CHAPTER-IV

SPECTRUM OF PLANT RESOURCES AND THEIR MANAGEMENT IN NORTH CACHAR HILLS

A. EDIBLE PLANT RESOURCES
   (CULTIVATED, SEMI-DOMESTICATED AND WILD)

   The edible plants used by the different ethnic groups of the present study area have much significance for them for their food security and local plant resources management strategies. Because of the age old traditional system of agricultural practices in the far flung villages and due to lack of modern agricultural amenities and healthcare facilities, the agricultural output is very low. The crops produced from the traditional agriculture can be stored and used up to next six months only. Again the crop landraces are mainly locally adapted even output may be low but there is no alternative of this a part of local plant resources management. So, as a source of carbohydrate besides the cereals the local ethnic people go to the forest for collection of the edible food plants in the form of tuber, fruits, seeds leaves and roots etc. It is also important to note that some of the wild are recorded to semi-domesticated in the Jhum as well as in the homestead area by almost all the ethnic groups of the area. Again, mostly the tubers collected from wild is recorded as the famine food as these are eaten during the scarcity of cereals like rice and maize etc. This is because of the sustainable local plant resources management for food security of the people of the area. The edible plants are further subdivided into the following:

I. CEREALS:
   a) Rice Landraces / Rice Genetic Resources
   b) Maize Landraces/Maize Genetic Resources
   c) Other Cereals and Millets

II. WILD EDIBLE FERNS:

III. WILD EDIBLE MUSHROOMS:

IV. FERMENTED FOOD AND DRINKS:

V. FRUITS AND SEEDS:

VI. LEGUME AND PULSES:

VII. MARKETED EDIBLE PLANTS:

VIII. SPICES AND CONDIMENTS:

IX. TUBER CROP RESOURCES:
   a) Yam Genetic Resources
I. a) RICE GENETIC RESOURCES AND THEIR CHARACTERISATION

Rice (Oryza sativa L.) belongs to the family Poaceae which is the staple food and dominant crop in N.C. Hills district of Assam. Different landraces of Rice are cultivated in both Jhum or wet/terrace cultivation. In the Jhum the cropping starts with rice and later other crops grown in the subsequent seasons. The Paddy is observed to grown in such places where other crops cannot grow i.e. in terms of altitude, rainfall, etc. Some of the collected and documented superior rice germplasms from the present study area are elaborated as in the following-

Categorization of the collected rice germplasms:

A total of 63 paddy genotypes were collected during the survey period which includes-

(i) A total of 36 upland paddy/Jhum cultivar (IC No. 560759 to 560761, 560763, 560765 to 560767, 560770 to 560776, 560779 to 560781, 560789, 560796, 560797, 560808 to 560816 and 566696 to 566702) and
(ii) Total 27 lowland paddy/Wet/Terrace cultivar (IC No. 560762, 560764, 560768, 560769, 560782 to 560788, 560790 to 560795, 560798 to 560800, 560803 to 560805, 560817 to 560820).

A total of 24 sticky rice that includes-

(i) upland sticky paddy (IC No. 560761, 560765, 560766, 560770, 560771, 560772, 560773, 560774, 560775, 560780, 560781, 560796, 560797, 560808, 560809, 560811, 560812 and 566698) and
(ii) lowland sticky paddy (IC No. 560768, 560787, 560792, 560798, 560805, 560818) and rest of the 39 are non-sticky rice, have been collected.

Again, among the 5 rice accessions, 2 were having aroma (IC No. 560760, 560785) and 3 were both sticky & scented (IC No. 560796, 560797, 560798) characteristics.

The categorization has been shown in Histogram: 1.

The kernel colours of the 39 characterized rice genotypes are grouped in three distinct groups as –
(i) White/yellowish white/silvery white includes 27 nos. (IC no.- 560759 to 560764, 560766, 560767, 560770, 560772, 560774 to 560776, 560779, 560795, 560798, 560803, 560804, 560808, 560810, 560812 to 560817 and 560820.)
(ii) Red includes 8 nos. (IC no.- 560780, 560784, 560785, 560788, 560791, 560793, 560797 and 560809.)
(iii) Golden/light brown includes 4 nos. (IC no.- 560768, 560773, 560794 and 560818.). This has been represented in Histogram:3.

The husk colours of the 39 characterized rice genotypes are grouped in four distinct groups as –

(i) Mottled reddish-brown/ Reddish brown/ Light brown/ Brown/ Dark brown/ Shaded brown 35 nos. (IC nos.- 560759, 560760, 560762, 560763, 560764, 560766, 560768, 560770, 560772, 560773, 560775, 560776, 560779, 560780, 560784, 560788, 560791, 560793, 560795, 560797, 560798, 560803, 560804, 560808, 560809, 560810, 560812, 560813, 560814, 560815, 560816, 560817, 560818 and 560820)
(ii) Red 2 nos. (IC nos.- 560767 and 560774)
(iii) Mottled purple 1 no. (IC no.- 56076)
(iv) Black 1 no. (IC no.- 560785).

In terms of Frequency of all the 63 collected rice genotypes, 5 accessions were abundant, 21 frequent, 24 occasional and 13 rare rice genotypes/germplasms have been assembled from the studied area. This has been represented in Histogram:2.

Traditional knowledge on the collected rice germplasms:

The local landraces of paddy collected during the collection trips from the area are- Lokhamu, Mezamew, Uithao (Kuki); Banglaisha, Barlum, Betguti, Biring, Dimrimaisa, Maiju-walao, Maijau-di-gajao, Maiju-maijhilum, Maiju, Maiju-guphu, Maiju-gajao, Maijau-di-guphu, Maijau-di-gidiba, Mai-nagaland, Maiju-walao-gidiba, Maiju-hadi, Maiyen-maiju, Maisha (Dimasa); Tezi, Tingne (Jeme Naga); Batia-chara (Jaintia-Pnar); Biron/Buman, Batei, , Sangailo, Basa-buh, Buh-chang, Buh- Sei, Changman, Jurai, Kawng-toi, Mai-basa, Nepal-buh, Tei-buh, Thangmanon (Hmar); Burjum, Bu-changpe, Phasen, Bu- aam, Mai-konkai, Bu-koreng and Mijimua/Fachai (Hrangkhol).

Traditional Knowledge related to the accessioned rice during the present study indicates that- Maijau-di-gajao (Red husk- IC No. 560767) & Maijau-di-guphu (light brown husk-IC No. 560775) are always sown by mixing the both in Jhum field. Both the
varieties are always eaten mixed and much preferred types. Jhum cultivar Banglaisha (IC No.560793) is grown well in red-acidic soil and considered as locally suited variety.

Considering the duration of maturity of rice in Jhum cultivation by the Dimasa’s Mai-Nagaland (IC No.560795) is early maturing within 75 days. Maiju-walao-gidiba with sticky & mild aroma (IC No.560797) matures in 120 days i.e. June-Sept, showing the medium maturing period. Maiju-di-gidiba, with tall plant, long panicle (IC No.560794) and Dimri-maisa (IC No.560804) are late maturing ones require about 180 days and are the late harvesting rice. These local varieties are sown for better production taking advantage of the climate, time and space in the area.

The Jhum cultivar sticky rice Biring (IC No. 560771) is preferred for local beer Biron-Judima preparation during occasional festivals and the wet cultivar Maiyen-maiju (IC No. 560803) is used for preparation of beer Judima for regular consumption in day-to-day life by the Dimasa people. The 3 accessions Maiju-walao (IC No.560796), Maiju-walao-gidiba (IC No.560797) & Maiju-hadi (IC No.560798) are sticky with aroma are significant for the ethnic people of the area as they use these local landraces for preparation of local cake and beer during different festivals like Bushu Dima (Harvesting Festival) by the Dimasa’s and even marriage and other ceremonies. The wet/terrace, sticky rice cultivar Changman (IC No. 560818) is used for preparation of Kangpok (local stuffed rice) and local cake by the Hmar people of the south-western part of the district.

The folk women in the N.C.Hills district are having much knowledge on the collection and preservation of the landraces of rice. The traditional granary of different kind is the important rice gremplasm preservation structures as well as also for storage purpose. The structures are mainly made of Bamboos and designed in such a way that aeration takes place from outside and reduces temperatures and thus preserves the embryo in different seasons of the year.

Maximum and minimum value recording of rice accessions:

Paddy in the district is sown in the month of April/May and harvested during September/October and even extended to November for the late varieties. Maximum and minimum value recorded (among the accessions recorded) during field/laboratory study of rice accessions from the district are-

1. **Plant height**: Max. in Dimri-maisa-178cm. (IC no-560804) & min. in IR 8-52 cm. (IC No.560764).
2. **Panicle length**: Max.in Mai basa-35cm (IC No. 560808) & min. in Biring-17cm. - (IC No.560766).

52
3. **5 panicle weight**: Max. in wet cultivar *Maiju-hadi* -36.85gm.(IC no-560798) & min. in *Kali-jeera*-14.72gm.(IC No.560785).

4. **100 grain weight**: Max.in *Tingne*-4.67gm. (IC No.560780) & min. in *Maisha*-1.70gm. (IC No. 560776).

5. **Number of grains per panicle**: Max.in *Dimri-maisa*-373nos. (IC No. 560804) & min. in *IR-8-88* nos. (IC No.560764).

6. **Grain length**: Max. in *Tingne*- 1.02cm. (IC No.560780) and & min. in *Uithao*-0.64cm. (IC No. 560761).

7. **Grain width**: Max. in *Maiju-guphu*-0.40cm. (IC No.560772) & min. in *Kali jeera*-0.25 cm (IC No. 560785).

8. **Leaf length**: Max. in *Jurai*-57cm. (IC No. 560814) and min. in *Lokhamu*-20cm. (IC No.560759).

9. **Leaf width**: Max. in *Uithao*-2.5cm.(IC no.-560761) and min. in *Biring*-1.0cm.(IC no-560766).

Statistical computations of collected rice genotypes, among the accessions recorded in respect to their plant height, panicle length, 05 panicle weight, 100 grain weight, grain length and grain width have been presented in Table:3, followed by the histogram representation (Histogram 4).

**Table: 3**: Morphological variation among the characterized rice genotypes.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Characters observed</th>
<th>Statistical computations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Plant height(cm.)</td>
<td>Range 52-178</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 118.98</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 21.69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 18.23</td>
</tr>
<tr>
<td>2.</td>
<td>Panicle length(cm.)</td>
<td>Range 17-35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 25.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 2.78</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 10.87</td>
</tr>
<tr>
<td>3.</td>
<td>No. of Grains per panicle</td>
<td>Range 120-373</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 219.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 53.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 24.25</td>
</tr>
<tr>
<td>4.</td>
<td>05 Panicle weight(gm.)</td>
<td>Range 14.72-36.85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 24.66</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 4.52</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 18.33</td>
</tr>
<tr>
<td>5.</td>
<td>100 grain weight(gm.)</td>
<td>Range 1.70-4.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 2.71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 0.64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 23.73</td>
</tr>
<tr>
<td>6.</td>
<td>Grain length(cm.)</td>
<td>Range 0.64-1.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean 0.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CV (%) 13.21</td>
</tr>
</tbody>
</table>
**Histogram 1:** Category analysis of collected rice germplasms.

**Histogram 2:** Frequency analysis of collected rice germplasms
**Histogram 3:** Kernel colour analysis of the 39 characterized rice germplasms

**Histogram 4:** SD and CV(%) of the characterised rice genotypes.
Table 4: CHARACTERIZATION OF COLLECTED RICE GERMPLASMS:

<table>
<thead>
<tr>
<th>No.</th>
<th>Vera. name</th>
<th>IC no.</th>
<th>Agronomic features</th>
<th>Characteristics of Grain</th>
<th>Special features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lokhamu</td>
<td>560759</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>2</td>
<td>Mezamew</td>
<td>560760</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>3</td>
<td>Uithao</td>
<td>560761</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>4</td>
<td>Pemkaj</td>
<td>560762</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>5</td>
<td>Birmg</td>
<td>560763</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>6</td>
<td>Maijau-di-</td>
<td>560764</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>7</td>
<td>gajao</td>
<td>560765</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>8</td>
<td>Maiju-maij</td>
<td>560766</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>9</td>
<td>hilum</td>
<td>560767</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>10</td>
<td>Maiju-walao</td>
<td>560768</td>
<td>Dry culv.</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
</tbody>
</table>

Characteristics of Earhead:

<table>
<thead>
<tr>
<th>No.</th>
<th>Vera. name</th>
<th>IC no.</th>
<th>Agronomic features</th>
<th>Characteristics of Earhead</th>
<th>Special features</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>PM-01</td>
<td>560770</td>
<td>Dry culv.</td>
<td>Panicle Width (g) 23 10</td>
<td>Absent</td>
</tr>
<tr>
<td>12</td>
<td>PM-02</td>
<td>560771</td>
<td>Dry culv.</td>
<td>Panicle Width (g) 23 70</td>
<td>Absent</td>
</tr>
<tr>
<td>13</td>
<td>PM-03</td>
<td>560772</td>
<td>Dry culv.</td>
<td>Panicle Width (g) 20 10</td>
<td>Absent</td>
</tr>
<tr>
<td>14</td>
<td>PM-04</td>
<td>560773</td>
<td>Dry culv.</td>
<td>Panicle Width (g) 18 70</td>
<td>Absent</td>
</tr>
<tr>
<td>15</td>
<td>PM-05</td>
<td>560774</td>
<td>Dry culv.</td>
<td>Panicle Width (g) 18 70</td>
<td>Absent</td>
</tr>
</tbody>
</table>

Agronomic features:

<table>
<thead>
<tr>
<th>No.</th>
<th>Vera. name</th>
<th>IC no.</th>
<th>Agronomic features</th>
<th>Characteristics of Grain</th>
<th>Special features</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Lokhamu</td>
<td>560759</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>17</td>
<td>Mezamew</td>
<td>560760</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>18</td>
<td>Uithao</td>
<td>560761</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>19</td>
<td>Pemkaj</td>
<td>560762</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>20</td>
<td>Birmg</td>
<td>560763</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>21</td>
<td>Maijau-di-</td>
<td>560764</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>22</td>
<td>gajao</td>
<td>560765</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>23</td>
<td>Maiju-maij</td>
<td>560766</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>24</td>
<td>hilum</td>
<td>560767</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>25</td>
<td>Maiju-walao</td>
<td>560768</td>
<td>Wet</td>
<td>Grain texture oval, rare in the district</td>
<td>Absent</td>
</tr>
<tr>
<td>No.</td>
<td>PM</td>
<td>Genotype</td>
<td>Type</td>
<td>Cultivar</td>
<td>Awn</td>
</tr>
<tr>
<td>-----</td>
<td>------</td>
<td>----------</td>
<td>------------</td>
<td>----------</td>
<td>-----</td>
</tr>
<tr>
<td>14</td>
<td>PM-17</td>
<td>Mayau-di-guphu</td>
<td>Dry cultiv</td>
<td>7 60</td>
<td>46</td>
</tr>
<tr>
<td>15</td>
<td>PM-18</td>
<td>Marsh</td>
<td>Dry cultiv</td>
<td>5 111 60</td>
<td>39</td>
</tr>
<tr>
<td>16</td>
<td>PM-21</td>
<td>Tezi</td>
<td>Dry cultiv</td>
<td>6 123</td>
<td>30 25</td>
</tr>
<tr>
<td>17</td>
<td>PM-22</td>
<td>Tingne</td>
<td>Dry cultiv</td>
<td>6 128</td>
<td>23</td>
</tr>
<tr>
<td>18</td>
<td>PM-26</td>
<td>Ramu</td>
<td>Wet cultiv</td>
<td>14 91 80</td>
<td>26 80</td>
</tr>
<tr>
<td>19</td>
<td>PM-27</td>
<td>Kali-jeera</td>
<td>Wet cultiv</td>
<td>11 60</td>
<td>128</td>
</tr>
<tr>
<td>20</td>
<td>PM-30</td>
<td>Thangman on</td>
<td>Wet cultiv</td>
<td>9 20</td>
<td>85 80</td>
</tr>
<tr>
<td>21</td>
<td>PM-33</td>
<td>Barilum</td>
<td>Wet cultiv</td>
<td>12 20</td>
<td>78 18</td>
</tr>
<tr>
<td>22</td>
<td>PM-35</td>
<td>Banglalash a</td>
<td>Wet cultiv</td>
<td>9 40</td>
<td>138 28</td>
</tr>
<tr>
<td>23</td>
<td>PM-36</td>
<td>Mayau-di-guphu</td>
<td>Wet cultiv</td>
<td>7 6</td>
<td>151 80</td>
</tr>
<tr>
<td>24</td>
<td>PM-37</td>
<td>Naga Nagaland</td>
<td>Dry cultiv</td>
<td>6</td>
<td>140 50</td>
</tr>
<tr>
<td>25</td>
<td>PM-39</td>
<td>Mayau-walao-guphu</td>
<td>Dry cultiv</td>
<td>7 9</td>
<td>126</td>
</tr>
<tr>
<td>26</td>
<td>PM-40</td>
<td>Mayau-hadi</td>
<td>Wet cultiv</td>
<td>13</td>
<td>122</td>
</tr>
<tr>
<td>No.</td>
<td>PM No.</td>
<td>Varietal Name</td>
<td>Wet cultiv.</td>
<td>Dry cultiv.</td>
<td>Characteristics</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
<td>---------------</td>
<td>-------------</td>
<td>-------------</td>
<td>----------------</td>
</tr>
<tr>
<td>27</td>
<td>PM-45</td>
<td>S06003</td>
<td>5.60</td>
<td>113.60</td>
<td>Black in colour</td>
</tr>
<tr>
<td>28</td>
<td>PM-46</td>
<td>S06004</td>
<td>4.70</td>
<td>111.40</td>
<td>Black in colour</td>
</tr>
<tr>
<td>29</td>
<td>PM-50</td>
<td>S06008</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>30</td>
<td>PM-51</td>
<td>S06009</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>31</td>
<td>PM-52</td>
<td>S06010</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>32</td>
<td>PM-54</td>
<td>S06012</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>33</td>
<td>PM-55</td>
<td>S06013</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>34</td>
<td>PM-56</td>
<td>S06014</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>35</td>
<td>PM-57</td>
<td>S06015</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>36</td>
<td>PM-58</td>
<td>S06016</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>37</td>
<td>PM-59</td>
<td>S06017</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>38</td>
<td>PM-60</td>
<td>S06018</td>
<td>4.60</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Varietal Name</th>
<th>Wet cultiv.</th>
<th>Dry cultiv.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bases</td>
<td>4.40</td>
<td>113.60</td>
<td>Black in colour</td>
</tr>
<tr>
<td>Javan</td>
<td>4.50</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>Bangpu</td>
<td>4.50</td>
<td>114.20</td>
<td>Black in colour</td>
</tr>
<tr>
<td>Sangkaloo</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
<tr>
<td>Bangpu-buh</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
<tr>
<td>Chagangwan</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Varietal Name</th>
<th>Wet cultiv.</th>
<th>Dry cultiv.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buh-set</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Varietal Name</th>
<th>Wet cultiv.</th>
<th>Dry cultiv.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-59</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Varietal Name</th>
<th>Wet cultiv.</th>
<th>Dry cultiv.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-62</td>
<td>5.00</td>
<td>125.40</td>
<td>Black in colour</td>
</tr>
</tbody>
</table>
PHOTOPLATE: 12: MAIZE LANDRACES

Ph: 53: Selected maize landraces (Sl.no. 1 to 46).

IDENTIFICATION OF RACES AND SUBRACES

1: Race - Arun tepi
2: Race - Arun tepi
3: Race - Arun tepi
4: Not in pure form
5: Not in pure form
6: Not in pure form
7: Race - Mixed characters of Tista Mendi
8: Not in pure form
9: Race - Tista Mendi
10: Race - Tirap Nag-Sahypung
11: Race - Tirap Nag-Sahypung
12: Race - Poorvi Botapa
13: Race - Poorvi Botapa
14: Race - Shyam Nahom
15: Not in pure form
16: Race - Asht Samsung
17: Race - Nilip Mekop
18: Not in pure form
21: Race- Mikir Merakku
22: Not in pure form
23: Not in pure form
24: Not in pure form
25: Not in pure form
26: Race- Cachar Gomdhan
27: Race- Cachar Gomdhan (mixed)
28: Mix.of Poorvi Botapa and sub-race Murli
29: Not in pure form
30: Not in pure form
31: Not in pure form
32: Race- Poorvi Botapa
33: Race- Poorvi Botapa
34: Race- Poorvi Botapa
35: Race- Poorvi Botapa
36: Race- Poorvi Botapa
37 & 38: Mix.of Poorvi Botapa and sub-race Murli
39: Not in pure form
40: Not in pure form
41: Not in pure form
42: Not in pure form
43: Not in pure form
44: Not in pure form
45: Shyam Nahom
46: Murli ,Sub-race of Poorvi Botapa

Ph: 54 & 55: Traditional way of conserving the seeds by storing the seeds over the hearth by Kuki people in Khuongluong.
I. b) LAND RACES OF MAIZE

Maize landraces are the second major cereals grown in N.C.Hills district of Assam by the different ethnic groups of the area. Zea mays L. belongs to the family Poaceae and is an important source of carbohydrate for the ethnic people residing in the area. There is enormous variation of the landraces found in the remote areas cultivated by the local ethnic people. Some of the collected and identified and also their uses documented from the present study area are described as in the following-

Characterization and Identification of Maize Races:

An attempt has been made to identify the available landraces of the North Cachar Hills of Assam using ear and cob characters. The data analysis and findings on the Maize races from the North Cachar Hills has been provided in Table: 5. A total of 46 collections were characterized and out of these 9 races and 1 sub-race have been identified from the area, which can be summarily classified as in the following:

![MAIZE RACES FROM N.C.HILLS, ASSAM]

- PRIMITIVE RACES
  - 1. Poorvi Botapa.
  - 2. Murli; Sub-race of Poorvi Botapa.
  - 3. Tirap Nag-Sahypung.
  - 4. Arun Tepi.

- ADVANCED/DERIVED RACES
  - 1. Asht Samsung.
  - 2. Shyam Nahom.

- RECENT INTRODUCTIONS
  - 1. Tista Mendi.

- HYBRID RACES
  - 1. Mikir Merakku.

It is interesting to note that 5 Maize races viz. Tirap Nag-Sahypung, Arun Tepi, Asht Samsung, Tista Mendi and Mikir Merakku collected during present study have not been reported earlier from the area as evidenced from scrutiny of literature.

Rest of the collected maize ears samples from the study area could not be identified because of the mixed characters of different races in terms of kernel morphology, colour and also the ears characteristics. That is possibly because of mixed cultivation of various desired genotypes by the farmers on the same plot of land resulting in the cross pollination among the different races over time.

Traditional Knowledge on Maize:

The crop is widely cultivated along with the Paddy in Jhum fields by different ethnic groups of the area. Selections over the years by ethnic farmers, for genetic
uniformity and local adaptation have significance pertaining to the customs, tradition and economy of the tribal people. The ears in pure and mixed form of the different landraces show variability in shape, size, colour and also in taste. The Dimasa people call it as Mangla; Murli maize as Manglaithuri and the sticky maize as Mangla maiju that having high sugar and Gluten content. Other tribes call it Bulbung (Hmar); Kolbu (Kuki); Ntak, Ntaktingne (Zeme Naga). The Zeme Naga has categorised these landraces into three groups viz. Hetipintak- pop corn (Muli maize), Ntak- kernel yellowish colour, Ntaktingne- kernel dark brown to reddish coloured with sweet taste. On the other hand, the Hmar people divided into nine groups viz. Jeupuk (pop corn/Murli maize), Mimeng, Miman, Bulbung, Mindum, Mimsen (two types), Projeket, Ringkanmg-mim and Thigbung-mim.

**Time of sowing**

Pre-Kharif sowing in the paddy lands at the lower altitudes are done in mid-February to first part of April in the area. The crop matures within 120-140 days and harvested from August to October.

