stopped from getting so.

There is another fact to mention that due to excessive practicing of jhumming in the hills, many species of plants, trees, animals, insects and micro organisms have been lost. The included among them are the monkeys which were earlier largely available but their number gradually decreased over time and at present their species has become extinct in the village. Many snakes like *Typhlops diardi* (Diard's blind snake), *Elaphe radiata* (Copperhead racer), *Ptyas korros* (Indo-chinese rat snake), *Lycodon laoensis* have also disappeared. Elephants were earlier found (before 1960s) in the village where they come down to the low lying areas to drink water but elephants are nowhere to be seen these days.