**Maize-based cropping systems**

Planting technique of the maize has been traditionally manipulated to include crops like beans, pulses, and pulse-type beans, peas; pigeon pea; vegetables, millets, ginger, turmeric as intercrops.

**Post-harvest management**

Harvesting on rainy days are avoided in the pre-kharif and kharif sown maize that mature during the rainy season. Conservation of the cobs is unique as 40 to 50 cobs tied together in bunches and hang over the fireplace to maintain moisture content and preventing from rotting the cobs. Again the seeds preserved for next year sowing and generally stored inside Bamboo internodes having loosely plugged and kept just above the fireplace thus avoiding overheating and damaging the embryos (Ph : 54 & 55). The fumes from the fire keep the seeds free from attack of insect pests and fungus.

All the ethnic groups prefer to eat the grains mostly boiled. All the ethnic groups specially Dimasa and Zeme Nagas of the district prepare local beer from maize cobs after boiling it and added a little Yeast cake made from Rice flour and bark of Albizia myriophylla (Themra-DI). The drink is taken in day to day ethnic life and specially in local festivals as well as rituals or traditional offerings to the deity. Despite only 2 to 3 cobs production per plant and found in pure form with smaller in size the Munglaithuri i.e. murli sub-race of poorvi botapa is much preferred among the Dimasa tribe of the area which is also eaten cooked as vegetable sweet corn at the early tender stage. Both the fresh and boiled maize cobs are also seen to be sold in markets @ Rs.10/- per 3 cobs.
### Table 5: CHARACTERIZATION OF SELECTED MAIZE LANDRACES COLLECTED FROM NORTH CACHAR HILLS OF ASSAM.

<table>
<thead>
<tr>
<th>Sl. no.</th>
<th>Coll. no.</th>
<th>Ears</th>
<th>Kernel/Grain</th>
<th>Features of Ear/Cob</th>
<th>Race/Subrace</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>PM-175</td>
<td>15</td>
<td>12</td>
<td>Rounded Beaked 16</td>
<td>AruntepI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.82</td>
<td>Dark Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.72</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>PM-176*</td>
<td>13</td>
<td>12.3</td>
<td>Rounded Beaked 14</td>
<td>AruntepI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.80</td>
<td>Red</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.76</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>PM-177</td>
<td>12</td>
<td>13</td>
<td>Rounded Beaked 13</td>
<td>AruntepI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.84</td>
<td>Light orange</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.7</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>PM-178</td>
<td>14</td>
<td>14</td>
<td>Shrunken Beaked 16</td>
<td>Not in pure form to describe the races.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.86</td>
<td>Reddish Brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.72</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>PM-179</td>
<td>12</td>
<td>13.7</td>
<td>Shrunken (Short) Beaked 16</td>
<td>Not in pure form to describe the races.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.78</td>
<td>Reddish Brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.76</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>PM-180</td>
<td>13</td>
<td>12.8</td>
<td>Shrunken (Short) Beaked 14</td>
<td>Not in pure form to describe the races.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.76</td>
<td>Off-white, Reddish Brown &amp; Blackish brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.74</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>PM-181</td>
<td>13</td>
<td>12.5</td>
<td>Shrunken(Short) Beaked 14</td>
<td>Not in pure form to describe the races.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.84</td>
<td>Off-white, Blackish brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.82</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>PM-182</td>
<td>16</td>
<td>12.3</td>
<td>Shrunken Beaked 13</td>
<td>Not in pure form to describe the races.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.80</td>
<td>Off-white, Blackish brown, Reddish Brown &amp; Black</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.70</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>PM-183</td>
<td>14.5</td>
<td>12.3</td>
<td>Rounded Flat 13</td>
<td>Tista Mendi</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.97</td>
<td>Off-white, Blackish brown, Reddish Brown, Yellow &amp; Light pink</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.90</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>PM-184</td>
<td>14</td>
<td>11.3</td>
<td>Rounded Beaked 14</td>
<td>Tirnap Nag-Sahypung</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average length (cm)** 0.8</td>
<td>Brown &amp; Blackish brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Average breadth (cm)** 0.72</td>
<td></td>
</tr>
<tr>
<td>Variety</td>
<td>Ears</td>
<td>Kernel</td>
<td>Endosperm</td>
<td>Rachis</td>
<td>Row Number</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>--------</td>
<td>-----------</td>
<td>--------</td>
<td>------------</td>
</tr>
<tr>
<td>Tirap Nag-Sahypung (mixed character)</td>
<td>Short and thick; slight taper from base to tip; irregular rows common; kernels very thick; long; endosperm hard &amp; flinty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorvi Botapa</td>
<td>Short and thick; slight taper from base to tip; irregular rows common; kernels very thick; long; endosperm hard &amp; flinty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shyam Nahomti</td>
<td>Long, slender, cylindrical excepting slight taper at tip; Generally 8 rows of kernels; kernels wide, very thick, long; Endosperm flinty; ear length is highest in relation to row number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samsung</td>
<td>Short and thick; slight taper from base to tip; irregular rows common; kernels very thick; long; endosperm hard &amp; flinty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nilin Melepa</td>
<td>Short and thick; slight taper from base to tip; irregular rows common; kernels very thick; long; endosperm hard &amp; flinty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mekir Merakku</td>
<td>Short and thick; slight taper from base to tip; irregular rows common; kernels very thick; long; endosperm hard &amp; flinty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty.*

<table>
<thead>
<tr>
<th>Variety</th>
<th>Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tirap Nag-Sahypung (mixed character)</td>
<td>Brown, Blackish brown &amp; Orange</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Variety</td>
<td>Plant Type 1</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>22</td>
<td>PM-196</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>PM-197</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>PM-198</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>PM-199</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>PM-200</td>
<td>15.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>PM-201</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>PM-202</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>PM-203</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>PM-204</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>PM-205</td>
<td>-</td>
</tr>
<tr>
<td>32</td>
<td>PM-206</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:** Mixed character,
<table>
<thead>
<tr>
<th>No.</th>
<th>Variety</th>
<th>Maternal Variety</th>
<th>Frequency</th>
<th>Kernel Width</th>
<th>Kernel Length</th>
<th>Ear Length</th>
<th>Ear Shape</th>
<th>Kernel Shape</th>
<th>Spikelet Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>PM-207</td>
<td>11</td>
<td>10</td>
<td>14</td>
<td>0.66</td>
<td>0.8</td>
<td>Yellow, Off white, Mottled Pink &amp; Black</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty.</td>
<td>Poorvi Botapa</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>PM-208</td>
<td>12</td>
<td>9.8</td>
<td>14</td>
<td>0.75</td>
<td>0.76</td>
<td>Brown</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty.</td>
<td>Poorvi Botapa</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>PM-209</td>
<td>13</td>
<td>9.7</td>
<td>13</td>
<td>0.76</td>
<td>0.76</td>
<td>Yellow</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty.</td>
<td>Poorvi Botapa</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>PM-210</td>
<td>11.5</td>
<td>9.2</td>
<td>16</td>
<td>0.75</td>
<td>0.76</td>
<td>Off white</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty.</td>
<td>Poorvi Botapa</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>PM-211</td>
<td>12</td>
<td>9.2</td>
<td>12</td>
<td>0.74</td>
<td>0.76</td>
<td>Off white</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty. The tassel of 2-6 cm is attached at the terminal portion of the tip of ears; ears pop-type.</td>
<td>Mix.of Poorvi Botapa and sub-race Murli</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>PM-212</td>
<td>12.5</td>
<td>9.8</td>
<td>13</td>
<td>0.78</td>
<td>0.78</td>
<td>Off white</td>
<td>Ears very short, small; mostly highly conical; irregular rows common; kernels short and small; endosperm flinty. The tassel of 2-6 cm is attached at the terminal portion of the tip of ears; ears pop-type.</td>
<td>Mix.of Poorvi Botapa and sub-race Murli</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>PM-213</td>
<td>10.5</td>
<td>9.3</td>
<td>10</td>
<td>0.76</td>
<td>0.74</td>
<td>Yellow, Off white &amp; Mottled brown</td>
<td>Not in pure form to describe the races.</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>PM-214</td>
<td>10</td>
<td>9.5</td>
<td>10</td>
<td>0.7</td>
<td>0.7</td>
<td>Yellow &amp; Off white</td>
<td>Not in pure form to describe the races.</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>PM-215</td>
<td>9.0</td>
<td>10.2</td>
<td>10</td>
<td>0.72</td>
<td>0.66</td>
<td>Blackish brown &amp; Reddish brown</td>
<td>Not in pure form to describe the races.</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>PM-216</td>
<td>8.0</td>
<td>11</td>
<td>12</td>
<td>0.68</td>
<td>0.68</td>
<td>Blackish brown, Reddish brown &amp; Orange</td>
<td>Not in pure form to describe the races.</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>PM-</td>
<td>8.5</td>
<td>9.5</td>
<td>11</td>
<td>0.8</td>
<td>0.62</td>
<td>Light yellow &amp;</td>
<td>Not in pure form to describe the races.</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>
**Average value of the observed data recorded for kernel length and breadth on five corns for each parameter.**

***Sl. No. 31(PM-205) is discarded due to pest infestation.***

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Variety</th>
<th>Kernel Length</th>
<th>Kernel Breadth</th>
<th>Kernel Angle</th>
<th>Kernel Color</th>
<th>Other Characteristics</th>
<th>Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>44.</td>
<td>PM-218</td>
<td>7.5</td>
<td>9.3</td>
<td>Round</td>
<td>10</td>
<td>0.7</td>
<td>Light brown</td>
</tr>
<tr>
<td>45.</td>
<td>PM-219</td>
<td>10.0</td>
<td>9.7</td>
<td>Rounded</td>
<td>15</td>
<td>0.72</td>
<td>Purple-Blackish</td>
</tr>
<tr>
<td>46.</td>
<td>PM-43</td>
<td>7.2</td>
<td>7.3</td>
<td>Round</td>
<td>11</td>
<td>0.54</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

* Average value of the base, middle and apex of the ears recorded for ears circumference.

**Average value of the observed data recorded for kernel length and breadth on five corns for each parameter.

***Sl. No. 31(PM-205) is discarded due to pest infestation.***
Ph: 56: Variations in landraces of Setaria italica

Ph: 57: Traditional storage of Setaria italica

Ph: 58: Eleusine coracana

Ph: 59: Oxytenanthera parvifolia

Ph: 60: Sorghum bicolor
PHOTOPLATE: 15: OTHER MINOR CEREALS

Ph: 61: *Sorghum bicolor*

CULTIVATED FRUITS

Ph: 62: *Coix lacryrm-jobi*  Ph: 63: *Coix lacryrm-jobi*

Ph: 64: *Garcinia lanccifolia*  Ph: 65: *Morus acidosa*
PHOTOPLATE: 16: CULTIVATED FRUITS

Ph: 66: *Myrica sp.*

Ph: 67: Fruit variation in *Baccaurea ramiflora*

Ph: 68: *Prunus persica* (large sized)

Ph: 69: *Prunus persica* (smaller sized)

Ph: 70: *Vitis sp.*
Cantharellus sp.

Pleurotus ostreatus

Pleurotus citrinopileatus

Pleurotus squarrosulus

Agaricus sp.

Auricularia polysticha

Cantharellus sp.

Pleurotus ostreatus

Pleurotus citrinopileatus

Pleurotus squarrosulus

Schizophyllum commune

Tricholoma imbricatum
Ph: 79: *C. esculenta* (Jaldong-HM)
Ph: 80: *Glycine max* (Bekanthu-HM)
Ph: 81: *H. sabdariffa* (Awmjang-DI)
Ph: 82: *Awmjang* (DI) Sold at market.
Ph: 83: *Albizia myriophylla*
Ph: 84: Yeast cake sold by Zeme women at market
PHOTOPLATE: 19: FERMENTED FOOD AND BEVERAGES


MASTICATORIES AND FUMIGATORS

Ph: 87: *Nicotiana rustica*  Ph: 88: Zeme man selling dry leaf of *N. rustica*

Ph: 89: *Piper wallichii*  Ph: 90: *Careya arborea*
PHOTOPLATE: 20: WILD EDIBLE FRUITS

Ph: 91: Abroma agusta

Ph: 92: Bridelia retusa/scandens

Ph: 93: Calamus erectus

Ph: 94: Castanopsis indicus

Ph: 95: Diospyros lanceaefolia

Ph: 96: Diospyros sp.
PHOTOPLATE: 21: WILD EDIBLE FRUITS

Ph: 97: *Elaegnus latifolia*

Ph: 98: *Ficus racemosa*

Ph: 99: *Ficus glomerata*

Ph: 100: *Meyna spinosa*

Ph: 101: *Rhamnus purpureus*

Ph: 102: *Rhamnus nipalensis*
Ph: 103: a. *Rubus rosaeifolius*  

b. *Rubus rugosus.*

Ph: 104: Unidentified species- Hrenchi (ZE)
PHOTOPLATE: 23: CITRUS GENETIC RESOURCES

Ph: 105: Citrus aurantifolia
Ph: 106: Citrus aurantium
Ph: 107: Citrus jumbhiri
Ph: 108: Citrus medica L.f. limon
Ph: 109: Citrus macroptera var. annamensis
Ph: 110: Citrus sinesis
Ph: 111: *Citrus reticulata* (Sweet)  Ph: 112: *Citrus reticulata* (Sour; Red)

Ph: 113: *Citrus reticulata* (Sour; Yellow)  Ph: 114: *Citrus hystrix*

**PHOTOPLATE: 25: CITRUS GENETIC RESOURCES**

Ph: 117: *Citrus grandis* (Large fruit) Ph: 118: *Citrus grandis* (Small fruit)

Ph: 119: *Citrus sp.* - Thaisa gulangdi (DI)

Ph: 120: A. & B. *Citrus grandis*  C. *Citrus macroptera* var. *annamensis*
D. *Citrus sp.* (Thaisa Musumbi) E. *Citrus reticulata*
F. & G. *Citrus aurantium*  H. *Citrus medica* L.f. *limon*  I. *Citrus aurantium*
J., K. & L. *Citrus aurantifolia*  M. & N. *Citrus jumbhiri*
**PHOTOPLATE: 26: BANANAS**

Ph: 121: *Ensete superbum*

Ph: 122: *Musa acuminata cv.chinichampa*

Ph: 123: *Musa acuminata cv.jahaji*

Ph: 124: *Musa bulbisiana*

Ph: 125: *Musa sp.*

Ph: 126: *Musa acuminata*
PHOTOPLATE: 27: BANANAS & OTHER TUBER AND RHIZOMATOUS CROPS

Ph: 127: *Musa velutina*

Ph: 128: A Dimasa man with the pith of wild *Musa sp.*

**OTHER TUBER CROPS:** Ph: 129: *Canna edulis*

Ph: 130: *Ipomoea batatas*

Ph: 131: *I. batatas*
PHOTOPLATE: 28: OTHER TUBER CROPS

Ph: 132: Maranta arundinacea
Ph: 133: A tuber
Ph: 134: Maranta dichotoma

Ph: 135, 136: Variation in Manihot esculenta

Ph: 137 & 138: Variation in Manihot esculenta
PHOTOPLATE: 29: CUCURBIT GENETIC RESOURCES

Ph: 139: Benincasa hispida

Ph: 140 & 141: Benincasa hispida

Ph: 142 & 143: Benincasa hispida
**PHOTOPLATE: 30: CUCURBIT GENETIC RESOURCES**

Ph: 144 & 145: *Benincasa hispida*

Ph: 146: *Benincasa hispida*

Ph: 147: Fruit variation in *Benincasa hispida*

Ph: 148: *Cucurbita pepo*
PHOTOPLATE: 31: CUCURBIT GENETIC RESOURCES

Ph: 149: Traditional Pumpkin storage

Ph: 150: Cucurbita maxima
Ph: 151 & 152: Cucurbita moschata

Ph: 153: Variability in Cucurbita moschata
PHOTOPLATE: 32: CUCURBIT GENETIC RESOURCES

Ph: 154: Variability in *Cucurbita moschata*

Ph: 155, 156 & 157: Variability in *Cucurbita moschata*

Ph: 158: *Citrullus vulgaris*

Ph: 159: *Citrullus colocynthis*

Ph: 160: *Citrus lanatus*
Ph: 161: *Cucumis melo* Thaisim gibi (DI)

Ph: 162: *Cucumis melo* Thaisim Chinar (DI)

Ph: 163: *Cucumis melo* Thaisim hagong (DI)
PHOTOPLATE: 34: CUCURBIT GENETIC RESOURCES

Ph: 164: *Cucumis sativus*; Thaisim (DI)

Ph: 165: *Cucumis sativus*; Thaisim (DI)

Ph: 166 & 167: *Cucumis sativus*; Thaisim-muri (DI)

Ph: 168 & 169: *Cucumis trigonus*; Thaisim-kashiba (DI)
Ph: 170: Cyclanthera pedata

Ph: 171: Gymnopetalum cochinchinensis

Ph: 172: Momordica mixta

Ph: 173: Momordica charantia var. muricata

Ph: 174: Hodgsonia macrocarpa
PHOTOPLATE: 36: CUCURBIT GENETIC RESOURCES

Ph: 175: Melothria heterophylla

Ph: 176: Trichosanthes anguina

Ph: 177, 178 & 179: Fruit variation in Lagenaria siceraria

Ph: 180 & 181: Fruit variation in Lagenaria siceraria
Ph: 182: *Luffa cylindrica*

Ph: 183: L. cylindrica

Ph: 184: *Passiflora quadrangularis*

Ph: 185: *Passiflora edulis* Sims.f. *flavicarpa*

Ph: 185: Fruit variation in *Sechium edule*
PHOTOPLATE: 38: BRINJAL GENETIC RESOURCES

Ph: 186: Cyphomandra betacea
Ph: 187: Lycopersicum pimpinellifolium

Ph: 188: Solanum macrocarpon
Ph: 189: Solanum gilo

Ph: 190: Fruit variation in Solanum gilo

Ph: 191: Fruit variation in Solanum melongena
PHOTOPLATE: 39: BRINJAL GENETIC RESOURCES

Ph: 192, 193 & 194: Fruit variation in *Solanum melongena*

Ph: 195: Fruit variation in *Solanum melongena*
Ph: 196: *Solanum melongena*

Ph: 197: *Solanum indicum*
Ph: 198: *Solanum spirale*
Pachyrhizus erosus

Parkia roxburghii

Moringa oleifera

Sesbania grandiflora
Ph: 211: *Psophocarpus tetragonolobus*

Ph: 212: *Vigna umbellata*

Ph: 213: *V. sinensis*

Ph: 214: *V. sinensis*

Ph: 215: *Lablab purpureus*
Ph: 216 & 217: Genetic variation in *Dolichos lablab*

Ph: 218 & 219: Genetic variation in *Dolichos lablab*

Ph: 220 & 221: Genetic variation in *Dolichos lablab*
Ph: 222 & 223: Genetic variation in Dolichos lablab

Ph: 224 & 225: Genetic variation in Dolichos lablab

Ph: 226: Seed colour variation in Vigna unguiculata
LEGENE GENETIC RESOURCES (LAND RACES) FROM N.G. HILLS, ASSAM

I. c) OTHER CEREALS AND MILLETS

Minor cereal crops are mainly grinded and made into local cake for eating as fast food or used as raw material for preparation of local beer by almost all the ethnic groups except Hmars and Kukis of the area. It is important to note that these cereals are also sometimes used as famine food during the scarcity of rice. Some of the minor cereals collected and identified and also their uses documented from the present study area are described as in the following-

**Coix lacryma-jobi** L. (Poaceae)
Mairong mai(DI), Mim-fahchil (HM)
Occasional
Jhum cultivar
Seed grains eaten cooked or as local cake.
PM-409; 22-09-2008; Gurubari. (Ph: 62 & 63)

**Eleusine coracana** Gaertn. f. (Poaceae)
Samgorai (DI), Remaru(HR)
Rare
Jhum Cultivar
Grains used for preparation of local beer and cake. Sold in the local markets @ Rs.20/kg.
PM-111/ IC no.-566695; 24-10-2008; Buolzol. (Ph: 58)

**Oxytenanthera parvifolia** Brandis ex Gamble (Poaceae)
Wa mia/Wathai (DI)
Abundant
Wild
Shoot used as vegetable and fermented Chutney; seed grains used for preparation of local beer. Sold in the local markets @Rs.10-15/Kg.
PM-406; 22-09-2008; Gurubari. (Ph: 59)

**Setaria italica** (L.) Beauv. (Poaceae)
Maishi / Maishi Maisha (DI), Fatun(HR), Butul (KU), Hetui (ZE)
Occasional
Jhum Cultivar
Grains used for preparation of local beer and cake. Sold in the local markets @ Rs.20/kg.
PM-20/IC no.-560778; 16-12-2007; Choto Waphu.
PM- 44/ IC no.-560802; 21-12-2007; Boro Waphu
PM- 48/ IC no.-560806; 21-12-2007; Longma-III. (Ph: 56 & 57)

*Sorghum bicolor* Willd. (Poaceae)

Guru-maisingao (DI)
Occasional
Jhum Cultivar
Dark coloured grains are used to prepare local cake. Sold in the local markets @ Rs.20/kg.
PM-19/ IC no.-560777; 16-12-2007; Choto WaphiL

*Sorghum bicolor* Willd. (Poaceae)

Khukhru-maisingao(DI)
Occasional
Jhum Cultivar
White coloured grains are used to prepare local cake and local beer. Sold in the local markets @ Rs.20/kg.
PM-49/ IC no.-560807; 21-12-2007; Longma-III. (Ph: 60 & 61)

II. WILD EDIBLE FERNS

*Angiopteris evecta* (Forst.) Hoffm. (Angiopteridaceae)

Daomalai gidiba (DI)
Occasional
Herb
After removing bark soft swollen leaf/frond base is eaten cooked with mixed vegetable.
PM-410; 19/3/08, Sampharidisha. (Ph: 235)

*Diplazium esculentum* (Retz.) Sw. (Athryiaceae)

Daomalai (DI), Nchubua (ZE)
Abundant
Herb
Tender circinate leaves are eaten cooked as vegetable. Sold in markets @Rs.5/- per bundle.
PM-411; 19/3/08, Sampharidisha.

**Drynaria quersifolia** (L.) J. Sm. (Drynariaceae)
Kupana thinga kop(HM), Nchew (ZE)
Abundant
Epiphyte
The fleshy creeping rhizome is collected during dry season, which are cleaned, pounded, mixed with rice flour and baked into cakes.
PM-309;15/9/2008, Michidui. (Ph: 236)

**Stenochlaena palustris** (Burm)Bedd. (Stenochlaenaceae)
Daomalai lot (DI)
Occasional
Climber
Tender reddish shoots are eaten cooked as vegetable.
PM-412;19/3/08, Sampharidisha. (Ph: 237)

### III. WILD EDIBLE MUSHROOMS

**Agaricus sp.** (Agaricaceae)
Mukhum gidiba(DI)
Occasional
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-353; 12-06-2008; Choto waphu, Haflong. (Ph: 71)

**Auricularia polysticha** (Mont.) Saccardo. (Auriculariaceae)
Mukhum mlen(DI), Pachei (ZE)
Frequent
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-354; 12-06-2008; Choto waphu, Haflong. (Ph: 72)

**Cantharellus sp.** (Cantharellaceae)
Mukhum wathi (DI), Pah fip (HM), Thaikompa (ZE)
Frequent
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-355; 12-06-2008; Choto waphu, Haflong. (Ph: 73)

Pleurotus citrinopileatus (Pers.) Morg. (Pleurotaceae)
Mukhum mouser(DI), Pasonhlung (HM), Nriepe (ZE)
Occasional
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-356; 26-06-2008; Sampharidisha, Haflong. (Ph: 75)

Pleurotus ostreatus (Jacq. Fr.) Kummer (Pleurotaceae)
Mukhum hafalam(DI), Patak (ZE)
Frequent
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-357; 29-06-2008; Boro waphu, Haflong. (Ph: 74)

Pleurotus pulmonarious Fr. (Pleurotaceae)
Mukum-rathong(DI), Pachei (ZE)
Occasional
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-358; 15-07-2008; Saikam, Haflong.

Pleurotus squarrosulus (Mont.) Singer (Pleurotaceae)
Mukum rathow (DI), Pachang (HM), Nguiepa/Patak(ZE)
Occasional
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-359; 15-07-2008; Saikam, Haflong. (Ph: 76)

Schizophyllum commune Fr. (Schizophyllaceae)
Mukhum jijai(DI), Passiso(HM), Tingchapa (ZE)
Frequent
Saprophyte
Eaten cooked as vegetable with dry fish. Sold @Rs.10/200gms in the markets.
PM-360; 16-07-2008; Michidui, Haflong. (Ph: 77)

Tricholoma imbricatum (Fr.& Fr.) Kummer (Tricholomataceae)
IV. FERMENTED FOOD AND BEVERAGES

a) Fermented Food:

In hills area the organic food items are preserved in different forms that break down into simpler substances. This is mainly because of the less availability and production of the food materials and its preservation for near future use with a desired taste and flavor.

*Colocasia esculenta* (L.) Schott, Syn. *C. antiquorum* Schott (Araceae)

Thahon (DI), Kebei (ZE)

Abundant

Herb

Jhum Cultivar

Tubers boiled and prepare fermented chutney called *Jaldong* by *Hmar* women. Sold in the local markets @ Rs.10/100gm.

PM-413; 15-12-2007; Muolkoi. (Ph: 79)

*Glycine max* (L.) Merrill. (Fabaceae)

Bekan(HM), Urymbai kutung (PN)

Occasional

Undershrub

Jhum Cultivar

Seeds eaten cooked as vegetable and *Bekanthu*, fermented chutney is prepared by *Hmar* women. Sold in the local markets @ Rs.10/100gm.

PM-414; 15-12-2007; Muolkoi. (Ph: 80)

*Hibiscus sabdariffa* L. (Malvaceae)

Thakhirao maikhri(DI), Vai an thur asen(HM), Kia(ZE)

Frequent

Undershrub

Jhum Cultivar
Seeds grinded and prepares *Awmjang* (DI) with dried fish as fermented chutney. Sold in the local markets @ Rs.10/100gm.
PM-415; 22-09-2008; Boro Waphu. (Ph: 81 & 82)

*Melocanna buccifera* (Roxb.) Kurz (Poaceae)
Wa mia(DI), Kaucheu(ZE)
Abundant
Large grass
Semi domesticated
Young shoots used to prepare as fermented chutney.
PM-416; 22-09-2008; Boro Waphu.

*Melocalamus compactiflorus* Benth. (Poaceae)
Washim mia(DI)
Occasional
Large grass
Semi domesticated
Young shoots used to prepare as fermented chutney.
PM-417; 22-09-2008; Boro Waphu.

**b) Beverages:**

Beverages are the stimulating and refreshing drinks. It can be broadly divided into two as Non alcoholic and Alcoholic type.

1. **Non Alcoholic:** This type of beverages are taken by all the hill dwelling ethnic groups of the area mainly for health refreshing, nutritional, medicinal purpose as tonic and also in some traditional aspects of the day to day life or some occasional traditional rites and rituals. It includes Tea, Coffee, Juice extract of different plants and plant parts etc.

*Camellia caudata* Wall. (Theaceae)
Nsiakchi (ZE)
Occasional
Large shrub
Wild
Drinking of tea from this tender twig is recorded only by *Zeme Nagas*.
PM-421; 24-10-2008; Saikam. (85)
**Camellia sinensis** var. *assamica* (Masters) Kitomura (*Theaceae*)

Occasional

Large shrub

Semi domesticated

Drinking of tea after food for refreshing is recorded in the villages other than *Dimasas* and *Zeme Nagas*.

PM-418; 23-10-2008; Saikam.

**Coffea arabica** L. (*Rubiaceae*)

Kophi (DI), Thingpui lo (HM)

Occasional

Large shrub

Cultivar

Roasted seeds grinded and used to have as raw coffee by the *Kukis* has been recorded.

PM-419; 22-09-2008; Boro Waphu.

**Smilax china** Duham (*Smilaceae*)

Thassap (DI), Reucheu (ZE)

Occasional

Climber

Wild

Drinking of the dried and boiled tuber soup/water is refreshing or revitalizing is recorded in the *Dimasa* villages.

PM-420; 22-09-2008; Boro Waphu.

2. **Alcoholic:** It is noteworthy that this type of beverages are mainly prepared and used by only the *Dimasas* and the *Zeme Nagas* of the present study area. For production of this type of beverages firstly the already prepared yeast cake *Hamao* (DI)/ *Induhi* (ZE) is grinded and mixed with the cooked cereal grains or the ripened fruits. Then, it is allowed to ferment for few to many days. After few days the final product can be extracted and is called *Judima* (DI)/ *Induijuo* (ZE) which is now ready for consumption in day to day life as well as in traditional rituals, festivals and such other ceremonies.
Plants used for preparation of alcoholic beverages:

*Albizia myriophylla* Benth. (Mimosaceae)

Occasional

Semi domesticated

Barks used for flavoring local beer by mixing with the yeast cake. Sold in the local markets @ Rs.10/ bundle.

PM-422; 07-12-2009; Sampharidisha. (Ph: 83)

*Ananas comosus* (L.) Merr. (Bromeliaceae)

• Laimuri(DI), Rengthei(HM), Lengthai (KU), Puatingram chi (ZE)

Frequent

Herb

Cultivar

Ripened fruits used to prepare local beer as substitute of rice grain by the *Dimasas*.

PM-423; 22-09-2008; Boro Waphu.

*Artocarpus heterophyllus* Lamk. (Moraceae)

Thaiphlung(DI), Lamkhong(HM/KU), Lunkhuong(MI)

Frequent

Tree

Cultivar

Ripened fruits used to prepare local beer as substitute of rice grain by the *Dimasas*.

PM-424; 22-09-2008; Boro Waphu.

*Citrullus colocynthes* Schrad. (Cucurbitaceae)

Thaisim hagong(DI), Tlang donkho(HM)

Occasional

Creeper

Primitive Cultivar

Ripened fruits used to prepare local beer as substitute of rice grain by the *Dimasas* and *Zeme Nagas*.

PM-425; 16-12-2007; Choto Waphu. (Ph: 159)

*Cucumis melo* L. (Cucurbitaceae)

Thaisim gibi(DI), Vai Fangma(HM)

Occasional
Creeper/climber
Jhum Cultivar
Ripened fruits used to prepare local beer as substitute of rice grain by the Dimasas and Zeme Nagas.
PM- 426; 21-12-2007; Boro Waphu. (Ph: 161, 162 & 163)

*Eleusine coracana* Gaertn. f. (Poaceae)
Samgorai (DI), Remaru(HR)
Rare
Jhum Cultivar
Grains used for preparation of local beer.
PM-427; 04-10-2008;Boro Robi. (Ph: 58)

*Musa acuminata cv.chinichampa* Colla. (Musaceae)
Thailik(DI), Nachang (HM/MI), Champa kola(NE)
Frequent
Large herb
Cultivar
Ripened fruits used to prepare local beer as substitute of rice grain by the Dimasas and Zeme Nagas.
PM-428; 22-09-2009; Sampharidisha. (Ph: 122)

*Musa bulbisiana* Colla. Syn. *M. sapientum var.pruinosa.* (Musaceae)
Thailikatsia/Thailik gibi(DI), Nachang (MI/HM)
Frequent
Large herb
Cultivar
Ripened fruits used to prepare local beer as substitute of ricè grain by the Dimasas.
PM-429; 24-08-2008; Longma-I. (Ph: 124)

*Oryza sativa* L. (Poaceae)
Mai (DI), Bu (HM), Chang (KU), Cheu (ZE)
Frequent
Herb
Jhum Cultivar
Rice is the prime grain used to prepare local beer by the Dimasas and Zeme Nagas. Dimasas prepare Judima by allowing fermentation of the cooked rice mixed with the yeast cake powder. Again the Ju haro by traditional distillation process from
the cooked and fermented rice or from the residue of the *Judima* extraction called *Ju gap*.

PM-430; 24-08-2008; Longma-I.

**Oxytenanthera parvifolia** Brandis ex Gamble (Poaceae)
- Wa mia/Wathai (DI)
- Abundant
- Large herb
- Wild

Seed grains used for preparation of local beer by the *Dimasas* only.

PM-431; 27-10-2008; Gurubari. (Ph: 59)

**Prunus persica** (L.) Batsch (Rosaceae)
- Delaoji mikhri-gidiba(DI), Thei dakte(HR), Plum (NE)
- Occasional
- Tree
- Cultivar

Ripened fruits used for local beer preparation by the *Dimasas* and *Zeme Nagas*.

PM-432; 16-12-2007; Choto Waphu. (Ph: 68 & 69)

**Pyrus pashia** Buch. Ham. ex D.Don (Rosaceae)
- Nashpati(DI/HM/NE), Mapak chi(ZE)
- Abundant
- Tree
- Cultivar

Ripened fruits used for local beer preparation by the *Dimasas* and *Zeme Nagas*.

PM-433; 12-01-2009; Dibarai.

**Saccharum officinarum** L. (Poaceae)
- Khungkhru (DI), Maphu(HR), Hetau (ZE)
- Frequent
- Large herb
- Cultivar

Chopped tender leaves are mixed and used to prepare yeast cake by the *Dimasas*.

PM-434; 12-01-2009; Dibarai.

**Setaria italica** (L.) Beauv. (Poaceae)
- Vernacular name -Maishi / Maishi Maisha (DI), Fatun(HR), Butul (KU), Hetui (ZE)
Occasional
Jhum Cultivar
Grains used for preparation of local beer by the Dimasas.
PM-435; 27-10-2008; Boro Waphu. (Ph: 56 & 57)

*Sorghum bicolor* Willd. (Poaceae)

Guru-maisingao (DI)
Occasional
Jhum Cultivar
Dark coloured grains are used to prepare local cake.
Rs.20/kg.
PM-436; 21-12-2007; Longma-III. (Ph: 60 & 61)

*Vitis sp.* (Ampelidaceae)

Angur (HR)
Occasional
Lianes
Cultivar (Sour black Grapes with more seeds)
Ripened fruits used for local beer preparation by the *Dimasas* and *Hrangkhols*.
PM-437; 25-10-2008; Buolzol. (Ph: 70)

*Zea mays* L. (Poaceae)

Munglai maiju (DI), Kolbu (KU), Ntaktingne (ZE)
Occasional
Grass
Landrace/Cultivar
Corn grains used cooked for local beer preparation by the *Dimasas* and *Zeme Nagas*.
PM-438; 21-12-2007; Longma-III.

V. FRUITS AND SEEDS

a) Wild Edible Fruits:

*Abroma augusta* L. (Sterculiaceae)

Bon naga (DI), Gorukhia-koroi (AS), Dieng-tyrkhum (PN)
Frequent
Shrub
Wild
Blackish seeds eaten raw.
PM- 458; 20-12-2007; Jatinga.
Note: After rating of the bark is used for making rope. (Ph: 91)

Artocarpus chaplasha Roxb. (Moraceae)
Jram (DI)
Frequent
Tree
Wild
Ripened fruits eaten raw.
PM-459; 07-12-2009; Sampharidisha.

Bridelia retusa (L.) Spreng. (Euphorbiaceae)
Thaidaoblib(DI), Phaktel lien (HM)
Occasional
Lianes/Scandent
Wild
Salty-sour fruits eaten raw. Sold in the local markets @ Rs.5/unit.
PM-377; 16-12-2007; Choto Waphu. (Ph: 92)

Plectocomia assamica Griff. (Arecaceae)
Raigongang (DI)
Occasional
Lianes(Scandent)
Wild
Fruits/nuts eaten raw. Sold in the local markets @ Rs.5/handful of fruits.
PM-378; 11-10-2007; Dihangi. (Ph: 93)

Castanopsis indicus (Roxb.) A.DC. (Fagaceae)
Isera (HR), Thingsa chi (ZE)
Occasional
Tree
Wild
Fruit/ nuts eaten raw or roasted. Sold in the local markets @ Rs.5/handful of fruits.
Rs.5/250gms.
PM-119/ IC no.-566703; 24-10-2008; Buolzol. (Ph: 94)

Dillenia indica L. (Dilleniaceae)

78
Thaidi (D), Ithlang (HM), Mandi (ZE)
Occasional
Tree
Wild/Semi domesticated
Fleshy calyx eaten either raw or cooked with rice flour. Sold in the local markets @Rs.5/3 fruits.
PM- 460; 20-12-2007; Retzol.

Diospyros lanceaefolia Roxb. (Ebenaceae)
Chauchi(ZE), Phaktel (HM)
Rare
Tree
Wild
Salty-sour green fruits eaten raw. Sold in the local markets @Rs.10/bundle.
PM-379; 26-10-2008; Michidui. (Ph: 95)

Diospyros sp. (Ebenaceae)
Thei manta (HR), Bonnaga (DI)
Frequent
Tree
Wild
Orange coloured ripened fruits eaten raw.
PM-461; 25-10-2008; Buolzol. (Ph: 96)

Elaegnus latifolia L.  Syn. E. infundibularis Momiyama. (Elaeagnaceae)
Matau (HM)
Frequent
Lianes
Semi-wild
Fruits eaten raw and Jelly prepared from ripened fruits. Sold in the local markets @Rs.10/kg.
PM-380; 20-12-2008; Dikrik. (Ph: 97)

Emblica officinalis Gaertn, Syn. Phyllanthus emblica L. (Euphorbiaceae)
Hamlaithai(DI), Gam so-lu(MI), Jauka chi (ZE)
Frequent
Tree
Semi Wild

79
Fruits eaten raw. Sold in the local markets @Rs.10/kg.
PM-381; 07-12-2009; Sampharidisha.

**Ficus glomerata** Roxb. (Moraceae)

Dermi (DI), Thei thot (HM)
Occasional
Tree
Wild
Ripened fruits eaten raw. Sold in the local markets @Rs.5/handful (approx. $\frac{1}{2}$ kg.)
PM-382; 22-09-2008; Gurubari. (Ph: 99)

**Ficus racemosa** Wall. (Moraceae)

Khandao (DI), Irthot (HR)
Frequent
Tree
Wild
Ripened fruits eaten raw.
PM- 462; 22-09-2008; Gurubari. (Ph: 98)

**Flacourita cataphracta** Roxb. (Flacourtiaceae)

Panial(AS), Thaislagunju/Thaislagondi (DI)
Occasional
Tree
Semi-wild
Ripened fruits eaten raw. Sold in the local markets @Rs.5/250gms.
PM-38; 20-12-2008; Dikrik.

**Juglans regia** L. (Juglandaceae)

Juart chi (ZE)
Rare
Tree
Wild
Fruits eaten raw.
PM-385; 26-10-2008; Michidui.

**Meyna spinosa** Roxb.ex. Link (Rubiaceae)

Monphang(DI)
Frequent
Shrub (Large sized)
Wild
Ripened fruits eaten raw.
PM-463; 07-12-2009; Sampharidisha. (Ph: 100)

*Mangifera sylvatica* Roxb. (Anacardiaceae)

Thaiju mairong(DI), Gam Thaihai(MI), Hnamba chi(ZE)
Rare
Tree
Wild
Smaller sized fruits with more fibers in the edible mesocarp. Sold in the local markets @Rs. 10/kg.
PM-388; 07-12-2009; Sampharidisha.

*Melastoma malabathricum* L. (Melastomataceae)

Khusim (DI), Tekai-chi(Z)
Abundant
Under shrub
Wild
Ripened fruits eaten raw.
PM-464; 07-12-2009; Sampharidisha.

*Polygonum chinense* L. (Polygonaceae)

Maikhri thai (DI), Heganturia(ZE)
Abundant
Scandent herb
Wild
Ripened fruits eaten by children
PM-465; 07-12-2009; Sampharidisha.

*Rhamnus nipalensis* Wall. (Rhamnaceae)

Hagrani thaigangdi (DI), Thingthal (KU)
Occasional
Shrub (sub erect)
Wild
Fruits eaten raw or dry.
PM-466; 07-12-2009; Sampharidisha. (Ph: 102)

*Rhamnus purpureus* Edgew. (Rhamnaceae)
Hagrani thaigangdi (DI)
Occasional
Tree (middle sized and unarmed)
Wild
Fruits eaten raw or dry.
PM- 467; 07-12-2009; Sampharidisha. (Ph: 101)

*Rubus rosaeolius* Sm. (Rosaceae)
Sumugisim(DI), Mantum(HM)
Occasional
Climber
Wild
Fruits/ berry eaten raw when ripened. Sold in the local markets @Rs.5/handful unit.
PM-399; 22-12-2008; Gunjung. (Ph: 103.a.)

*Rubus rugosus* Smith (Rosaceae)
Mantum(HM), Thaimai (MI)
Occasional
Climber
Wild
Fruits/ berry eaten raw when ripened by childrens. Sold in the local markets @Rs.5/handful unit.
PM-399; 20-12-2007; Retzol. (Ph: 103.b.)

*Streblus asper* Lour. (Moraceae)
Khande (D)
Occasional
Tree
Wild
Ripened fruits eaten raw by children and fruit juice are taken as local chorbot.
PM-468 ; 07-12-2009; Sampharidisha.
Note: The tree is believed to be the house of the evil spirits by the Dimasas.

*Syzygium cumini* (L.) Skeels (Myrtaceae)
Jambu thai(DI), Sepuinusu/Thei subor (HM), Thei-vom (KU), Hmuizolong(HR), Jamun (NE), Mui-chi (ZE)
Occasional

82
Tree
Wild/Semi Wild
Fresh ripened fruits eaten raw. Sold in the local markets @$Rs.10/kg.
PM-401; 22-12-2008; Gunjung.
Note: The bark of the tree is boiled with cotton or Eri silk yarn thus shows the purple brown coloration.

Unidentified species (Anacardiaceae)
Hrenchi (ZE)
Rare
Shrub (Large)
Wild
Ripened fruits eaten raw. Sold in the local markets @$Rs.5/ five fruits.
PM-469; 26-10-2008; Michidui. (Ph: 104)

b) Cultivated Fruits:

Achras sapota L. Syn. Minusops manilkara Don. (Sapotaceae)
Safeda (NE)
Occasional
Tree
Cultivar
Fruits eaten raw. Sold in the local markets @$Rs.5/five fruits.
PM-372; 20-12-2007; Natun Basti.

Aegle marmelos (L.) Corr. (Rutaceae)
Belthai(DI), Chilongpak chi (ZE)
Occasional
Tree
Semi-wild
Ripened fruits eaten raw. Sold in the local markets @ Rs.5/two fruits.
PM-373; 22-09-2008; Gurubari.

Ananas comosus (L.) Merr. (Bromaliaceae)
Laimuri(DI), Rengthei(HM), Mortei (HR), Lengthai (KU), Puatingram chi (ZE)
Frequent
Herb
Cultivar

83
Fruit/Sorosis eaten raw. Sold in the local markets @ Rs.5/ fruits.
PM-374; 24-01-2009; Jatinga.

*Artocarpus heterophyllus* Lamk. (Moraceae)

Thaiphlung(DI), Lamkhong(HM/KU), Lunkhuong(MI)

Frequent

Tree

Cultivar

Fruits and seeds eaten raw when ripened and eaten cooked at young stage. Sold in the local markets @ Rs.15/ fruit.
PM-134/ IC no.-566718; 22-09-2008; Boro Waphu.

*Averrhoa carambola* (L.); DC. (Averrhoaceae)

Sonosamba/Kamrangthai(DI), Thei hreiot (HM)

Occasional

Tree

Cultivar

Fruits eaten raw or cooked as curry with fresh fish. Jelly is prepared from the ripened fruits. Sold in the local markets @Rs.5/five fruits.
PM-375; 16-12-2007; Choto Waphu.

*Baccaurea ramiflora* (Roxb.) Muell.-Arg. (Euphorbiaceae)

Letuk(AS), Kosmai thai(DI), Theipangkai (KU), Pangkai thei (HM), Kauchi (ZE)

Occasional

Tree

Semi domesticated

Fruits eaten raw. Sold in the local markets @Rs.10/bundle of ½ kg.
PM-376; 20-12-2007; Jatinga. (Ph :67)

Note: Two types of fruit variations recorded; smaller and larger fruits.

*Carica papaya* L. (Caricaceae)

Goiphol(DI), Thing phangma (HM), Paiphal (HR), Thing changmai(KU), Bangai chi(ZE)

Frequent

Shrub

Cultivar

Young fruits eaten cooked as vegetable and ripened fruits eaten raw. Sold in the local markets @Rs.20/Kg.
**Garcinia pedunculata** Roxb. (Clusiaceae)

Borthekera (AS), Thaikhra gede (DI), Vomva (HM)

Occasional

Tree

Semi domesticated

Dry sliced fruit eaten cooked with fish curry and also used as medicine against loose motion - boiled water with dried slices; one cup for few days. Sold in the local markets @ Rs. 5/ fruits.

PM-304; 16-12-2007; Choto Waphu.

**Garcinia lancifolia var. oxyphylla** Roxb. (Clusiaceae)

Kujithekera (AS), Sushru (DI), Pelte (HM)

Occasional

Tree

Semi domesticated

Fruits eaten raw or cooked as curry with fresh fish. Jelly is prepared from the ripened fruits. Sold in the local markets @ Rs. 5/five fruits.

PM-384; 12-01-2009; Dibarai. (Ph: 64)

**Gossypium herbaceum** L. (Malvaceae)

Khun (DI), Pat (HR), Klung (ZE)

Occasional

Shrub

Cultivar

Edible young fruits preferred by children & ripened bole - raw cotton fibre. Sold in the local markets @ Rs. 5/ten fruits & Rs. 100/kg. of ripened bole.

PM-470; 18-02-2008; Gurubari.

**Litchi chinensis** Sonner. (Sapindaceae)

Lisu (DI), Muolhoi (HM/KU), Poi thei (HR), Lichu (PN), Nkui chi (ZE)

Frequent

Tree

Local Cultivar

Fruit aril eaten raw. Sold in the local markets @ Rs. 15/bundle of 1/2 kg.

PM-386; 20-12-2007; Jatinga.

**Mangifera indica** L. (Anacardiaceae)
Thaiju (DI), Thai hai (HM/MI), Hai thai (KU), Mba Chi (ZE)
Frequent
Tree
Local Cultivar/ Semi domesticated
Fruit eaten raw at young or ripened. Sold in the local markets @ Rs.10/kg.
PM-387; 07-12-2009; Sampharidisha.

*Morus acidosa* Griff. (Moraceae)
Sumu-maikhri (DI), Thing thaimei/Thaimou (HM/MI), Mbun chi (ZE)
Frequent
Tree
Cultivar
Sour fruits eaten raw. Sold in the local markets @ Rs.5/250gms.
PM-389; 26-10-2008; Michidui. (Ph: 65)

*Myrica nagi* Thunb. (Myricaceae)
Bon bogori (AS), Delaoji (DI)
Occasional
Tree
Local Cultivar
Fruits eaten raw at maturity. Sold in the local markets @ Rs.10/kg.
PM-390; 12-01-2009; Dibarai.

*Myrica sp.* (Myricaceae)
Kaphol (NE), Sophi (PN)
Rare
Tree
Cultivar
Sour rounded fruit eaten raw. Sold in the local markets @ Rs.5/five fruits.
PM-391; 20-12-2007; Jatinga. (Ph: 66)

Lewathai (DI)
Occasional
Tree
Cultivar
Sour rounded fruit eaten raw. Sold in the local markets @ Rs.10/kg.
PM-392; 16-12-2007; Choto Waphu.

86
**Prunus nepaulensis** (Ser.) Steud. (Rosaceae)

Delaoji (DI), Ngau chi (ZE)

Rare

Tree

Semi-wild

Ripe fruits eaten raw. Sold in the local markets @ Rs.10/unit.

PM-393; 07-12-2009; Sampharidisha.

**Prunus persica** (L.) Batsch (Rosaceae)

Delaoji mikhri (DI), Thei dakte (HR), Plum (NE)

Occasional

Tree

Cultivar (small fruits)

Fruits eaten raw and used for local Beer preparation. Sold in the local markets @ Rs.15/kg.

PM-394; 16-12-2007; Choto Waphu. (Ph: 69)

Note: Two colour variations cherry red and yellow recorded.

**Prunus persica** (L.) Batsch (Rosaceae)

Delaoji mikhri-gidiba (DI), Thei dakte (HR), Plum (NE)

Occasional

Tree

Cultivar (big fruits)

Fruits eaten raw and used for local Beer preparation. Sold in the local markets @ Rs.15/kg.

PM-395; 16-12-2007; Choto Waphu. (Ph: 68)

**Psidium guajava** L. (Myrtaceae)

Sukrem (DI), Kawl thai (HM), Thaichang pah (KU), Bangbo chi (ZE)

Frequent

Tree

Cultivar

Fruits eaten raw. Sold in the local markets @ Rs.5/ five fruits.

PM-396; 20-12-2007; Jatinga.

**Punica granatum** Linn. L. (Punicaceae)

Dalim (DI), Dahiu (HM), Kolbuthai (KU), Vai-mim thai (MI), Dalim (PN)

Turchi (ZE)
Frequent
Tree
Cultivar
Fruits eaten raw. Sold in the local markets @ Rs.5/ fruit.
PM-397; 20-12-2007; Jatinga.

*Pyrus pashia* Buch. Ham. ex D.Don (Rosaceae)
Nashpati(DI/HM/NE), Mapak chi(ZE)
Abundant
Tree
Cultivar
Fruits eaten raw. Sold in the local markets @Rs.10/kg.
PM-398; 12-01-2009; Dibarai.

*Spondias pinnata* (L.f.) Kurz. (Anacardiaceae)
Thaisudi(DI), Jongmot (HM), Njing-chi(ZE)
Frequent
Tree
Wild/Semi domesticated
Ripened fruits eaten raw and tender fruits eaten cooked with fish. Sold in the local markets @Rs.5/ten fruits.
PM-400; 26-10-2008; Michidui.

*Syzygium jambolanum* DC. (Myrtaceae)
Tola jambu thai(DI)
Occasional
Tree
Cultivar
Fresh ripened fruits eaten raw.
PM-471; 22-12-2008; Gunjung.

*Tamarindus indicus* L. (Caesalpinaceae)
Tintri(DI), Theipai (HM & KU)
Frequent
Tree
Cultivar
Fruits eaten raw or seasoned as jelly for future use. Sold in the local markets @Rs.10/kg.
**Terminalia chebula** Retz. (Combretaceae)
- Shilikha thai (DI), Ortoki (HR)
- Occasional
- Tree
- Cultivar
- Fruits eaten raw. Sold in the local markets @ Rs. 10/kg.

PM-403; 22-12-08; Moulveng.

**Zizyphus mauritiana** Lamk. (Rhamnaceae)
- Thaigungdi-(DI), Ngai-chi (ZE)
- Occasional
- Tree
- Semi-wild
- Fresh/dried fruits eaten raw. Sold in the local markets @ Rs. 10/kg.

PM-405; 22-09-2008; Boro Waphu.

**Vitis sp.** (Ampelidaceae)
- Angur (HR)
- Occasional
- Lianes
- Cultivar (Sour black Grapes with more seeds)
- Fruits eaten raw and used for local beer preparation by the Dimasas. Sold in the local markets @ Rs. 20/kg.

PM-131/IC no-566715; 25-10-2008; Buolzol. (Ph: 70)

c) **Citrus Fruits:**

**Citrus aurantifolia** (Christm.) Swingle (Rutaceae)
- Kagji-nemu(AS), Thaisa maikhri(DI), Thei-tur(HM), Sehkawl(KU), Lembu(MI), Gareu chi (ZE)
- Frequent
- Shrub
- Cultivar
- Juice/bark eaten raw. Sold in the local markets @ Rs. 5/three fruits.

PM-362; 20-12-2007; Jatinga. (Ph: 105)

**Citrus aurantium** L. (Rutaceae)
Thaisa maikhri (DI), Lembu (MI)
Frequent
Shrub
Cultivar
Juice/bark eaten raw. Sold in the local markets @ Rs. 5/three fruits.
PM-363; 16-12-2007; Choto Waphu. (Ph: 106)

*Citrus grandis* (L.) Osbeck (Rutaceae)
Riba (DI), Saiseh (HM/KU), Gareu chi (ZE)
Frequent
Tree
Cultivar
Pulp eaten raw. Sold in the local markets @ Rs. 5/fruit.
PM-364; 21-12-2007; Longma-I. (Ph: 117 & 118)

*Citrus hystrix* DC. (Rutaceae)
Riba (DI), Setui tam (HM), Sher thum (HR), Satkorachi (ZE)
Occasional
Tree
Cultivar
Pulp eaten raw. Sold in the local markets @ Rs. 5/two fruits.
PM-365; 24-10-2008; Buolzol. (Ph: 114)

*Citrus jambhiri* Lush. (Rutaceae)
Thaisa maikhri (DI), Ramser (HM)
Occasional
Shrub
Semi domesticated (Rough surface, rounded, pointed nipple)
Pulp eaten raw. Sold in the local markets @ Rs. 5/ three fruits.
PM-366; 22-09-2008; Gurubari. (Ph: 107)

*Citrus limon* (L.) Burm. (Rutaceae)
Thaisa maikhri (DI), Limbura (HM), Lembu (HR), Gare chi (ZE)
Occasional
Shrub
Cultivar (Assam limon)
Juice consumed raw. Sold in the local markets @ Rs. 5/ three fruits.
PM-367; 20-12-2008; Dikrik.

90
**Citrus medica** L.f. *limon* (L.) Hiroe. (Rutaceae)

- Thaisa maikhri(DI), Lembu(MI), Serte (HM)
- Frequent
- Shrub
- Cultivar (Rough surface with pointed nipple)
- Juice/bark consumed raw. Sold in the local markets @ Rs. 5/ three fruits.

PM-368; 20-12-2008; Dibarai. (Ph: 108)

**Citrus reticulata** Blanco (Rutaceae)

- Hondra(DI), Somitarai (HR), Kamla lebu(NE), Penthera chi (ZE)
- Frequent
- Tree
- Cultivar
- Pulp eaten raw. Sold in the local markets @ Rs.10/ three fruits.

PM-369; 07-12-2009; Sampharidisha.

Note: Three fruit variations recorded. One sweet and two sour red bark and yellow barked. (Ph: 111, 112 & 113)

**Citrus macroptera** var. *annamensis* Tanaka. (Rutaceae)

- Hatkura(PN)
- Rare
- Tree
- Cultivar
- Fleshy bark is used as spice and eaten cooked with meat. Sold in the local markets @ Rs. 5/ fruits.

PM-370; 20-12-2007; Jatinga. (Ph: 109)

**Citrus sinensis** (L.) Osback. (Rutaceae)

- Jora tenga(AS), Gareu chi(ZE)
- Rare
- Shrub
- Wild (contains very less juice)
- Both fleshy bark/pulp and juice consumed. Sold in the local markets @ Rs. 5/ three fruits.

PM-371; 26-10-2008; Nriashi bunglo. (Ph: 110)

**Citrus sp.** (Rutaceae)

- Hagrani-thaisa maikhri/ Thaisa gulangdi(DI)
Rare
Shrub
Wild (very small fruit and less juice containing)
Both fleshy bark and pulp consumed.
PM-472; 07-12-2009; Sampharidisha. (Ph: 119)

*Citrus sp.* (Rutaceae)

Thaisa Mushumbi (DI)
Rare
Shrub
Cultivar
Pulp with sweet juice consumed. Sold in the local markets @ Rs. 5/ two fruits.
PM-473; 13-12-2007; Hojai. (Ph: 115)

*Citrus sp.* (Rutaceae)

Thaisa maikhri kashiba (DI)
Occasional
Shrub
Cultivar
Smaller fruits and less juice containing but edible.
PM-474; 07-12-2009; Sampharidisha. (Ph: 116)

d) Cultivated and Wild Banana:

*Ensete superbum* (Roxb.) Chees. (Musaceae)

Thaliphang yasong (DI), Sai suo mot (HM), Dangdibe (ZE)
Occasional
Large herb
Cultivar
Fresh or dry leaf sheath eaten cooked as vegetable with dry fish, meat and/ or wild edible mushrooms. Sold in the markets @ Rs.5/Bundle.
PM-248; 12-01-2008; Retzol, Khuongluong. (Ph: 121)

*Musa acuminata cv.chinichampa* Colla. (Musaceae)

Thailik (DI), Nachang (HM/MI), Mot (HR), Champa kola (NE), Ranchi (ZE)
Frequent
Large herb
Cultivar
Ripened fruit eaten raw. Sold in the markets @ Rs.10/dozen fruits.

PM-306; 22-09-2009; Sampharidisha, Haflong. (Ph: 122)

*Musa acuminata cv. jahaji* Colla. (Musaceae)

Jahaji kol (AS), Thailik Gibi (DI), Nachang (HM/MI), Mot (HR), Ranchi (ZE)
Frequent
Large herb

Cultivar
Ripened fruit eaten raw. Sold in the markets @ Rs.15/four fruits.

PM-307; 20-09-2009; Jatinga, Haflong. (Ph: 123)

Note: As shown in the Ph. No. 123, the traditional phytopractices has been recorded that the covering/wrapping and tightening of the inflorescence after fruit development by colthes or polythene sheet is done for desired bigger fruit size in that particular variety of the Banana by the Dimasas.

*Musa acuminata* Colla. (Musaceae)

Senduri malbhog (AS), Thailik malbhog gajao (DI), Lal malbhog (PN)
Rare
Large herb

Cultivar
Ripened fruit eaten raw.

PM-307; 20-09-2009; Jatinga, Haflong. (Ph: 126)

*Musa bulbisiana* Colla. Syn. *M. sapientum var. pruinosa*. (Musaceae)

Thailikatsia/Thailik gibi (DI), Nachang (MI/HM)
Frequent
Large herb

Cultivar
Ripened fruit eaten raw. Sold in the markets @ Rs.10/dozen fruits

PM-308; 24-08-2008; Longma, Haflong. (Ph: 124)

*Musa sp.* (Musaceae)

Thailik Gibi (DI), Nachang changpui long (HM/MI), Kach kola (NE), Numpui (ZE)
Frequent
Large herb

Cultivar

93
Young green fruit/soft pith eaten cooked as vegetable. Sold in the markets @ Rs. 10/four fruits and Rs. 5/four pieces of pith.

PM-309; 22-09-2009; Sampharidisha, Haflong (Ph: 125)

*Musa sp.* (Musaceae)

Laidi-laigonthai (DI), Gam Nachang vui (HM/MI), Gumjui (ZE)

Frequent

Large herb

Wild

Inflorescence (thin-long green) eaten cooked as vegetable either with dry fish, meat, wild edible mushrooms and/or with *Sarchochlamys pulcherrima* (Roxb.) Gaud. (Urticaceae) tender shoot for early recovery from post-delivery of child by the *Dimasas*. Sold in the markets @ Rs. 10/two Inflorescences.

PM-310; 22-09-2009; Sampharidisha, Haflong.

*Musa velutina* Wendl. (Musaceae)

Laishrimdi (DI), Gam Nachang vui (HM/MI), Gumjui (ZE)

Frequent

Large herb

Wild

Inflorescence (Small-short purple) eaten cooked as vegetable either with dry fish or with *Sarchochlamys pulcherrima* (Roxb.) Gaud. (Urticaceae) tender shoot for early recovery from post-delivery of child by the *Dimasas*. Sold in the markets @ Vegetable Rs. 10/three Inflorescences.

PM-312; 24-08-2008; Longma-III (Ph: 127)
e) Cucurbits:

**Benincasa hispida** (Thunb.) Cogn. (Cucurbitaceae)

Khaukhluhaba (DI), Tlang maibal (HM), Umpong (KU), Maphune (ZE)

Abundant
Climber
Jhum Cultivar

Fruits eaten cooked as vegetable and also with the dried meat curry prepared with local alkali *khari* is mostly preferred by the *Dimasas*. Sold in the local markets @ Rs.15/Fruit.
PM-120/IC no. 566704; 22-09-2008; Gurubari. (Ph: 139 to 147)

Note: There are wide range of genetic variation in the respect of the fruit shape, size and also taste as preferred type found to be cultivated by the ethnic people of the area. A total of 14 fruit variations recorded in the present study.

**Benincasa hispida** (Thunb.) Cogn. (Cucurbitaceae)

Khaukhluhaba (DI), Tlang maibal (HM), Umpong (KU), Maphune (ZE)

Abundant
Climber
Jhum Cultivar

The scented fruits eaten cooked; especially the dried meat curry prepared with local alkali *khari* is mostly preferred by the *Dimasas*. Sold in the local markets @ Rs.15/Fruit.
PM-123/IC no. 566707; 22-09-2008; Gurubari.

Note: There are wide range of genetic variation in the respect of the fruit shape, size taste and also scented as known to be most preferred type found to be cultivated and conserved by the ethnic people of the area.

**Citrullus vulgaris** Schrad. ex Eckl & Zeyh (Cucurbitaceae)

Thaisim sipra (DI), Phai donkho (HM)

Occasional
Creeper
Jhum Cultivar

Rounded, light green fruit is either eaten raw or cooked as vegetable. Sold in the local markets @ Rs.15/Fruit.
PM-273; 22-10-2008; Moulveng. (Ph: 158)

**Citrullus lanatus** Schrad. (Cucurbitaceae)

95
Thaisim hagong (DI), Tlang donkho (HM)
Occasional
Creeper
Jhum Cultivar
Rounded, small dark green with reticulate sculptured fruit is either eaten raw or cooked as vegetable. Sold in the local markets @Rs.10/Fruit.
PM-129/IC no.-566713; 22-09-2008; Gurubari. (Ph: 160)

*Citrullus colocynthis* Schrad. (Cucurbitaceae)
Thaisim hagong (DI), Tlang donkho (HM)
Occasional
Creeper
Primitive Cultivar
Big, long, dark green fruit is either eaten raw at maturity or young fruits eaten cooked as vegetable. Sold in the local markets @Rs.20/Fruit.
PM-274; 16-12-2007: Choto Waphu. (Ph: 159)

*Cucurbita maxima* Duch. ex Lam. (Cucurbitaceae)
Khaukhluminglai (DI), Mai (HM/MI), Maichang (KU), Ro mai (HR), Maghi (ZE)
Frequent
Climber
Jhum cultivar
Young shoots and fruits preferred to eaten cooked as vegetable with local alkali *Khari*. Sold in the local markets @Rs.10-15/Fruit and 5/bundle of young shoot and flower.
PM-275; 16-12-2007; Gurubari. (Ph: 150)

*Cucurbita moschata* Duchesne (Cucurbitaceae)
Khaukhluminglai (DI), Mai (HM/MI), Ro mai (HR), Maichang (KU), Maghi (ZE)
Frequent
Climber
Jhum Cultivar
Young shoots and fruits preferred to eaten cooked as vegetable with local alkali *Khari*. Sold in the local markets @Rs.10-15/Fruit and 5/bundle of young shoot and flower.
PM-121/IC no.-566705; 22-09-2008; Buolzol. (Ph: 151 to 157)
Note: There are a total of 13 fruit variations recorded within the taxa.
Cucurbita pepo L. (Cucurbitaceae)
Khaukhluhaba (DI), Maibal (HM/MI), Ramai (HR), Unpong (KU), Maphune (ZE)
Occasional
Climber
Cultivar
The young or matured fruits eaten cooked; especially the dried meat curry prepared with local alkali khari is mostly preferred by the Dimasas. Sold in the local markets @Rs.15/Fruit.
PM-276; 26-10-2008; Michidui. (Ph: 148)

Cucumis melo L. (Cucurbitaceae)
Thaisim gibi (DI), Vai Fangma (HM)
Occasional
Creeper/climber
Jhum Cultivar
Young fruits eaten cooked as vegetable and matured fruits eaten raw. Sold in the local markets @Rs.15/Fruit.
PM-82/IC no.-560840; 21-12-2007; Boro Waphu. (Ph: 161)

Cucumis melo L. (Cucurbitaceae)
Thaisim Chinar (DI), Vai Fangma (HM)
Occasional
Creeper/climber
Jhum Cultivar
Young fruits eaten cooked as vegetable and matured fruits eaten raw. Sold in the local markets @Rs.15/Fruit.
PM-475; 11-10-2007; Dihangi. (Ph: 162)

Cucumis melo L. (Cucurbitaceae)
Thaisim Hagong (DI), Vai Fangma (HM)
Occasional
Creeper/climber
Jhum Cultivar
Young fruits eaten cooked as vegetable and matured fruits eaten raw. Sold in the local markets @Rs.15/Fruit.
PM-476; 22-12-2008; Gunjung. (Ph: 163)

Cucumis sativus L. (Cucurbitaceae)
Thaisim (DI), Tlang fangma(HM), Fangfra (HR), Changmai(KU), Sikhia(PN), Ngaine(ZE)
Frequent
Climber
Cultivar
Fruits either eaten cooked as vegetable or eaten raw. Sold in the local markets @Rs.15/Kg.
PM-277; 20-12-2007; Retzol. (Ph: 164 & 165)
Note: Two distinct fruit variations recorded- larger and elongated small.

*Cucumis sativus* L. (Cucurbitaceae)

Thaisim-muri (DI), Tlang fangma(HM), Fangfra (HR), Changmai(KU), Ngaine(ZE)
Frequent
Climber
Cultivar
Ivory-white coloured fruits either eaten cooked as vegetable or eaten raw. Sold in the local markets @Rs.15/Kg.
PM-477 ; 21-12-2007; Longma-III. (Ph: 166 & 167)
Note: Two types of fruit variations recorded-white and light green.

*Cucumis trigonus* Roxb. (Cucurbitaceae)

Thaisim-kashiba (DI), Fangma tial(HM)
Rare
Climber
Semi wild
Rough surfaced brown coloured fruits eaten cooked as vegetable or raw. Sold in the local markets @Rs.15/Kg.
PM-278; 07-12-2009; Sampharidisha. (Ph: 168 & 169)
Note: The *Dimasas* use this for offerings during worshipping to the deities.

*Cyclanthera pedata* Schrad. (Cucurbitaceae)

Patal (PN)
Rare
Climber
Cultivar

98
Young green fruits eaten cooked as vegetable. Sold in the Haflong market @ Rs.20/Kg.

PM-279; 20-12-2007; Jatinga. (Ph: 170)

**Gymnopetalum cochinchinensis** (Lour.) Kurz (Cucurbitaceae)

Dukhathai (DI), Ram berul (HM)

Occasional

Climber

Wild

The young fruits eaten cooked with dried fish by local alkali *khari* is mostly preferred by the Dimasas. Sold in the local markets @ Rs. 5/unit of 10 fruits.

PM- 81/IC no.-560839; 21-12-2007; Boro Waphu. (Ph: 171)

**Hodgsonia macrocarpa** (Bl.) Cogn. (Cucurbitaceae)

Khaukhluthaibai (DI), Kha um (HM), Nsui chi (ZE)

Frequent

Climber

Wild

Endosperm eaten cooked or roasted as snacks; especially preferred by the childrens. Sold in the local markets @ Rs.5/ five seeds.

PM-280; 12-01-2009; Dibarai. (Ph: 174)

**Lagenaria siceraria** (Molina) Standley (Cucurbitaceae)

Milau (DI), Um (HM/ KU), Maibal (HR), Teurau (ZE)

Frequent

Climber

Cultivar

Different types of young fruits eaten cooked as vegetable. Sold in the local markets @ Rs.10-15/Fruit.

PM-122/IC no-566706; 22-09-2008; Gurubari. (Ph: 177 to 181)

Note: Dried matured shells are important household item for all the ethnic tribes of the present study area. They use it for storing seeds, spices and condiments, local Beer and also for blending of it. The common practice observed about the table spoon made of it is traditionally indispensable item for distributing local Beer to the participants as well as invited guests in the festivals and ceremonies. There are a total of 8 fruit variations in respect of size and shape has been recorded.
**Luffa cylindrica** (L.) M.Roem. (Cucurbitaceae)

Phronthai(DI), Thenpon (KU), Bhol(NE), Ndeumpi(ZE)
Frequent
Climber
Semi-wild/semi domesticated
Young fruits eaten cooked as vegetable. Sold in the local markets @ Rs. 10/Kg.
PM-281; 07-12-2009; Sampharidisha. (Ph: 182 & 183)
Note: The Luffa; the local body scrub is seen to be used for cleaning human skin during bathing. Two fruit variations recorded-elongated and bottle-shaped.

**Luffa acutangula** (L.) Roxb. (Cucurbitaceae)

Pronthai(DI), Jinga(NE/PN)
Frequent
Climber
Jhum Cultivar
Short young fruits eaten cooked as vegetable. Sold in the local markets @Rs. 15/Kg.
PM-282; 20-12-2007; Natun Basti.

**Melothria heterophylla** (Lour.) Cogn. (Cucurbitaceae)

Kunduli(AS/NE), Hagrani thaisum-muri(DI)
Occasional
Climber
Semi-wild
Young fruits and shoots eaten cooked as vegetable. Sold in the local markets @Rs.10/Kg.fruits.
PM-283; 07-12-2009; Sampharidisha. (Ph: 175)

**Momordica cochinchinensis** (Lour.) Spreng. (Cucurbitaceae)

Hangathai(DI), Jankha(HM/KU/VA), Nraupui-chi (ZE)
Frequent
Climber
Jhum Cultivar/Semi domesticated
Fruits eaten cooked as vegetable. Sold in the local markets @Rs. 20/Kg.
PM-284; 26-10-2008; Michidui.
Note: The fruits contain more numbers and larger seeds.

**Momordica charantia** L. (Cucurbitaceae)
Gala (DI), Kagai chi (ZE)
Frequent
Climber
Jhum Cultivar
Young Fruits eaten cooked as mixed vegetable. Sold in the local markets @Rs. 20/Kg.
PM-285; 21-12-2007; Longma-III.

*Momordica charantia var. muricata* (Willd.) H.L.Chakravarty (Cucurbitaceae)
Hagrani gala/Gala-khasiba(DI), Tlang Chankha(HM), Jankha(MI), Chankha hna(HR), Kagai chi (ZE).
Frequent
Climber
Wild/ Semi domesticated
Young Fruits eaten cooked as mixed vegetable. Sold in the local markets @Rs. 5/250gms.
PM-130/IC no-566714; 25-10-2008; Buolzol. (Ph: 173)

*Momordica mixta* Roxb. (Cucurbitaceae)
Sla pouthuowa (PN)
Rare
Climber
Wild
Young fruits and shoots eaten cooked as vegetable by the Pnar (Jaintia) people of Jatinga village.
PM-173; 24-01-2009; Jatinga. (Ph: 172)
Note: The species is only observed in natural moist and wild condition in the sides of the Jatinga stream of Borail range. The Pnar (Jaintia) people of Jatinga village uses the boiled stock/soup of the young shoot and fruit one cup daily once in the early morning for curing the Jaundice disease.

*Passiflora edulis* Sims.f. *flavicarpa* Degener (Passifloraceae)
Panthao milao(DI), Saptheilempa (HM/KU), Karora chi (ZE)
Occasional
Climber
Cultivar
Young Shoots eaten cooked as vegetable and ripened fruits eaten raw. Sold in the local markets @Rs.2/Fruit and 5/bundle of young shoot.
PM- 80/IC no-560838; 21-12-2007; Boro Waphu. (Ph: 185)

**Passiflora quadrangularis** L. (Passifloraceae)
- Panthao milao(DI), Sapthailempa(HM), Karora chi(ZE)
- Occasional
- Climber
- Cultivar
- Fruits eaten cooked as vegetable. Sold in the local markets @Rs.10/Kg.
PM-286; 22-10-2008; Moulveng. (Ph: 184)

**Sechium edule** (Jacq.) Sw. (Cucurbitaceae)
- Toluteipi (DI), Iskos(HM/PN), Khaugui(KU)
- Abundant
- Climber
- Cultivar
- Fruits eaten cooked as vegetable. Sold in the local markets @Rs.15/Kg.
PM-287; 20-12-2007; Jatinga. (Ph: 185)
Note: A total of 5 fruit variations in respect of fruit colour, shape and surface has been recorded.

**Trichosanthes anguina** L. (Cucurbitaceae)
- Pronthai(DI), Berul(HM), Sesenda(NE)
- Frequent
- Climber
- Jhum Cultivar
- Fruits eaten cooked as vegetable. Sold in the local markets @Rs.15/Kg.
PM-288; 13-12-2007; Hojai. (Ph: 176)

**f) Brinjals and Tomatoes:**

**Cyphomandra betacea** (Cav.) Sendt. Syn. *Solanum betaceum* Cav. (Solanaceae)
- Panthao gidibao(DI), Thei manta(HR), Pebang tigi chi(ZE)
- Occasional
- Shrub
- Wild/Semi-wild
Fruits eaten either cooked as vegetable or as salad with hot chillies. Sold in the local markets @Rs.10/five fruits.
PM-302; 18-9-2009; Buolzol. (Ph: 186)

**Lycopersicum esculentum** Mill. (Solanaceae)
Gidibao(DI), Manta thur(HM), Dadil (HR), Dahdul thuh(KU), Tekit chi(ZE)
Frequent
Herb
Local Cultivar
Fruits eaten either cooked as vegetable or as salad/chutney with hot chillies and dry fish. Sold in the local markets @Rs.20/Kg.
PM-305; 18-9-2009; Buolzol.
Note: Local jhum cultivar type with much seeds and sour taste is preferred by the local ethnic people.

**Lycopersicum pimpinellifolium** Mill. (Solanaceae)
Gidibao-daidi(DI), Mantathur chin (HM),, Tekit chi(ZE)
Frequent
Herb
Semi-wild
Medium sized fruits, eaten either cooked as vegetable or as salad/chutney with hot chillies and dry fish. Sold in the local markets @Rs.20/Kg.
PM-126/IC-566710; 22-9-2008; Gurubari.

**Lycopersicum pimpinellifolium** Mill. (Solanaceae)
Gidibao-daidi(DI), Mantathur chin (HM)
Frequent
Herb
Semi-wild
Smaller sized fruits, eaten either cooked as vegetable or as salad/chutney with hot chillies and dry fish. Sold in the local markets @Rs.20/Kg.
PM-127/IC-566711; 22-9-2008; Gurubari. (Ph: 187)

**Solanum gilo** Raddi. (Solanaceae)
Panthao kenkathai(DI), Manta(HM), Katuk chi(ZE)
Abundant
Undershrub
Cultivar
Young fruits eaten cooked as vegetable. Sold in the local markets @Rs.15/Kg.
PM-124/566708; 22-9-08; Gurubari. (Ph: 189 & 190)

Note: The species shows wide range of variation in fruit shape and colour and recorded 11 variations.

*Solanum macrocarpon* L. (Solanaceae)

Panthao khimbong(DI), Manta(HM), Mendautuk-chi (ZE)
Abundant
Under shrub
Cultivar

Young fruits and tender shoots eaten cooked as vegetable. Sold in the local markets @Rs.15/Kg
PM-132/566716; 15-10-2008; Gurubari. (Ph: 188)

*Solanum melongena* L. var. *depressum* Dunal (Solanaceae)

Panthao(DI), Manta(HM), Mendautuk-chi (ZE)
Abundant
Undershrub
Cultivar

Young fruits are eaten cooked as vegetable; especially the curry prepared with local alkali *khari* is mostly preferred by the Dimasas and Zeme Nagas. Sold in the local markets @Rs.15-20/Kg.
PM-316; 16-12-2007; Choto Waphu.

*Solanum melongena* L. (Solanaceae)

Panthao(DI), Manta(HM), Mendautuk-chi (ZE)
Abundant
Undershrub
Landrace/ Jhum cultivar

Young fruits are eaten cooked as vegetable; especially the curry prepared with local alkali *khari* is mostly preferred by the Dimasas and Zeme Nagas. Sold in the local markets @Rs.15-20/Kg.
PM-478; 16-12-2007; Choto Waphu; Haflong market. (Ph: 191 to 196)

Note: The species shows wide range of variation in fruit shape, colour and taste and recorded a total of 13 variations.

*Solanum indicum* L. (Solanaceae)

Panthao khimkhatai (DI), Sam tok(HM), Leenguipi(KU), Karinchi(ZE)
Abundant
Undershrub
Semi wild
Young fruits are eaten cooked with mixed vegetable. Sold in the local markets @Rs.5/unit of 100gms.
PM-317; 20-12-2008; Dikrik. (Ph: 197)

Solanum nigrum Linn. (Solanaceae)
Hagran kikkhathai (DI)
Occasional
Herb
Weed
Young shoots with fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bunch.
PM-270; 22-9-2008; Boro Waphu.

Solanum spirale Roxb. (Solanaceae)
Kanarengma(DI), Nkabua (ZE)
Occasional
Herb
Semi Wild
Prepares chutney with chillies and dried fish by mixing boiled young fruits and also young shoots eaten cooked as vegetable.
PM-271; 22-9-2008; Gurubari. (Ph: 198)

Solanum torvum Sw. (Solanaceae)
Panthao khimkhatai gidiba(DI), Sam tok(HM), Leenguipi(KU), Karinchi(ZE)
Abundant
Under shrub
Wild/ Semi domesticated
Young fruits are bitter taste and eaten cooked with mixed vegetable.
PM-479; 20-12-2008; Dikrik.

VI. LEGUME AND PULSES

Legume and Pulses are the major source of protein for the ethnic people of the present study area. Some of them are recorded and elaborated as in the following-

Acacia farnesiana (L.) Willd. (Mimosaceae)

105
Bairithai (DI), Zongta te (HM), Nkampi-chibe (ZE)
Frequent
Tree
Semi wild/semi domesticated
Young fruits eaten cooked as vegetable or chutney with dry fish. Sold in the local markets @Rs.10/bundle of 10 fruits.
PM-289; 20-12-2007; Retzol. (Ph: 199)

Acacia pinnata (L.) Willd. (Mimosaceae)
Suji (DI), Khang muk (HM), Tingchi-heu (ZE)
Occasional
Lianes
Semi wild/semi domesticated
Young shoots eaten cooked as vegetable or chutney with dry fish. Sold in the local markets @Rs.5/bundle.
PM-290; 20-12-2007; Retzol. (Ph: 200)

Bauhinia acuminata L. (Caesalpiniaceae)
Vaibe (HM)
Occasional
Tree
Wild
Young fruit and shoot eaten cooked as vegetable.
PM-291; 20-12-2007; Retzol. (Ph: 201)

Cajanus cajan (L.) Hutch (Fabaceae)
Betleng (HM), Belhang (KU), Sewpi (ZE)
Frequent
Shrub
Cultivar
Tender pods /seeds either eaten raw or cooked as vegetable. Sold in the local markets @Rs.20/Kg.
PM- 64/IC no.- 560822; 20-12-2007; Muolkoi.

Canavalia ensiformis DC. (Fabaceae)
Sobai dao yiung (DI), Fangra anzam chi (HM), Samkhra (HR), Kangianeteupi (ZE)
Rare
Climber
Jhum Cultivar

Tender pods / seeds eaten cooked as vegetable. Sold in the local markets @Rs.10/four fruits.

PM- 70/ IC no.- 560828; 21-12-2007; Muolkoi. (Ph: 203)

*Canavalia gladiator* (Jacq.) DC. (Fabaceae)

Naga sem(DI), Fangra anzam nochi(HM), Tua(PN), Namtaipee(ZE)

Occasional

Under shrub

Semi wild/Jhum Cultivar

Tender pods /seeds eaten cooked as vegetable. Sold in the local markets @Rs.10/five fruits.

PM- 69/ IC no.- 560827; 20-12-2007; Muolkoi. (Ph: 204)

*Cassia hirsuta* L. (Fabaceae)

Methep (DI), Angreng paupa (HM)

Abundant

Under shrub

Wild

Young shoots eaten cooked as vegetable. Root extract is used for curing stomach pain. Seeds used as pig fodder.

PM- ; 16-12-2007; Choto Waphu. (Ph: 200)

*Dolichos lablab* L. (Fabaceae)

Sbai maishing(DI), Bepui(HM/MI)

Abundant

Climber

Jhum Cultivar

Tender pods / seeds eaten cooked as vegetable. Sold in the local markets @Rs. 20/Kg.

PM- 66/ IC no.- 560824; 21-12-2007; Muolkoi. (Ph: 216 to 225)

Note: The species shows much variation and recorded a total of 10 fruit variation in respect of colour, shape and size etc.

*Glycine max* (L.) Merrill. (Fabaceae)

Bekan(HM), Urymbai kutung (PN)

Occasional

Undershrub
Jhum Cultivar
Seeds eaten cooked as vegetable and Bekanthu-fermented chutney is prepared by Hmar women. Sold in the local markets @ Rs.10/100gm.
PM- 63/ IC no.- 560821;15-12-2007; Muolkoii. (Ph: 202)

Lablab purpureus (L.) Sweet. (Fabaceae)
Sbaithai(DI), Bepui(HM/MI)
Frequent
Climber
Jhum Cultivar
Tender pods / seeds eaten cooked as vegetable. Sold in the local markets @Rs. 20/Kg.
PM-292; 07-12-2009; Sampharidisha. (Ph: 215)

Moringa oleifera Lamk. (Moringaceae)
Shorjona(DI), Thingbe(HM)
Frequent
Tree
Cultivar
Young leaf/fruits eaten cooked as vegetable. Sold in the local markets @Rs. 15/Kg.
PM-293; 16-12-2007; Choto Waphu. (Ph: 209)

Mucana monosperma DC. (Fabaceae)
Bandar kekua (AS), Mei sia ryntim (PN), Mapinewne (ZE)
Occasional
Climber
Wild
Young pods eaten cooked as vegetable.
PM-480; 20-12-2007; Retzol. (Ph: 227)

Pachyrrhizus erosus Rich. (Fabaceae)
Sbai kalendre(DI),Uisulbe(HM/KU)
Rare
Climber
Cultivar
Young Pods/seeds eaten cooked as vegetable and underground tuber edible. Tuber sold in the local markets @Rs. 15/Kg.
**Parkia roxburghii** G. Don. (Mimosaceae)

Bairithai(DI), Zongta(HM/KU), Nkampi(ZE)

Frequent

Tree

Semi Wild

Young pods/matured seeds eaten cooked as vegetable and prepares chutney with dried fish. Sold in the local markets @Rs.10/four fruits.

PM-295; 16-12-2007; Choto Waphu. (Ph: 208)

**Phaseolus radiatus** L. (Fabaceae)

Sbaiha(DI), Bechin (HM)

Occasional

Herb

Jhum Cultivar

Legume seeds eaten cooked as vegetable. Sold in the local markets @Rs. 30/Kg.

PM- 65/IC no.-560823; 20-12-2007; Muolkoi.

**Phaseolus lunatus** L. (Fabaceae)

Behna/ Beloi (HM), Taipee(ZE)

Frequent

Climber

Jhum Cultivar

Tender leaf and seeds eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle of tender leaf.

PM-297; 27-12-2007; N.Leikul. (Ph: 205)

**Phaseolus vulgaris** L. (Fabaceae)

Sbai(DI),Behnoisun(HM)

Frequent

Herb

Jhum Cultivar

Tender pods eaten cooked as vegetable. Sold in the local markets @Rs. 30/Kg.

PM-298; 27-12-2007; N.Leikul. (Ph: 206)

**Pisum sativum var. arvense** L. (Fabaceae)

Matar(AS/NE), Tuirongbe(HM)

Frequent
Herb
Jhum Cultivar
Young shoot/tender pods/seeds eaten cooked as vegetable. Sold in the local markets @Rs. 30/Kg.
PM-299; 20-12-2007; Natun Basti.

Psophocarpus tetragonolobus DC. (Fabaceae)
Sbai daograng/Daograng (DI), Betlanei/Samporong (HM)
Occasional
Climber
Jhum Cultivar
Young pod eaten cooked as vegetable and mostly preferred chutney with dry fish. Sold in the local markets @Rs.5/250gms.
PM-171/ IC no.-569111; 22-12-2008; Moulveng. (Ph: 211)
Note: One longer and another shorter fruit varieties recorded.

Sesbania grandiflora Pers. (Fabaceae)
Bokphool(AS/ NE)
Occasional
Tree
Cultivar
Flowers eaten fried as vegetable. Sold in the local markets @Rs.5/10 flowers.
PM-269; 20-12-2007; Natun Basti. (Ph: 210)

Taphrosia candida DC. (Fabaceae)
Methep gidiba (DI)
Occassional
Shrub
Wild
Flowers eaten cooked with the rice flour by the Dimasas called Hon and it gives a bitter flavor.
PM- 481; 16-12-2007; Choto Waphu. (Ph: 230)

Vigna mungo (L.) Hepper (Fabaceae)
Matimah(AS), Phaibe chin(HM)
Occasional
Herb
Jhum Cultivar
Legume seeds eaten cooked as vegetable. Sold in the local markets @Rs. 25/Kg.

PM-296; 20-12-2007; Muolkoi.

*Vigna sinensis* Endl. (Fabaceae)

Sbaithai(DI), Tlangbe/Besei/Beloi(HM)

Abundant

Climber

Jhum Cultivar

Young pods eaten cooked as vegetable. Sold in the local markets @Rs. 25/Kg.

PM-300; 22-12-2008; Moulveng(Ph: 213 & 214)

*Vigna umbellata* (Thunb.)Ohwi & H.Ohashi. (Fabaceae)

Sbaithai(DI), Bething (HM), Hera-pi (Z)

Occasional

Herb

Jhum Cultivar

Young pods eaten cooked as vegetable and matured seeds as curry. Sold in the local markets @Rs. 25/Kg.

PM-67/IC no.-560825; 21-12-2007; Muolkoi. (Ph: 212)

*Vigna unguiculata* (Thunb.) Ohwi & Ohashi (Fabaceae)

Sbaithai(DI),Bething (HM),Hera pi(ZE)

Occasional

Climber

Jhum Cultivar

Seeds eaten cooked as vegetable curry. Sold in the local markets @Rs. 30/Kg.

PM-68/ IC no.-560826; 21-12-2007; Muolkoi. (Ph: 231: A, B & C)

Note: The 9 different seed colour variation has been recorded.
PHOTOPLATE: 46: EDIBLE PLANTS SOLD AT HAFLONG MARKET


PHOTOPLATE: 47: EDIBLE PLANTS SOLD AT HAFLONG MARKET AND EDIBLE FERNS


Ph: 235: Angiopteris evecta

Ph: 236: Drynaria quersifolia

Ph: 237: Stenochlaena palustris
VII: EDIBLE PLANTS SOLD AT HAFLONG MARKET

The makeshift weekly Saturday market of the Haflong town of North Cachar Hills district of Assam is a significant socioeconomic institution. The market can also be considered as the meeting hub for the relatives as well people of different communities and depicts the rich socio-cultural diversity of the area.

Map: 3: Map shows location of Haflong town
A total of 254 species/varieties of plants and some of their products have been recorded during survey and the findings can be broadly categorized into three as in the following -
(A) Eatencooked: A total 191 species/varieties that includes; Leafy vegetables etc.-58 (Table-6); Fruits and seeds-Cucurbits-24 (Table-7.a); Fruits and seeds-Legumes/Pods-21 (Table-7.b); other fruits and seeds-22 (Table-7.c); Spices and condiments-33 (Table-8); Edible tubers-24 (Table-9) and Wild edible mushrooms-09 (Table-10).

(B) Eaten raw: Total 48 species/varieties that includes; Fruits and seeds (Citrus fruits)-10 (Table-11.a); other fruits and seeds-38 (Table-11.b.)

(C) Cereals: Total 15 species/varieties that includes either eaten cooked or raw; also both (Table-12).

Present investigation reveals the following numerical analysis from the total recorded species/varieties of plants as-

**Table: 13:a.** Numerical analysis of the recorded plants.

<table>
<thead>
<tr>
<th>Category</th>
<th>Total no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species/varieties</td>
<td>254</td>
</tr>
<tr>
<td>Generas</td>
<td>170</td>
</tr>
<tr>
<td>Families</td>
<td>75</td>
</tr>
</tbody>
</table>

**Table: 13:b.** Frequency analysis of the recorded plants.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>No. of Species/varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abundant</td>
<td>19</td>
</tr>
<tr>
<td>Frequent</td>
<td>93</td>
</tr>
<tr>
<td>Occasional</td>
<td>121</td>
</tr>
<tr>
<td>Rare</td>
<td>21</td>
</tr>
</tbody>
</table>

**Table: 13:c.** Habit analysis of the recorded plants.

<table>
<thead>
<tr>
<th>Habit</th>
<th>No. of Species/varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herb</td>
<td>79</td>
</tr>
<tr>
<td>Undershrub</td>
<td>24</td>
</tr>
<tr>
<td>Shrub</td>
<td>17</td>
</tr>
<tr>
<td>Creeper</td>
<td>8</td>
</tr>
<tr>
<td>Climber/Lianes</td>
<td>51</td>
</tr>
<tr>
<td>Tree</td>
<td>47</td>
</tr>
<tr>
<td>Grass</td>
<td>19</td>
</tr>
<tr>
<td>Fungi</td>
<td>9</td>
</tr>
</tbody>
</table>

**Table: 13:d.** Biological status analysis of the plants.

<table>
<thead>
<tr>
<th>Biological status</th>
<th>No. of Species/varieties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primitive cultvar/ jhum</td>
<td>151</td>
</tr>
<tr>
<td>cultivar/cultivar</td>
<td></td>
</tr>
<tr>
<td>Semi-wild</td>
<td>49</td>
</tr>
<tr>
<td>Wild</td>
<td>45</td>
</tr>
<tr>
<td>Weedy</td>
<td>9</td>
</tr>
</tbody>
</table>
Edible plants sold at Haflong market:
(A). Eaten cooked:

Table: 6: Leafy Vegetables etc.

<table>
<thead>
<tr>
<th>Sl.no.</th>
<th>Coll. no. / LC.no.</th>
<th>Botanical name &amp; Family</th>
<th>Vernacular name</th>
<th>Frequency</th>
<th>Habit</th>
<th>Biological status</th>
<th>Parts used/Mode of use</th>
<th>Market rate (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PM-220</td>
<td>Abelmoschus manihot (L.) Medic. Malvaceae</td>
<td>Thakhla maikhr gajao(DI), Vai an thu arsen(HM)</td>
<td>Abundant</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>2</td>
<td>PM-221</td>
<td>Alternanthera sessile Br. Amaranthaceae</td>
<td>Kuang kua(MI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>3</td>
<td>PM-222</td>
<td>Amaranthus gangeticus L. Syn A. Amaranthus tricolor Amaranthaceae</td>
<td>Khemsa gajao(DI), Inh muntiek (ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>4</td>
<td>PM-223</td>
<td>Amaranthus spinosus L. Amaranthaceae</td>
<td>Khutra(DI)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>5</td>
<td>PM-224</td>
<td>Amaranthus viridis L. Amaranthaceae</td>
<td>Mota(DI), Vaihme (HM), Inhmuntiek(ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>6**</td>
<td>PM-225</td>
<td>Andrographis paniculata Nees. Acanthaceae</td>
<td>Chirota(DI/PN)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Plant juice- stomach tonic/ mixed with vegetable</td>
<td>Rs.5/bundle</td>
</tr>
<tr>
<td>7</td>
<td>PM-226</td>
<td>Aralia armata (Wall) Seem. ex Kurz. Syn. A. montana Bl Araliaceae</td>
<td>Lingdon(KU), Ture/Saifok(ZE)</td>
<td>Rare</td>
<td>Shrub</td>
<td>Wild</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>8</td>
<td>PM-227</td>
<td>Bacopa monnieri (L.) Wettst. Scrophulariaceae</td>
<td>Brahmi (NE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Whole plant-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>9</td>
<td>PM-228</td>
<td>Bambusa balcooa Roxb. Poaceae</td>
<td>Wa mia(DI), Hepai/Pum(ZE)</td>
<td>Occasional</td>
<td>Large grass</td>
<td>Semi Wild</td>
<td>Shoot-Vegetable/ fermented chatni</td>
<td>Rs.10-15/Kg.</td>
</tr>
<tr>
<td>10</td>
<td>PM-229</td>
<td>Basella rubra L. Basellaceae</td>
<td>Thakhrai gajao(DI), Maghi(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Leaf/ Shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>11</td>
<td>PM-230</td>
<td>Basella alba L Basellaceae</td>
<td>Thakhrai guphu(DI), Maghi(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Leaf/ Shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>12</td>
<td>PM-231</td>
<td>Begonia paluma D.Don Begoniaceae</td>
<td>Theidon (HM), Mping(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Wild</td>
<td>Leaf/ Shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>13</td>
<td>PM-232</td>
<td>Begonia roxburghii DC Begoniaceae</td>
<td>Sekhupdon(HR), Alumiki(DI), Mping(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Wild</td>
<td>Leaf/ Shoot-Vegetable/ antidysenteric</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>14</td>
<td>PM-233</td>
<td>Blumea lacera DC. Syn. B. balsamifera (L.) DC. Asteraceae</td>
<td>Mugongreng/ Gangrima(DI), Anramang(HM), Peau(ZE)</td>
<td>Abundant</td>
<td>Shrub</td>
<td>Semi Wild</td>
<td>Leaf-Vegetable (mostly preferred with Brinjal)</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>No.</td>
<td>Identification</td>
<td>Scientific Name</td>
<td>Common Names</td>
<td>Distribution</td>
<td>Category</td>
<td>Use</td>
<td>Price</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------</td>
<td>-----------------</td>
<td>--------------</td>
<td>--------------</td>
<td>----------</td>
<td>-----</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>15*</td>
<td>PM-234</td>
<td>Brassica campestris L.</td>
<td>Huoirruoi (HM), Ankam(KU), Nzeyicheu (ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf/young fruit-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>16*</td>
<td>PM-235</td>
<td>Brassica alba H.f. &amp; T.</td>
<td>Yaolaisa guphu (DI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf/young fruit-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>17*</td>
<td>PM-236</td>
<td>Brassica nigra Koch.</td>
<td>Yaolaisa gisim(DI), Huoirruoi (HM), Ankam(KU), Nzeyicheu(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf/young fruit-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>18**</td>
<td>PM-75/ 560833</td>
<td>Brassica juncea H.f. &amp; T.var.cuneifolia Roxb.</td>
<td>Antrum(HM), Laiptatta(NE)</td>
<td>Abundant</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>19**</td>
<td>PM- 78/ 560836</td>
<td>Brassica juncea (L.) Czerm. &amp; Cosson</td>
<td>Trampui / Antrum(HM), Jenum(PN), Nzeyi (ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Primitive/Cultivar</td>
<td>Leaf-Vegetable (Purplish leaf/petiole/vein)</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>20</td>
<td>PM-237</td>
<td>Bryophyllum pinnatum Kurz</td>
<td>Tenga patta(NE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Semi wild</td>
<td>Fleshy leaf-stomach tonic</td>
<td>Rs.5/ten leaves</td>
</tr>
<tr>
<td>21</td>
<td>PM-238</td>
<td>Calamus rotang L.</td>
<td>Raigong(DI), Tingdon(HM), Heart(ZE)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Wild</td>
<td>Soft pith-Vegetable/Chatni</td>
<td>Rs.20/ Stick</td>
</tr>
<tr>
<td>22</td>
<td>PM-239</td>
<td>Centella asiatica (L.) Urban, Syn. Hydrocotyle asatica L.</td>
<td>Mikharing(DI), Lambak(HM), Naulai(KU), Manimuni(NE), Krimbu(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Weed</td>
<td>Entire plant/Leaf-Vegetable/Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>23</td>
<td>PM-240</td>
<td>Chenopodium album L.</td>
<td>Dauthulai(DI), Jhihmil sak(NE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Weed</td>
<td>Entire plant/Leaf-Vegetable/Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>24</td>
<td>PM-241</td>
<td>Chonemorpha macrophylla G.Don. Apocynaceae</td>
<td>Ankhapui(Large) &amp; Ankhate (Small) (HM), Ankhapi(KU), Johr khithong(PN)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Wild</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>25</td>
<td>PM-242</td>
<td>Clerodendrum colebrookianum Walp. Verbenaceae</td>
<td>Mismau(DI), Anphui(HM)</td>
<td>Abundant</td>
<td>Shrub</td>
<td>Semi Wild</td>
<td>Leaf-Vegetable/hypertension medicine</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>26</td>
<td>PM-243</td>
<td>Corchorus olitorius Linn. Tiliaceae</td>
<td>Morapat(DI), Vaizahrui(HM)</td>
<td>Occasional</td>
<td>Undershrub</td>
<td>Cultivar</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>27*</td>
<td>PM-244</td>
<td>Colocasia esculenta (L.) Schott. Araceae</td>
<td>Thagong(DI)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Jhum</td>
<td>Cultivar</td>
<td>Fresh leaf petiole-Vegetable</td>
</tr>
<tr>
<td>28</td>
<td>PM-245</td>
<td>Croosopetalum sp. Asteraceae</td>
<td>Impingi (ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Wild</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>29</td>
<td>PM-246</td>
<td>Croton caudatus Geisel Euphorbiaceae</td>
<td>Agurdukha(DI), Ran-lung-damdoi (HM/MI)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Wild</td>
<td>Leaf Juice-Stomach tonic/Anticancer/Tongue medicine</td>
<td>Rs.10/ ½ lit.</td>
</tr>
<tr>
<td>30</td>
<td>PM-247</td>
<td>Diplazium esculentum (Retz.)Sw. Polypodiaceae</td>
<td>Daomalai(DI), Dheki sak(NE), Nchubua (ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Wild</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>31</td>
<td>PM-248</td>
<td>Ensete superba(Roxb.) Choes. Musaceae</td>
<td>Thaliphang yasong(DI), Sai suo mot (HM), Dangdibeil (ZE)</td>
<td>Occasional</td>
<td>Large herb</td>
<td>Cultivar</td>
<td>Fresh/Dry Leaf sheath-Vegetable</td>
<td>Rs.5/Bundle or Bole</td>
</tr>
<tr>
<td>No.</td>
<td>Code</td>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Occurrence</td>
<td>Type</td>
<td>Use</td>
<td>Price</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>--------------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>--------</td>
<td>----------------------------------------------------------------------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>PM-249</td>
<td>Eurya acuminata DC.</td>
<td>Theaceae</td>
<td>Abundant</td>
<td>Tree</td>
<td>Semi Wild</td>
<td>Leaf cooked with Pork meat</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>33</td>
<td>PM-250</td>
<td>Gnetum gnemon L.</td>
<td>Gnetaceae</td>
<td>Rare</td>
<td>Tree</td>
<td>Wild</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>34*</td>
<td>PM-251</td>
<td>Hibiscus eeteideanus De Wild, and Th. Dur.</td>
<td>Malvaceae</td>
<td>Rare</td>
<td>Undershrub</td>
<td>Jhum Cultivar</td>
<td>Young fruit/Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>35*</td>
<td>PM-125/566709</td>
<td>Hibiscus sabdariffa L.</td>
<td>Malvaceae</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Jhum Cultivar</td>
<td>Fruit/Leaf-Vegetable, Seeds-Awmjang (DI) dry fish fermented Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>36</td>
<td>PM-252</td>
<td>Hibiscus sabdariffa L.</td>
<td>Malvaceae</td>
<td>Occasional</td>
<td>Undershrub</td>
<td>Jhum Cultivar</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>37</td>
<td>PM-253</td>
<td>Ipomea aquatica Forsk.</td>
<td>Convolvulaceae</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Aquatic weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>38</td>
<td>PM-170/569110</td>
<td>Lasia spinosa L.</td>
<td>Araceae</td>
<td>Occasional</td>
<td>Herb</td>
<td>Wild</td>
<td>Young leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>39</td>
<td>PM-254</td>
<td>Lecus tinifolia Spreng.</td>
<td>Lamiaceae</td>
<td>Occasional</td>
<td>Herb</td>
<td>Weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>40*</td>
<td>PM-255</td>
<td>Lathyrs sativus L.; DC.</td>
<td>Fabaceae</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Shoot/Seeds-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>41**</td>
<td>PM-256</td>
<td>Lactuca sp</td>
<td>Asteraceae</td>
<td>Rare</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf-Vegetable</td>
<td>Rs.10/Bundle</td>
</tr>
<tr>
<td>42</td>
<td>PM-257</td>
<td>Melocanna buccifera (Roxb.)Kurz</td>
<td>Poaceae</td>
<td>Abundant</td>
<td>Large grass</td>
<td>Semi Wild</td>
<td>Shoot-Vegetable/fermented Chatni</td>
<td>Rs.10-15/Kg.</td>
</tr>
<tr>
<td>43</td>
<td>PM-258</td>
<td>Melocalamus compactiflorus Benth.</td>
<td>Poaceae</td>
<td>Occasional</td>
<td>Large grass</td>
<td>Semi Wild</td>
<td>Shoot-Vegetable</td>
<td>Rs.10-15/Kg.</td>
</tr>
<tr>
<td>44</td>
<td>PM-259</td>
<td>Melia azadirachta A. Juss.</td>
<td>Meliaceae</td>
<td>Occasional</td>
<td>Tree</td>
<td>Semi wild</td>
<td>Leaf-roasted/fried</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>45</td>
<td>PM-260</td>
<td>Nicotiana rustica L.</td>
<td>Solanaceae</td>
<td>Frequent</td>
<td>Herb</td>
<td>Semi wild/Cultivar</td>
<td>Dried leaf-Masticator</td>
<td>Rs.10/100gms</td>
</tr>
<tr>
<td>46*</td>
<td>PM-261</td>
<td>Paederia foetida L.</td>
<td>Rubiaceae</td>
<td>Frequent</td>
<td>Climber</td>
<td>Wild</td>
<td>Leaf-Vegetable (Also used as gastric Medicine)</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>47</td>
<td>PM-262</td>
<td>Piper betle L.</td>
<td>Piperaceae</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Fresh Leaf-Masticator</td>
<td>Rs.10 / bundle</td>
</tr>
<tr>
<td>48</td>
<td>PM-263</td>
<td>Polygonum perfoliatum L.</td>
<td>Polygonaceae</td>
<td>Occasional</td>
<td>Climber</td>
<td>Wild</td>
<td>Leaf-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>49</td>
<td>PM-264</td>
<td>Portulaca oleracea L.</td>
<td>Portulacaceae</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Weed</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / L.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biologic status</td>
<td>Parts used/Mode of use</td>
<td>Market rate (Rs.)</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
<td>----------------</td>
<td>------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>59</td>
<td>PM-120/566704</td>
<td>Benincasa hispida (Thunb.) Cogn. Cucurbitaceae</td>
<td>Khaukhlubabu(DI), Tlang maibal(HM), Umpong(KU), Maphune(ZE)</td>
<td>Abundant</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>60</td>
<td>PM-273</td>
<td>Citrus vulgaris Schrad. ex Eckl &amp; Zeyh Cucurbitaceae</td>
<td>Thaisim sipra(DI), Phai donkho (HM)</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable/eaten raw (rounded, light green fruit)</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>61</td>
<td>PM-129/566713</td>
<td>Citrus lanatus Schrad. Cucurbitaceae</td>
<td>Thaisim hagong(DI), Tlang donkho(HM)</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable/eaten raw (Small dark green fruit)</td>
<td>Rs.10/Fruit</td>
</tr>
<tr>
<td>62</td>
<td>PM-274</td>
<td>Citrus colycinthas Schrad. Cucurbitaceae</td>
<td>Thaisim hagong(DI), Tlang donkho(HM)</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable/eaten raw (Big, long dark green fruit)</td>
<td>Rs.20/Fruit</td>
</tr>
<tr>
<td>63</td>
<td>PM-275</td>
<td>Cucurbita maxima Duch. ex Lam. Cucurbitaceae</td>
<td>Khaikhulmunglai(DI), Mai(HM/MI), Maichang (KU), Ro mai(HR), Maphit(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Young Shoot/Fruit-Vegetable</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>64</td>
<td>PM-121/566705</td>
<td>Cucurbita moschata Duchesne Cucurbitaceae</td>
<td>Khaikhulmunglai(DI), Mai (HM/MI), Ro mai(HR), Maichang (KU), Maphit(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Young Shoot/Fruit-Vegetable</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>No.</td>
<td>PM-276</td>
<td>Cucurbita pepo L. Cucurbitaceae</td>
<td>Khaukhluhaba(DI), Maibal(HM/MI), Unpong(KU), Maphune(ZE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>---------------------------------</td>
<td>--------------------------------------------------------</td>
<td>------------</td>
<td>--------</td>
<td>----------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>66**</td>
<td>PM- 82/560840</td>
<td>Cucumis melo L. Cucurbitaceae</td>
<td>Thaisim gib(DI), ValFangma(HM)</td>
<td>Occasional</td>
<td>Creeper</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable/eaten raw</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>67**</td>
<td>PM-277</td>
<td>Cucumis sativus L. Cucurbitaceae</td>
<td>Thaisim (Thaisimmuri-white) (DI), Tlang fangma(HM), Changmai(KU), Sikhia(PN), Ngaine(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Fruit-Vegetable/eaten raw</td>
<td>Rs.15/Kg.</td>
</tr>
<tr>
<td>68**</td>
<td>PM-278</td>
<td>Cucumis trigonus Roxb. Cucurbitaceae</td>
<td>Thaisim(DI), Fangma tia(HM)</td>
<td>Rare</td>
<td>Climber</td>
<td>Semi wild</td>
<td>Fruit-Vegetable/eaten raw</td>
<td>Rs.15/Kg.</td>
</tr>
<tr>
<td>69</td>
<td>PM-279</td>
<td>Cyclanthera pedata Schrad. Cucurbitaceae</td>
<td>Patal(PN)</td>
<td>Rare</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.20/Kg.</td>
</tr>
<tr>
<td>70</td>
<td>PM- 81/560839</td>
<td>Gymnopetalum coccineinensis (Lour.) Kurz Cucurbitaceae</td>
<td>Dukhathai(DI), Ram berul(HM)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Wild</td>
<td>Fruit-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>71**</td>
<td>PM-280</td>
<td>Hodgesonia macrocarpa (Bl.) Cogn. Cucurbitaceae</td>
<td>Khaukhluthaibai(DI), Kha um(HM), Nsui chi(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Wild</td>
<td>Seeds/Endosperm</td>
<td>Rs.5/ five seeds</td>
</tr>
<tr>
<td>72</td>
<td>PM-122/566706</td>
<td>Lagernaria siceraria (Molma) Standley Cucurbitaceae</td>
<td>Milaa(DI), Um(HM/ KU), Teurau(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.15/Fruit</td>
</tr>
<tr>
<td>73</td>
<td>PM-281</td>
<td>Luffa cylindrica (L.) M.Roem. Cucurbitaceae</td>
<td>Phronthai(DI), Thenpon (KU), Bhol(NE), Ndeampui(ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Semi-wild</td>
<td>Fruit-Vegetable</td>
<td>Rs. 10/Kg.</td>
</tr>
<tr>
<td>74</td>
<td>PM-282</td>
<td>Luffa acutangula (L.) Roxb. Cucurbitaceae</td>
<td>Pronthai(DI), Jingga(NE/PN)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs. 15/Kg.</td>
</tr>
<tr>
<td>75</td>
<td>PM-283</td>
<td>Melothria heterophylla (Lour.) Cogn. Cucurbitaceae</td>
<td>Kunduli(AS/NE), Hagrani thaisummuri(DI)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
<td>Fruit/young shoot-Vegetable</td>
<td>Rs.10/Kg.</td>
</tr>
<tr>
<td>76</td>
<td>PM-284</td>
<td>Momordica cochininhensis (Lour.) Spreng. Cucurbitaceae</td>
<td>Hangathai(DI), Jankha(HM/KU/VA), Nraupui-chi (ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>77</td>
<td>PM-285</td>
<td>Momordica charantia L. Cucurbitaceae</td>
<td>Gala(DI), Kagai chi (ZE)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Young Fruit-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>79**</td>
<td>PM- 80/560838</td>
<td>Passiflora edulis Sims.f. flavicarpa Dogner Passifloraceae</td>
<td>Saphthailumpa(HM/KU), Karora chi(ZE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Young Shoot-Vegetable, Fruit-Eaten raw</td>
<td>Rs.2/Fruit</td>
</tr>
<tr>
<td>80</td>
<td>PM-286</td>
<td>Passiflora quadrangularis L. Passifloraceae</td>
<td>Panthao milao(DI), Saphthailumpa(HM), Karora chi(ZE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.10/Kg.</td>
</tr>
<tr>
<td>Sl.no</td>
<td>Coll. no. / I.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
<td>Parts used/Mode of use</td>
<td>Market rate (Rs.)</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>83</td>
<td>PM-289</td>
<td><em>Acacia farnesiana</em> (L.) Willd. Mimosaceae</td>
<td>Bairithai(DI), Zongta (HM), Nkampi-chibe(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Semi Wild</td>
<td>Fruit-Vegetable/Dry fish chatni</td>
<td>Rs.10/Bundle</td>
</tr>
<tr>
<td>84</td>
<td>PM-290</td>
<td><em>Acacia pinnata</em> (L.) Willd. Mimosaceae</td>
<td>Suji (DI), Khang muk(HM), Tingchi-heu (ZE)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Semi Wild</td>
<td>Young shoot/Tender pods-Vegetable/Dry fish chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>85</td>
<td>PM-291</td>
<td>* Bauhinia acuminata* L. Caesalpinaceae</td>
<td>Vaibe(HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Wild</td>
<td>Young Fruit &amp; shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>86**</td>
<td>PM- 64/ 560822</td>
<td>* Cajanus cajan* (L.) Huth Fabaceae</td>
<td>Betleng(HM), Belhang(KU), Sewpi(ZE)</td>
<td>Frequent</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Tender pods /Seeds-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>87</td>
<td>PM- 69/ 560827</td>
<td><em>Canavalia gladiata</em> (Jacq.) DC. Fabaceae</td>
<td>Naga sem(DI), Fangra anzam nochi(HM), Tua(PN), Nmatalpee(ZE)</td>
<td>Occasional</td>
<td>Under shrub</td>
<td>Semiwild/ Jhum Cultivar</td>
<td>Tender pods /Seeds-Vegetable</td>
<td>Rs.10/five fruits</td>
</tr>
<tr>
<td>88</td>
<td>PM- 70/ 560821</td>
<td><em>Canavalia ensiformis</em> DC. Fabaceae</td>
<td>Sobai dao ylung(DI), Fangra anzam chi (HM), Samkhra(HR), Kanginanereupi(ZE)</td>
<td>Rare</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Tender pods /Seeds-Vegetable</td>
<td>Rs.10/four fruits</td>
</tr>
<tr>
<td>89</td>
<td>PM- 66/ 560824</td>
<td><em>Dolichos lablab</em> L. Fabaceae</td>
<td>Sbai maishing(DI), Bepui(HM/MI)</td>
<td>Abundant</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Tender pods /Seeds-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>90</td>
<td>PM- 63/ 560821</td>
<td><em>Glycine max</em> (L.) Merrill Fabaceae</td>
<td>Bekan(HM)</td>
<td>Occasional</td>
<td>Under shrub</td>
<td>Jhum Cultivar</td>
<td>Seeds-Bekanthu (Fermented chatni)</td>
<td>Rs.10/100gm.</td>
</tr>
<tr>
<td>91</td>
<td>PM-292</td>
<td><em>Lablab purpureus</em> (L.) Sweet Fabaceae</td>
<td>Sbai thi(DI), Bepui(HM/MI)</td>
<td>Frequent</td>
<td>Climber</td>
<td>Jhum Cultivar</td>
<td>Tender pods /Seeds-Vegetable</td>
<td>Rs. 20/Kg.</td>
</tr>
<tr>
<td>92*</td>
<td>PM-293</td>
<td><em>Moringa oleifera</em> L. <em>Moringaceae</em></td>
<td>Shorjona(DI), Thingbe(HM)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Young leaf/Fruit-Vegetable</td>
<td>Rs. 15/Kg.</td>
</tr>
<tr>
<td>93**</td>
<td>PM-294</td>
<td><em>Pachyrhizus erosus</em> Rich <em>Fabaceae</em></td>
<td>Sbai kalendre(DI), Usulbe(HM)</td>
<td>Rare</td>
<td>Climber</td>
<td>Cultivar</td>
<td>Young Pods/Seeds-Vegetable and tuber edible</td>
<td>Rs. 15/Kg.</td>
</tr>
<tr>
<td>94</td>
<td>PM-295</td>
<td><em>Parkia axurbhii</em> G. Don Mimosaceae</td>
<td>Bairithai(DI), Zongta(HM/KU), Nkampi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Semi Wild</td>
<td>Young Pod/Seeds-Vegetable</td>
<td>Rs.10/four fruits</td>
</tr>
<tr>
<td>95</td>
<td>PM- 65/ 560823</td>
<td><em>Phaseolus radiatus</em> L. Fabaceae</td>
<td>Sbaiha(DI), Bechin (HM)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
<td>Legume seeds-Curry</td>
<td>Rs. 30/Kg.</td>
</tr>
<tr>
<td>96</td>
<td>PM-296</td>
<td><em>Phaseolus mungo</em> L. Fabaceae</td>
<td>Matimah(AS), Phaibe chin(HM)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum</td>
<td>Legume seeds-Curry</td>
<td>Rs. 25/Kg.</td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / I.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
<td>Parts used/Mode of use</td>
<td>Market rate (Rs.)</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------</td>
<td>-------------------------</td>
<td>-----------------</td>
<td>-----------</td>
<td>-------</td>
<td>------------------</td>
<td>-----------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>104</td>
<td>PM-79/560837 128/560872</td>
<td><em>Abelmoschus esculentus</em> (L.) Moench Malvaceae</td>
<td>Pahari Bendi(DI), Usul hme(HM), Borsomhme (MI), Bindi(ZE)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Jhum Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.25/Kg.</td>
</tr>
<tr>
<td>105**</td>
<td>PM-301</td>
<td><em>Carica papaya</em> L. Caricaceae</td>
<td>Goiphol(DI), Thing phangma (HM), Thing changma(KU), Bangai chi(ZE)</td>
<td>Frequent</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Fruit-Vegetable</td>
<td>Rs.20/Kg.</td>
</tr>
<tr>
<td>106**</td>
<td>PM-302</td>
<td><em>Cyphomandra betacea</em> (Cav.) Sendt. Syn. <em>Solanum betaceum</em> Cav. Solanaceae</td>
<td>Pahni bidoab(DI), Thei manta(HR), Pehang tigi chi(ZE)</td>
<td>Occasional</td>
<td>Shrub</td>
<td>Semi-wild</td>
<td>Fruit-Vegetable</td>
<td>Rs.10/five fruits</td>
</tr>
<tr>
<td>107**</td>
<td>PM-303</td>
<td><em>Dillenia indica</em> L. Dilleniaceae</td>
<td>Thaidi(DI), Ithlang(HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Semi-Wild</td>
<td>Fruit-Vegetable</td>
<td>Rs.5/ fruits</td>
</tr>
<tr>
<td>108*</td>
<td>PM-304</td>
<td><em>Garcinia pedunculata</em> Roxb. Clusiaceae/Gutiiferae</td>
<td>Borthekera(AS), Thaikhra gada (DI), Vomva(HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Semi-wild</td>
<td>Dry sliced Fruit-Curry (Also medicine for loose motion)</td>
<td>Rs.5/ fruits</td>
</tr>
<tr>
<td>109**</td>
<td>PM-305</td>
<td><em>Lycopersicon esculentum</em> Mill. Solanaceae</td>
<td>Gidibao(DI), Manta thur(HM), Dahdul thuh (KU), Tekit chi(ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Local Cultivar</td>
<td>Fruit-Vegetable &amp; Salad</td>
<td>Rs.25/Kg.</td>
</tr>
<tr>
<td>110*</td>
<td>PM-126/56710 127/56711</td>
<td><em>Lycopersicon pimpinellifolium</em> Mill. Solanaceae</td>
<td>Gidibao-dao(DI), Mantathur chin (HM)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Semi-wild</td>
<td>Fruit-Vegetable &amp; Salad</td>
<td>Rs.25/Kg.</td>
</tr>
</tbody>
</table>

Table: 7.c: Other fruits, seeds and inflorescences etc.
<table>
<thead>
<tr>
<th>Code</th>
<th>Cultivar</th>
<th>Family</th>
<th>Frequency</th>
<th>Habit</th>
<th>Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-306</td>
<td><em>Musa acuminata</em> cv.chinchampa Colla. prim.</td>
<td><em>Musa</em> acuminata cv.chinchampa Colla. prim.</td>
<td>Frequent</td>
<td>Large herb</td>
<td>Cultivar</td>
<td>Rs. 10/dozen fruits</td>
</tr>
<tr>
<td>PM-307</td>
<td><em>Musa acuminata</em> cv.jahaji Colla. prim.</td>
<td><em>Musa</em> acuminata cv.jahaji Colla. prim.</td>
<td>Frequent</td>
<td>Large herb</td>
<td>Cultivar</td>
<td>Rs. 15/four fruits</td>
</tr>
<tr>
<td>PM-309</td>
<td><em>Musa sp.</em> Colla. prim.</td>
<td><em>Musa</em> sp.</td>
<td>Frequent</td>
<td>Large herb</td>
<td>Cultivar</td>
<td>Rs. 10/four fruits</td>
</tr>
<tr>
<td>PM-310</td>
<td><em>Musa sp.</em> Colla. prim.</td>
<td><em>Musa</em> sp.</td>
<td>Frequent</td>
<td>Wild</td>
<td>Inflorescence (Thin-long green)-Vegetable</td>
<td>Rs. 10/two fruits Inflorescence</td>
</tr>
<tr>
<td>PM-311</td>
<td><em>Musa sp.</em> Colla. prim.</td>
<td><em>Musa</em> sp.</td>
<td>Frequent</td>
<td>Wild</td>
<td>Inflorescence (Big-long purple)-Vegetable</td>
<td>Rs. 10/two fruits Inflorescence</td>
</tr>
<tr>
<td>PM-313</td>
<td><em>Oroxylum indicum</em> L. Vent Colla. prim.</td>
<td><em>Oroxylum indicum</em> L. Vent Colla. prim.</td>
<td>Frequent</td>
<td>Tree</td>
<td>Wild</td>
<td>Rs. 5/five corolla Vegetable</td>
</tr>
<tr>
<td>PM-317</td>
<td><em>Solanum macrocarpon</em> L. Solanaceae</td>
<td><em>Solanum macrocarpon</em> L. Solanaceae</td>
<td>Abundant</td>
<td>Undershrub</td>
<td>Cultivar</td>
<td>Rs. 15/Kg</td>
</tr>
<tr>
<td>PM-318</td>
<td><em>Solanum melongena</em> L. var. <em>depressum</em> Dunal Solanaceae</td>
<td><em>Solanum melongena</em> L. var. <em>depressum</em> Dunal Solanaceae</td>
<td>Abundant</td>
<td>Undershrub</td>
<td>Landrace/Cultivar</td>
<td>Rs. 20/Kg</td>
</tr>
<tr>
<td>PM-319</td>
<td><em>Solanum indicum</em> L. Solanaceae</td>
<td><em>Solanum indicum</em> L. Solanaceae</td>
<td>Abundant</td>
<td>Undershrub</td>
<td>Semi wild</td>
<td>Rs. 5/unit</td>
</tr>
<tr>
<td>PM-320</td>
<td><em>Travesia palmata</em> (Roxb) Vis. Araliaceae</td>
<td><em>Travesia palmata</em> (Roxb) Vis. Araliaceae</td>
<td>Occasional</td>
<td>Shrub</td>
<td>Semi Wild</td>
<td>Rs. 5/Bundle</td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / I.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------</td>
</tr>
<tr>
<td>126</td>
<td>PM-319</td>
<td><em>Albizia myriophylla</em> Benth. Mimosaceae</td>
<td>Themra maizu(DI)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Semi Wild</td>
</tr>
<tr>
<td>127</td>
<td>PM-320</td>
<td><em>Allium chinense</em> G. Don Liliaceae</td>
<td>Mogjingphang(DI),Tlang purun(HM), Newgi Tingdra (ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Landrace/ Cultivar</td>
</tr>
<tr>
<td>128</td>
<td>PM-321</td>
<td><em>Allium hookeri</em> Thw. Liliaceae</td>
<td>Tlang purun(HM), Tingdra(ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Landrace/ Cultivar</td>
</tr>
<tr>
<td>129</td>
<td>PM-322</td>
<td><em>Allium schoenoprasum</em> L. Liliaceae</td>
<td>Tlang purun(HM), Tingdra(ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Landrace/ Cultivar</td>
</tr>
<tr>
<td>130*</td>
<td>PM-323</td>
<td><em>Alpinia nigra</em> (Gaertn.) Burtt Zingiberaceae</td>
<td>Deragong(DI),Aihre don(HM)</td>
<td>Abundant</td>
<td>Herb</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>131</td>
<td>PM-324</td>
<td><em>Ammomum maximum</em> Roxb. Zingiberaceae</td>
<td>Aihere tel(HM)</td>
<td>Rare</td>
<td>Herb</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>132</td>
<td>PM-325</td>
<td><em>Capsicum annuum</em> L. Solanaceae</td>
<td>Morsai dima(DI), Morsha te (HM)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>133*</td>
<td>PM-326</td>
<td><em>Capsicum annuum</em> L. var. <em>abbreviata</em> Solanaceae</td>
<td>Morsai gibir(DI), Saph marchoi te (HM), Naga Morsa(NI)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
</tr>
<tr>
<td>134*</td>
<td>PM-139/ 566723</td>
<td><em>Capsicum annuum</em> L. var. <em>grosium</em> (Willd.) Sond. Solanaceae</td>
<td>Morsai gibir(DI), Saph marcha (HM), Naga Morsa(NI)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
</tr>
<tr>
<td>135</td>
<td>PM-137/ 566721</td>
<td><em>Capsicum frutescens</em> L. Solanaceae</td>
<td>Morsai dima(DI), Morsha pui(HM)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
</tr>
<tr>
<td>136</td>
<td>PM-149/ 566733</td>
<td><em>Capsicum frutescens</em> L. Solanaceae</td>
<td>Morsai gonchi/khasiba(DI), Mazu ek morsha(HM)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
</tr>
<tr>
<td>137</td>
<td>PM-153/ 566737</td>
<td><em>Capsicum minima</em> L. Solanaceae</td>
<td>Morsai giding lik(DI), Dhungangne (ZE)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
</tr>
<tr>
<td>138</td>
<td>PM-333</td>
<td><em>Carum involucratum</em> Baill. Apiaceae</td>
<td>Bakho gamram(DI),Khum hoi(HM)</td>
<td>Rare</td>
<td>Herb</td>
<td>Cultivar</td>
</tr>
<tr>
<td>139</td>
<td>PM-408</td>
<td><em>Cinnamomum tamala</em> Nees. Lauraceae</td>
<td>Tezpata/Hnarimme/Hnarimse(HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
</tr>
<tr>
<td>140</td>
<td>PM-327</td>
<td><em>Cinnamomum zeylanicum</em> Blume. Lauraceae</td>
<td>Dalshini /Thiu hung ilum(HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
</tr>
<tr>
<td>141*</td>
<td>PM-328</td>
<td><em>Coriandrum sativum</em> L. Apiaceae</td>
<td>Bahkor(DI), Parrimse(HM)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
</tr>
<tr>
<td>S.No.</td>
<td>Code</td>
<td>Species</td>
<td>Cultivar</td>
<td>Family</td>
<td>Habitat</td>
<td>Uses</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------------------------</td>
<td>----------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>142</td>
<td>PM-329</td>
<td>Curcuma domestica Valet. Zingiberaceae</td>
<td>Silik di(DI), Aieng(HM/KU), Gumnei (ZE)</td>
<td>Frequent Herb Jhum Cultivar</td>
<td>Dried Rhizome powder</td>
<td>Rs.15/100gms.</td>
</tr>
<tr>
<td>143</td>
<td>PM-77/ 560835</td>
<td>Cymbopogon citrates Stapf. Poaceae</td>
<td>Hnarim-um(HM)</td>
<td>Occasional Grass Cultivar</td>
<td>Soft pith</td>
<td>Rs.10/Bundle</td>
</tr>
<tr>
<td>144</td>
<td>PM-330</td>
<td>Elsholtzia strobilifera Benth. Lamiaceae</td>
<td>Rengma ser(HM), Lanugu (ZE)</td>
<td>Frequent Herb Jhum Cultivar</td>
<td>Fresh Leaf/Dried Inflorescence- Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>145**</td>
<td>PM-331</td>
<td>Eryngium foetidum L. Apiaceae</td>
<td>Patikhom(HM), Naga Dhania(NE), Bakhor(ZE)</td>
<td>Frequent Herb Cultivar</td>
<td>Leaf</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>146**</td>
<td>PM-332</td>
<td>Houttuynia cordata Thunb. Saururaceae</td>
<td>Mojoukho(DI), Ai thang(HM), Jarmendo(PN)</td>
<td>Frequent Herb Cultivar</td>
<td>Leaf/ creeping stem(Also useful in Dysentery)</td>
<td>Rs.10/Bundle</td>
</tr>
<tr>
<td>147**</td>
<td>PM-334</td>
<td>Mentha arvensis L. Lamiaceae</td>
<td>Vai par rim se(HM), Pudina(NE), Namplan(ZE)</td>
<td>Frequent Herb Cultivar</td>
<td>Leaf - Chatni</td>
<td>Rs.10/Bundle</td>
</tr>
<tr>
<td>148</td>
<td>PM-335</td>
<td>Murraya koenigii (L.) Spreng. Rutaceae</td>
<td>Thamsi-youngihabia (DI), Narashingha (NE)</td>
<td>Occasional Shrub Semi Wild</td>
<td>Young Leaf-Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>149**</td>
<td>PM-336</td>
<td>Ocimum basilicum L. Lamiaceae</td>
<td>Bahanda(DI), Vaipar(HM), Yungne(ZE)</td>
<td>Frequent Herb Jhum Cultivar</td>
<td>Inflorescence/Seeds-chatni/fermented chatni-Chang (ZE)</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>150*</td>
<td>PM- 73/560831 74/560832</td>
<td>Perilla frutescens (L.) Britt. Lamiaceae</td>
<td>Snem(DI), Sipui(HM)</td>
<td>Frequent Herb Jhum Cultivar</td>
<td>Dry Seeds</td>
<td>Rs.20/100gms.</td>
</tr>
<tr>
<td>151</td>
<td>PM-337</td>
<td>Piper nigrum L. Piperaceae</td>
<td>Morshaidi(DI)</td>
<td>Occasional Climber Cultivar</td>
<td>Leaf-Spice/ Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>152</td>
<td>PM-338</td>
<td>Polygonum persicum Ham.ef.D.Don Polygonace</td>
<td>Singia(DI)</td>
<td>Rare Herb Semi-wild</td>
<td>Leaf-Spice/ Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>153</td>
<td>PM-339</td>
<td>Rhus semialata Murr. Annacardiaceae</td>
<td>Gamboa/ Khongna (DI), Khokma(HR), Kemeu(ZE)</td>
<td>Frequent Tree Semi Wild</td>
<td>Seeds eaten raw as chatni</td>
<td>Rs.10/unit</td>
</tr>
<tr>
<td>154</td>
<td>PM- 71/560829 72/560830</td>
<td>Sesambum indicum DC. Prodr. Pedaliaceae</td>
<td>Sibing(DI), Sivar-white seed &amp; Sidum-black seed(HM), Geching (ZE)</td>
<td>Frequent Herb Jhum Cultivar</td>
<td>Seeds eaten raw as chatni</td>
<td>Rs.15/250gms.</td>
</tr>
<tr>
<td>155</td>
<td>PM-340</td>
<td>Trigonella foenum graecum L. Fabaceae</td>
<td>Methi sak(AS/NE)</td>
<td>Occasional Herb Cultivar</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>156</td>
<td>PM-341</td>
<td>Zanthoxylum armatum DC. Rutaceae</td>
<td>Mejen(DI), Singzor(HM), Nech chi(ZE)</td>
<td>Occasional Undershrub Semi-wild</td>
<td>Young shoot-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>157*</td>
<td>PM-342</td>
<td>Zanthoxylum oxyphyllum Edgw. Rutaceae</td>
<td>Timur(NE), Leuer (PN)</td>
<td>Occasional Shrub Wild</td>
<td>Young Leaf/Seeds-Chatni</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>158*</td>
<td>PM-343</td>
<td>Zingiber officinale Rose. Zingiberaceae</td>
<td>Hajing(DI), Ai thing(HM), Theing(KU), Kaphu/ Kebe (ZE)</td>
<td>Abundant Herb Jhum Cultivar</td>
<td>Rhizome/Young inflorescence</td>
<td>Rs.5/250gms.</td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / I.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------</td>
</tr>
<tr>
<td>159</td>
<td>PM-169/56910</td>
<td><em>Alocasia macrorrhiza</em> (L.) G.Don <em>Araceae</em></td>
<td>Thagong yung(DI), Kebei(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
</tr>
<tr>
<td>160</td>
<td>PM-344</td>
<td><em>Alocasia indica</em> (Roxb.) Schott <em>Araceae</em></td>
<td>Thagong(DI), Kebei(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
</tr>
<tr>
<td>161</td>
<td>PM-107/566691</td>
<td><em>Amorphophallus bulbiferum</em> (Roxb.):Bl. <em>Araceae</em></td>
<td>Thabema(DI), Saldong(HM), Tel cong(KU), Teldon(MI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>162**</td>
<td>PM-345</td>
<td><em>Asparagus racemosus</em> Willd. <em>Liliaceae</em></td>
<td>Satmul(NE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>163</td>
<td>PM-84/560841</td>
<td><em>Canna edulis</em> Ker-Gawl <em>Cannaceae</em></td>
<td>Par baul Faulk(HM), Nung gum(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
</tr>
<tr>
<td>164**</td>
<td>PM-346</td>
<td><em>Colocasia esculenta</em> (L.) Schott, Syn. <em>C. antiquorum</em> Schott. <em>Araceae</em></td>
<td>Thabatha(DI), Doi ool(HM), Batta(HR), Kebei(ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>165*</td>
<td>PM-96/566680</td>
<td><em>Colocasia esculenta</em> (L.) Schott. <em>Araceae</em></td>
<td>Thahom(DI), Goibot(MI), Perew(ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>166*</td>
<td>PM-97/566681</td>
<td><em>Colocasia esculenta</em> (L.) Schott. <em>Araceae</em></td>
<td>Thadimai(DI), Dolzung fauk(HM), Balak pui(MI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>167*</td>
<td>PM-100/566684</td>
<td><em>Colocasia esculenta</em> (L.) Schott. <em>Araceae</em></td>
<td>Thadissa gajao(DI), Balak pui(MI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>168*</td>
<td>PM-94/566678</td>
<td><em>Colocasia esculenta</em> (L.) Schott. <em>Araceae</em></td>
<td>Thakhlong(DI), Baul fauk(HM), Batta(HR), Baul bor(MI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Jhum Cultivar</td>
</tr>
<tr>
<td>169</td>
<td>PM-157/569097</td>
<td><em>Dioscorea alata</em> L <em>Dioscoreaceae</em></td>
<td>Thaphu sathai(DI), Bahra(HM), Baha(KU/VA), Basa(MI)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>170</td>
<td>PM-164/569104</td>
<td><em>Dioscorea alata</em> L <em>Dioscoreaceae</em></td>
<td>Taru(NE), Nruireu(ZE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Cultivar</td>
</tr>
<tr>
<td>171</td>
<td>PM-158/569098</td>
<td><em>Dioscorea bulbifera</em> L <em>Dioscoreaceae</em></td>
<td>Thaphu miyungwabla(DI), Basel phauk(HM), Baha(MI)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>172</td>
<td>PM-347</td>
<td><em>Dioscorea bulbifera</em> L <em>Dioscoreaceae</em></td>
<td>Thaphukhlong(DI), Ram bahra(HM), Baha(MI)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>173*</td>
<td>PM-168/569108</td>
<td><em>Homalomena aromatica</em> Schott. <em>Araceae</em></td>
<td>Tharem/Thagong-yungsa(DI)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Semi-wild</td>
</tr>
<tr>
<td>174**</td>
<td>PM-348</td>
<td><em>Ipomea batatas</em> (L.) Lamk.</td>
<td>Thamunglai guphu(DI), Kolkai(HM),</td>
<td>Frequent</td>
<td>Creeper</td>
<td>Cultivar</td>
</tr>
</tbody>
</table>

Table: 9: Tubers
<table>
<thead>
<tr>
<th>St. no</th>
<th>Coll. no. / L.C.no.</th>
<th>Botanical name &amp; Family</th>
<th>Vernacular name</th>
<th>Frequency</th>
<th>Habit</th>
<th>Biologic status</th>
<th>Parts used/Mode of use</th>
<th>Market rate (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>175**</td>
<td>PM-349</td>
<td><em>Ipomea batatas</em> (L.) Lamk. <em>Convolvulaceae</em></td>
<td>Mukhum gidiba(DI)</td>
<td>Frequent</td>
<td>Creeper</td>
<td>Cultivar</td>
<td>Red barked tuber-eaten boiled</td>
<td>Rs.10/kg.</td>
</tr>
<tr>
<td>176**</td>
<td>PM-250</td>
<td><em>Manihot esculenta</em> Crantz. <em>Amaranthaceae</em></td>
<td>Thamunglai Gajao(DI), Kolkai(HM), Gaithum(MI), Reukumbe (ZE)</td>
<td>Frequent</td>
<td>Undershrub</td>
<td>Cultivar</td>
<td>Tuber-eaten boiled &amp; raw</td>
<td>Rs.10/kg.</td>
</tr>
<tr>
<td>177**</td>
<td>PM-351</td>
<td><em>Maranta arundinacea</em> L. <em>Marantaceae</em></td>
<td>Tha Lairussa (DI), Hnathel (HM), Hpogimbai (ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Tuber-Eaten both raw &amp; boiled</td>
<td>Rs.10/kg.</td>
</tr>
<tr>
<td>178**</td>
<td>PM-352</td>
<td><em>Maranta dichotoma</em> L. <em>Marantaceae</em></td>
<td>Tha Lairu(DI), Hnathel(HM), Hpogimbai (ZE)</td>
<td>Occasional</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Tuber-Eaten both raw &amp; boiled</td>
<td>Rs.10/kg.</td>
</tr>
<tr>
<td>179</td>
<td>PM-167/569107</td>
<td><em>Smilax china</em> Duham <em>Smilacaceae</em></td>
<td>Thassap/ Susni (DI), Reucheu (ZE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Wild</td>
<td>Tuber-boiled juice as revitalizing tonic daily</td>
<td>Rs.20/kg.</td>
</tr>
<tr>
<td>180</td>
<td>PM-160/569100</td>
<td><em>Stemona tuberosa</em> Lour. <em>Stemonaceae</em></td>
<td>Thagdi(DI), Barhiyum(HM)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi-wild</td>
<td>White barked tuber-eaten boiled</td>
<td>Rs.15/kg.</td>
</tr>
<tr>
<td>181*</td>
<td>PM-91/566675</td>
<td><em>Xanthosoma violaceum</em> (Vell.) Mansfeld. <em>Araliaceae</em></td>
<td>Manai gisim(DI), Dawl sel phak (HM), Banai(HR), Dawl sialne (MI)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf sheath/tuber-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
<tr>
<td>182*</td>
<td>PM-95/566679</td>
<td><em>Xanthosoma sagittifolium</em> (L.) Schott. <em>Araliaceae</em></td>
<td>Dawl sel phak(HM), Banai(HR), Dawl sialne (MI)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Leaf sheath/tuber-Vegetable</td>
<td>Rs.5/Bundle</td>
</tr>
</tbody>
</table>

Table: 10: Wild edible Mushrooms
(B). Eaten uncooked or raw:
Table: 11.a: Fruits and Seeds -Citrus Fruits

<table>
<thead>
<tr>
<th>Sl.no.</th>
<th>Coll. no. / I.C.no.</th>
<th>Botanical name &amp; Family</th>
<th>Vernacular name</th>
<th>Frequency</th>
<th>Habit</th>
<th>Biological status</th>
<th>Parts used/Mode of use</th>
<th>Market rate (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>190</td>
<td>PM-360</td>
<td><em>Schizophyllum commune</em> Fr. Schizophyllaceae</td>
<td>Mukhum jija(DI), Passiso(HM), Tingchapa (ZE)</td>
<td>Frequent</td>
<td>Saprophyte</td>
<td>Wild</td>
<td>Vegetable with dry fish (lobed, purple/black color, odorous)</td>
<td>Rs 10/200gms</td>
</tr>
<tr>
<td>191</td>
<td>PM-361</td>
<td><em>Tricholoma umbricatum</em> (Fr.&amp; Fr.) Kummer Tricholomataceae</td>
<td>Mukhum godho(DI), Papal(HM), Pane (ZE)</td>
<td>Occasional</td>
<td>Saprophyte</td>
<td>Wild</td>
<td>Vegetable with dry fish (Small toad stool, brown)</td>
<td>Rs 10/200gms</td>
</tr>
</tbody>
</table>

Table: 11.a: Fruits and Seeds -Citrus Fruits

<table>
<thead>
<tr>
<th>Sl.no.</th>
<th>Coll. no. / I.C.no.</th>
<th>Botanical name &amp; Family</th>
<th>Vernacular name</th>
<th>Frequency</th>
<th>Habit</th>
<th>Biological status</th>
<th>Parts used/Mode of use</th>
<th>Market rate (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>192</td>
<td>PM-362</td>
<td><em>Citrus aurantifolia</em> (Christm.) Swingle Rutaceae</td>
<td>Kagji-nemu(AS), Thaisa maikhri(DI), Thei-tur(HM), Sehkawi(KU), Lembu(MI), Gareu chi (ZE)</td>
<td>Frequent</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Juice/Bark</td>
<td>Rs. 5/three fruits</td>
</tr>
<tr>
<td>193</td>
<td>PM-363</td>
<td><em>Citrus aurantium L.</em> Rutaceae</td>
<td>Thaisa maikhri(DI), Lembu(MI)</td>
<td>Frequent</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Juice</td>
<td>Rs. 5/three fruits</td>
</tr>
<tr>
<td>194</td>
<td>PM-364</td>
<td><em>Citrus grandis</em> (L.) Osbeck Rutaceae</td>
<td>Riba(DI), Setu( HM/KU), Gareu chi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Pulp</td>
<td>Rs. 5/ fruits</td>
</tr>
<tr>
<td>195</td>
<td>PM-365</td>
<td><em>Citrus hystrix</em> DC. Rutaceae</td>
<td>Riba(DI), Setu( HM), Sher thum (HR), Satkorachi (ZE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Pulp</td>
<td>Rs. 5/two fruits</td>
</tr>
<tr>
<td>196</td>
<td>PM-366</td>
<td><em>Citrus jambhiri</em> Lush. Rutaceae</td>
<td>Thaisa maikhri(DI), Ramser(HM)</td>
<td>Occasional</td>
<td>Shrub</td>
<td>Semi-wild</td>
<td>Pulp (Rough surface, rounded, pointed nipple)</td>
<td>Rs. 5/ three fruits</td>
</tr>
<tr>
<td>197</td>
<td>PM-367</td>
<td><em>Citrus limon</em> (L.) Burm. Rutaceae</td>
<td>Assam limon, Thaisa maikhri(U)</td>
<td>Occasional</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Juice</td>
<td>Rs. 5/ three fruits</td>
</tr>
<tr>
<td>198</td>
<td>PM-368</td>
<td><em>Citrus medica</em> L.f. limon (L.) Hiroe. Rutaceae</td>
<td>Thaisa maikhri(DI), Lembu(MI)</td>
<td>Frequent</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Juice/Bark (Rough surface with pointed nipple)</td>
<td>Rs. 5/ three fruits</td>
</tr>
<tr>
<td>199</td>
<td>PM-369</td>
<td><em>Citrus reticulata</em> Blanco Rutaceae</td>
<td>Hondra(DI), Kama lebu(NE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Pulp</td>
<td>Rs10/ three fruits</td>
</tr>
<tr>
<td>200**</td>
<td>PM-370</td>
<td><em>Citrus macroptera</em> var. annamensis Tanaka. Rutaceae</td>
<td>Hatkura(PN)</td>
<td>Rare</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fleshy Bark as spice with meat</td>
<td>Rs. 5/ fruits</td>
</tr>
<tr>
<td>201</td>
<td>PM-371</td>
<td><em>Citrus sinensis</em> (L.) Osback. Rutaceae</td>
<td>Jora tenga(AS), Gareu chi(ZE)</td>
<td>Rare</td>
<td>Shrub</td>
<td>Wild</td>
<td>Fleshy Bark and less juice edible</td>
<td>Rs. 5/ three fruits</td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / L.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
<td>Parts used/Mode of use</td>
<td>Market rate (Rs.)</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
<td>------------------</td>
<td>----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>202</td>
<td>PM-372</td>
<td><em>Achras sapota</em> L. Syn. <em>Mimusops manilkara</em> Don. <em>Sapotaceae</em></td>
<td>Safeta (NE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.5/five fruits</td>
</tr>
<tr>
<td>203</td>
<td>PM-373</td>
<td><em>Aegle marmelos</em> (L.) Corr. <em>Rutaceae</em></td>
<td>Belthai(DI), Chilongpak chi (ZE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Semi-wild</td>
<td>Fruit</td>
<td>Rs.5/two fruits</td>
</tr>
<tr>
<td>204</td>
<td>PM-374</td>
<td><em>Ananas comosus</em> (L.) Meer. <em>Bromeliaceae</em></td>
<td>Laimuri(DI), Rengthai(HM), Laimuri (KU), Puatingram chi (ZE)</td>
<td>Frequent</td>
<td>Herb</td>
<td>Cultivar</td>
<td>Fruit/Sorosis</td>
<td>Rs.5/250gms.</td>
</tr>
<tr>
<td>205</td>
<td>PM-134/566718</td>
<td><em>Artocarpus heterophyllus</em> Lamk. <em>Moraceae</em></td>
<td>Thaiphlung(DI), Lamkhong(HM/KU), Lunghuong(MI)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.15/ fruits</td>
</tr>
<tr>
<td>206*</td>
<td>PM-375</td>
<td><em>Averrhoa carambola</em> (L.); DC. <em>Averrhoaceae</em></td>
<td>Sonosamba/Kamrangthai(DI), Thei hreiot (HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit-vegetable/jelly</td>
<td>Rs.5/five fruits</td>
</tr>
<tr>
<td>207</td>
<td>PM-376</td>
<td><em>Baccaurea sapida</em> (Roxb.) Muell.-Arg. <em>Euphorbiaceae</em></td>
<td>Letuk(AS), Kosmai thai(DI), Theipangkai (KU), Kauchi (ZE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.10/bundle</td>
</tr>
<tr>
<td>208</td>
<td>PM-377</td>
<td><em>Bridelia retusa</em> (L.) Spreng. <em>Euphorbiaceae</em></td>
<td>Thaibaoblhib(DI)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/unit</td>
</tr>
<tr>
<td>209</td>
<td>PM-378</td>
<td><em>Calamus erectus</em> Roxb. <em>Arecaceae</em></td>
<td>Raigongang(DI)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/bundle</td>
</tr>
<tr>
<td>210</td>
<td>PM-119/566703</td>
<td><em>Castanopsis indicus</em> (Roxb.) A.DC. <em>Fagaceae</em></td>
<td>Isra (HR), Thingsa chi(ZE)</td>
<td>Rare</td>
<td>Tree</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/250gms.</td>
</tr>
<tr>
<td>211</td>
<td>PM-379</td>
<td><em>Diospyros lanceaefolia</em> Roxb. <em>Ebenaceae</em></td>
<td>Chauchi(ZE), Phaktel(HM)</td>
<td>Rare</td>
<td>Tree</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.10/bundle</td>
</tr>
<tr>
<td>213</td>
<td>PM-381</td>
<td><em>Embleica officinalis</em> Gaertn, Syn. <em>Phyllanthus emblicu</em> L. <em>Euphorbiaceae</em></td>
<td>Hamlaitha(DI), Tam so-lo(MI), Jauka chi (ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Semi Wild</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
</tr>
<tr>
<td>214</td>
<td>PM-382</td>
<td><em>Ficus germerata</em> Roxb. <em>Moraceae</em></td>
<td>Demri (DI)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/bundle</td>
</tr>
<tr>
<td>216</td>
<td>PM-384</td>
<td><em>Garcinia lancifolia var. oxypilla</em> Roxb. <em>Clusiaceae</em></td>
<td>Kujithekera (AS), Sushru(DI), Pelte (HM)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.5/five fruits</td>
</tr>
</tbody>
</table>

Table: 11.b: Other fruits and seeds etc.
<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Frequency</th>
<th>Life Form</th>
<th>Cultivar</th>
<th>Young Fruit Edible</th>
<th>Fruit and Local Beer Preparation</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>217*</td>
<td>PM-88/560842</td>
<td><em>Gossypium herbaceum</em> L. Malvaceae</td>
<td>Khun (DI)</td>
<td>Occasional</td>
<td>Shrub</td>
<td>Cultivar</td>
<td>Young fruit edible &amp; Ripe bole - raw cotton</td>
<td>Rs.5/ten fruits &amp; Rs.100/kg.</td>
<td></td>
</tr>
<tr>
<td>218</td>
<td>PM-385</td>
<td><em>Juglans regia</em> L. Juglandaceae</td>
<td>Juart chi (ZE)</td>
<td>Rare</td>
<td>Tree</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/unit.</td>
<td></td>
</tr>
<tr>
<td>219</td>
<td>PM-386</td>
<td><em>Litchi chinensis</em> Sonner. Sapindaceae</td>
<td>Lichu(DI), Muolholl (HM/KU), Nkui chi (ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit Aril</td>
<td>Rs.15/unit.</td>
<td></td>
</tr>
<tr>
<td>220</td>
<td>PM-387</td>
<td><em>Mangifera indica</em> L. Anacardiaceae</td>
<td>Thaiju(DI), Thai hai(HM/MI), Hai thai (KU), Mba Chi (ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>PM-388</td>
<td><em>Mangifera sylvestrica</em> Roxb. Anacardiaceae</td>
<td>Thaiju mairong(DI), Gambu Thaihai(MI), Hnamba chi(ZE)</td>
<td>Rare</td>
<td>Tree</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>222</td>
<td>PM-389</td>
<td><em>Morus acuteta</em> Griff. Moraceae</td>
<td>Thing thaimel/Thanmou(HM/MI), Mban chi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.5/250gms.</td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>PM-390</td>
<td><em>Myrica nagi</em> Thunb. Myricaceae</td>
<td>Bon bogori (AS), Delaoji (DI)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>224</td>
<td>PM-391</td>
<td><em>Myrica sp</em> Myricaceae</td>
<td>Kaphol(NE), Sophi(PN)</td>
<td>Rare</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Sour rounded Fruit</td>
<td>Rs.5/five fruits</td>
<td></td>
</tr>
<tr>
<td>226</td>
<td>PM-393</td>
<td><em>Prunus nepaulensis</em> (Ser.) Steud. Rosaceae</td>
<td>Delaoji(DI), Ngau chi(ZE)</td>
<td>Rare</td>
<td>Tree</td>
<td>Semi-wild</td>
<td>Ripe fruit</td>
<td>Rs.10/unit.</td>
<td></td>
</tr>
<tr>
<td>227*</td>
<td>PM-394</td>
<td><em>Prunus persica</em> (L.) Batsch Rosaceae</td>
<td>Delaoji mikhr(1), Thei dakke(HR), Plum (small) (NE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit and Local Beer preparation</td>
<td>Rs.15/kg.</td>
<td></td>
</tr>
<tr>
<td>228*</td>
<td>PM-395</td>
<td><em>Prunus persica</em> (L.) Batsch Rosaceae</td>
<td>Delaoji mikhr(1), Thei dakke(HR), Plum (big) (NE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit and Local Beer preparation</td>
<td>Rs.15/kg.</td>
<td></td>
</tr>
<tr>
<td>229</td>
<td>PM-396</td>
<td><em>Psidium guajava</em> L. Myrtaceae</td>
<td>Sukrem(DI), Kawl thai(HM), Thaichang pah(KU), Bangbo chi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.5/5 five fruits</td>
<td></td>
</tr>
<tr>
<td>230</td>
<td>PM-397</td>
<td><em>Punica granatum</em> Linn. Punicaceae</td>
<td>Dalim(DI), Dahlau(HM), Kolbuthai (KU), Vai-mim thai(MI), Turdi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.5/5 fruits</td>
<td></td>
</tr>
<tr>
<td>231</td>
<td>PM-398</td>
<td><em>Pyrus pashia</em> Buch, Ham. ex D.Don Rosaceae</td>
<td>Nashpati(DI/HM/NE), Mapak chi(ZE)</td>
<td>Abundant</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>232</td>
<td>PM-399</td>
<td><em>Rhus roseaefolius</em> Sm. Rosaceae</td>
<td>Sumugisim(1), Mantum(HM)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Wild</td>
<td>Fruit</td>
<td>Rs.5/unit</td>
<td></td>
</tr>
<tr>
<td>233**</td>
<td>PM-400</td>
<td><em>Spondias pinnata</em>(L.f.) Kurz Anacardiaceae</td>
<td>Thaisud(1), Njing-chi(ZE)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Semi-wild</td>
<td>Fruit</td>
<td>Rs.5/ten fruits</td>
<td></td>
</tr>
<tr>
<td>234</td>
<td>PM-401</td>
<td><em>Syzygium cumini</em> (L.) Skeels Myrtaceae</td>
<td>Jambu thai(DI), Sepuinusu (HM), Thei-vom (KU), Hmuizolong(HR), Jamun (NE), Mui-chi (ZE)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Semi Wild</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>Sl.no.</td>
<td>Coll. no. / I.C.no.</td>
<td>Botanical name &amp; Family</td>
<td>Vernacular name</td>
<td>Frequency</td>
<td>Habit</td>
<td>Biological status</td>
<td>Parts used/Mode of use</td>
<td>Market rate (Rs.)</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------------</td>
<td>----------------------------</td>
<td>-------------------------------------</td>
<td>-----------</td>
<td>-------</td>
<td>-------------------</td>
<td>---------------------------------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>235</td>
<td>PM-402</td>
<td><em>Tamarindus indica</em> L.</td>
<td>Tintri(DI), Theipai (HM &amp; KU)</td>
<td>Frequent</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit and Local Beer preparation</td>
<td>Rs.20/kg.</td>
<td></td>
</tr>
<tr>
<td>236</td>
<td>PM-403</td>
<td><em>Terminalia chebula</em> Retz.</td>
<td>Shilikha thai(DI), Ortoki(HR)</td>
<td>Occasional</td>
<td>Tree</td>
<td>Cultivar</td>
<td>Fruit</td>
<td>Rs.10/kg.</td>
<td></td>
</tr>
<tr>
<td>237</td>
<td>PM-404</td>
<td><em>Tinospora cordifolia</em> (Willd.) Hk.f. &amp; Thoms. <em>Menispermaceae</em></td>
<td>Amarlata (NE)</td>
<td>Occasional</td>
<td>Climber</td>
<td>Semi Wild</td>
<td>Stem Juice - Antidyserteric, Gall bladder tonic</td>
<td>Rs.5/ bundle</td>
<td></td>
</tr>
<tr>
<td>239</td>
<td>PM-131/566715</td>
<td><em>Vitis sp.</em> Amelidaceae</td>
<td>Angur (Sour black Grapes) (HR)</td>
<td>Occasional</td>
<td>Lianes</td>
<td>Cultivar</td>
<td>Fruit and Local Beer preparation</td>
<td>Rs.20/kg.</td>
<td></td>
</tr>
</tbody>
</table>

(C)Cereals: (Eaten either cooked or raw; or both)

Table: 12:

<table>
<thead>
<tr>
<th>Sl.no.</th>
<th>Coll. no. / I.C.no.</th>
<th>Botanical name &amp; Family</th>
<th>Vernacular name</th>
<th>Frequency</th>
<th>Habit</th>
<th>Biological status</th>
<th>Parts used/Mode of use</th>
<th>Market rate (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
<td>PM-111/566695</td>
<td><em>Eleusine coracana</em> Gaertn. f. <em>Poaceae</em></td>
<td>Samgorai (DI), Remara(HR)</td>
<td>Rare</td>
<td>Grass</td>
<td>Jhum Cultivar</td>
<td>Seeds-Local cake also local beer prepared</td>
<td>Rs.20/kg.</td>
</tr>
<tr>
<td>241</td>
<td>PM- 08/560766. 13/560771. 34/560792</td>
<td><em>Oryza sativa L.</em> <em>Poaceae</em></td>
<td>Biring(DI)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Jhum Cultivar</td>
<td>Sticky Rice-Local Beer prepared</td>
<td>Rs.25/kg.</td>
</tr>
<tr>
<td>242</td>
<td>PM- 53/560811 54/560812</td>
<td><em>Oryza sativa L.</em> <em>Poaceae</em></td>
<td>Buman/Biron(HM)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Jhum Cultivar</td>
<td>Sticky Rice-Local Beer prepared</td>
<td>Rs.25/kg.</td>
</tr>
<tr>
<td>243</td>
<td>PM- 29/560787 60/560818</td>
<td><em>Oryza sativa L.</em> <em>Poaceae</em></td>
<td>Biron/Buman &amp; Muri biron/Changman (HM)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Wet Cultivar</td>
<td>Sticky Rice-Local Beer &amp; stuffed rice prepared</td>
<td>Rs.20/kg.</td>
</tr>
<tr>
<td>244</td>
<td>PM-50/560808</td>
<td><em>Oryza sativa L.</em> <em>Poaceae</em></td>
<td>Maisha (DI), Maibasa (HM)</td>
<td>Frequent</td>
<td>Grass</td>
<td>Wet/Jhum Cultivar</td>
<td>Non-sticky Rice-Staple food &amp; local Beer prepared</td>
<td>Rs.20/kg.</td>
</tr>
<tr>
<td>245</td>
<td>PM-406</td>
<td><em>Oxytenanthera parvifolia</em> Brandis ex Gamble <em>Poaceae</em></td>
<td>Wa mia/Wathai (DI)</td>
<td>Abundant</td>
<td>Large grass</td>
<td>Wild</td>
<td>Shoot-Vegetable/fermented Chutni and seeds-used for beer making.</td>
<td>Rs.10-15/ Kg.</td>
</tr>
<tr>
<td>246</td>
<td>PM-407</td>
<td><em>Saccharum officinarum</em> L. <em>Poaceae</em></td>
<td>Guru (DI), Kelju(HM), Maphu(HR), Kolchu (KU), Hetaru (ZE)</td>
<td>Frequent</td>
<td>Grass</td>
<td>Cultivar</td>
<td>Stem Juice</td>
<td>Rs.10/three sticks</td>
</tr>
<tr>
<td>247</td>
<td>PM-20/560778. 44/560802. 48/560806.</td>
<td><em>Setaria italica</em> (L.) Beauv. <em>Poaceae</em></td>
<td>Maishi &amp; Maishi Maisha (DI), Fatun(HR), Butul (KU), Hetui (ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Jhum Cultivar</td>
<td>Seeds-Local cake also local beer prepared</td>
<td>Rs.20/kg.</td>
</tr>
<tr>
<td>No.</td>
<td>Code</td>
<td>Variety</td>
<td>Indigenous Name</td>
<td>Use</td>
<td>Variety Type</td>
<td>Cultivar/Landrace</td>
<td>Notes</td>
<td>Price</td>
</tr>
<tr>
<td>-----</td>
<td>------------</td>
<td>--------------------------------------------</td>
<td>---------------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-------------------</td>
<td>--------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>249</td>
<td>PM-49/560807</td>
<td><em>Sorghum bicolor</em> Willd. Poaceae</td>
<td>Khukhru-maisingao(DI)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Jhum Cultivar</td>
<td>White Seeds-Local cake also local beer prepared</td>
<td>Rs.20/kg</td>
</tr>
<tr>
<td>250</td>
<td>PM-175/176/177</td>
<td><em>Zea mays</em> L.Race-Arun Tepi Poaceae</td>
<td>Munglai maiju (DI), Kolbu (KU), Ntaktingne(ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Landrace/ Cultivar</td>
<td>Cob &amp; local Beer prepared</td>
<td>Rs.10/four cobs</td>
</tr>
<tr>
<td>251</td>
<td>PM-206/207/208/209/210</td>
<td><em>Zea mays</em> L.Race-Poorvi Botapa Poaceae</td>
<td>Munglai maiju (DI), Kolbu (KU), Ntaktingne(ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Landrace/ Cultivar</td>
<td>Cob &amp; corn</td>
<td>Rs.10/four cobs</td>
</tr>
<tr>
<td>252</td>
<td>PM-200/201</td>
<td><em>Zea mays</em> L.Race-Cachar Gomdhau Poaceae</td>
<td>Munglai (DI), Bulbung(HM), Ntak(ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Landrace/ Cultivar</td>
<td>Cob &amp; local Beer prepared</td>
<td>Rs.10/four cobs</td>
</tr>
<tr>
<td>253</td>
<td>PM-188/219</td>
<td><em>Zea mays</em> L.Race-Shyam Nahom Poaceae</td>
<td>Munglai (DI),Ntaktingne (ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Landrace/ Cultivar</td>
<td>Cob &amp; local Beer prepared</td>
<td>Rs.10/four cobs</td>
</tr>
<tr>
<td>254</td>
<td>PM-194/195</td>
<td><em>Zea mays</em> L.Race-Mikir Merakku Poaceae</td>
<td>Munglai (DI), Miman(HM), Ntak(ZE)</td>
<td>Occasional</td>
<td>Grass</td>
<td>Landrace/ Jhum Cultivar</td>
<td>Cob &amp; local Beer prepared</td>
<td>Rs.10/four cobs</td>
</tr>
</tbody>
</table>

* = More than one parts/ having different modes of use e.g. Fruit & Veg. **= Can be eaten both cooked & raw. Abbreviations: (AS)-Assamese, (DI)-Dimasa, (HM)-Hmar, (HK)-Hrangkhol, (KU)-Kuki, (MI)-Mizo, (NE)-Nepali, (PN)-Pnar (Jaintia), (YA)-Vaipei, (ZE)-Zeme Naga.
Ph: 238: *Allium chinense*  
Ph: 239: *Allium schoenoprasum*  
Ph: 240: *Perilla frutescens*  
Ph: 241: *Alpinia nigra*  
Ph: 242: *Houttyunia cordata*  
Ph: 243: *Ammomum maximum*
PHOTOPLATE: 49: SPICES & CONDIMENTS

Ph: 244: Carum involucratum

Ph: 246: Lippia geminata

Ph: 245: Elsholzia strobilifera

Ph: 247: Ocimum basilicum

Ph: 248: Piper nigrum

Ph: 249: Piper sp.
Ph: 250: *Polygonum persum*

Ph: 251: *Rhus semialata*

Ph: 252: *Toddalia asiatica*

Ph: 253: *Zanthoxyllum armatum*

Ph: 254: *Zanthoxyllum oxyphyllum*

Ph: 255: *Zingiber officinale*
Ph: 261: Fruit colour variation in *C. annum var. grossum*

Ph: 262: Fruit variation in *C. annum var. grossum*

Ph: 263 & 264: Fruit variation in *C. frutescens*
PHOTOPLATE: 53: SPICES & CONDIMENTS: CHILLIES

Ph: 265 & 266: Fruit variation in *C. frutescens*

Ph: 267 & 268: Fruit variation in *C. frutescens*

Ph: 269: *C. frutescens*

Ph: 270: *C. minima*
CHILLY GENETIC RESOURCES (LANDRACES) FROM N.C.HILLS, ASSAM

Ph: 271: *C. annum* (upper) *C. frutescens* (lower)
Ph: 272: *Capsicum sp.*
Ph: 273: *Capsicum sp.*
Ph: 274: Traditional seed conservation practice.

Ph: 275: A. *C. annum* var. *grossum*; B. *Capsicum sp.*; C., D., E., F. *C. frutescens*; G., I. *C. annum* var. *abbreviata*; H. *C. annum*; J., K., L., M., N. *C. frutescens*; O. *C. minima*
VIII. SPICES AND CONDIMENTS

a) Spices and Condiments:

*Allium chinense* G. Don (Liliaceae)

Mwjngphang(DI), Tlang purun(HM), Purunui (HR), Newgi Tingdra (ZE)
Occasional
Herb
Landrace/Cultivar
Leaf/Inflorescence used for flouring vegetable. Sold in the local markets @Rs.5/Bundle.
PM-320; 07-12-2009; Sampharidisha. (Ph: 238)

*Allium hookeri* Thw. (Liliaceae)

Tlang purun(HM), Tingdra(ZE), Purunui (HR)
Frequent
Herb
Landrace/Cultivar
Whole plant used as spice. Sold in the local markets @Rs.5/Bundle.
PM-321; 26-10-2008; Michidui.

*Allium schoenoprasum* L. (Liliaceae)

Tlang purun(HM), Tingdra(ZE), Purunui (HR)
Frequent
Herb
Landrace/Cultivar
Whole plant used as spice. Sold in the local markets @Rs.5/Bundle.
PM-322; 22-10-2008; Moulveng. (Ph: 239)

*Alpinia nigra* (Gaertn.) Burtt (Zinziberaceae)

Deragong(DI), Aihre don(HM)
Abundant
Herb
Semi domesticated
Pith and inflorescences used as spice. Sold in the local markets @Rs.5/Bundle /five inflorescences.
PM-323; 07-12-2009; Sampharidisha. (Ph: 241)

*Ammomum maximum* Roxb. (Zinziberaceae)

Aihre tel(HM)

131
Rare
Herb
Semi domesticated
Crowded star shaped fruits arising from base used as chutney. Sold in the local markets @ Rs.5/five fruits.
PM-324; 20-12-2007; Retzol. (Ph: 243)

Carum involucratum Baill. (Apiaceae)
Bakho gamram(DI), Khum hoi(HM)
Rare
Herb
Cultivar
Fresh leaf mixed with chutney for flavoring. Sold in the local markets @ Rs.5/bunch.
PM-482; 20-12-2007; Retzol. (Ph: 244)

Cinnamomum tamala Nees. (Lauraceae)
Hnarimnei/Hnarimse(HM), Kesipat (HR), Tezpata (PN), Tespat (ZE)
Occasional
Tree
Cultivar
Fresh/dried leaf used for flavoring curry. Sold in the local markets @ Rs.5/bunch.
PM-483; 20-12-2007; Jatinga.

Cinnamomum zeylanicum Blume. (Lauraceae)
Dalchini (PN), Thing hong tlum(HM)
Occasional
Tree
Cultivar
Dried bark used for flavoring curry. Sold in the local markets @ Rs. 25/100gms.
PM-327; 20-12-2007; Jatinga.

Coriandrum sativum L. (Apiaceae)
Bakhor(DI), Parrimse(HM)
Occasional
Herb
Jhum cultivar
Leaf/seeds for flavoring curry and chutney. Sold in the local markets @Rs.5/bunch.
PM-328; 20-12-2007; Retzol.

**Curcuma amada** Roxb. (Zingiberaceae)

Thaiju-hajing (DI)
Frequent
Herb
Jhum Cultivar
Fresh rhizome eaten raw as chutney.
PM-329; 07-12-2009; Sampharidisha.

**Curcuma domestica** Valet. (Zingiberaceae)

Silik di(DI), Aieng(HM/KU), Ieng(HR), Gumnei (ZE)
Frequent
Herb
Jhum Cultivar
Dried rhizome powder used in curry. Sold in the local markets @Rs.15/100gms.
PM-484; 07-12-2009; Sampharidisha.

**Cymbopogon citratus** Stapf. (Poaceae)

Hnarim-um (HM)
Occasional
Grass
Cultivar
Soft pith used as spices and eaten cooked for flavoring vegetables. Sold in the local markets @Rs.5/Bundle.
PM-77/IC no.-560835; 15-12-2007; Saisel.

**Elettaria cardamomum** Maton (Zingiberaceae)

Elachi (DI)
Occasional
Grass
Cultivar
Seeds used as spice.
PM-485; 07-12-2009; Sampharidisha.

**Elsholzia strobilifera** Benth. (Lamiaceae)

Rengma ser (HM), Langtu (ZE)
Frequent Herb
Jhum Cultivar
Fresh leaf/dried inflorescence for flavoring curry and chutney. Sold in the local markets @Rs.5/ bunch.
PM-330; 15-12-2007; Saisel. (Ph: 245)

*Eryngium foetidum* L. (Apiaceae)
Patikhom(HM), Naga Dhania(NE), Bakhni (ZE)
Frequent Herb Cultivar
Leaf used for flavoring curry and chutney. Sold in the local markets @Rs.5/Bundle.
PM-331; 15-12-2007; Saisel.

*Houttyunia cordata* Thunb. (Saururaceae)
Mojoukhmo(DI), Ai thang(HM), Jarmendo(PN)
Frequent Herb Cultivar
Leaf /creeping stem for flavoring curry and chutney. Sold in the local markets @ Rs.5/Bundle.
PM-332; 15-12-2007; Saisel.
Note : Eaten cooked soup or curry for curing Dysentery. (Ph: 242)

*Lippia geminata* H.B.K. (Verbenaceae)
Borma mosla phang (DI)
Rare Shrub Wild
Leaves often used as spice for the mutton curry by the *Dimasas*.
PM-486; 07-12-2009; Sampharidisha. (Ph: 246)

*Mentha arvensis* L. (Lamiaceae)
Vai par rim se (HM), Pudina(NE), Namplane(ZE)
Frequent Herb
Cultivar
Leaf used for flavoring curry and chutney. Sold in the local markets @Rs.10/Bundle.
PM-334; 20-12-2007; Retzol.

*Murraya koenigii* (L.) Spreng. (Rutaceae)
Thamsi-youngihabia (DI), Narashingha (NE)
Occasional
Shrub
Semi domesticated
Young Leaf used for flavoring curry.
PM-335; 07-12-2009; Sampharidisha.

*Ocimum basilicum* L. (Lamiaceae)
Bahanda (DI), Vaipar(HM), Yungne(ZE)
Frequent
Herb
Jhum Cultivar
Leaf used as chutney with green chillies. Sold in the local markets @ Rs.5/Bundle.
PM-336; 07-12-2009; Sampharidisha. (Ph: 247)

*Perilla frutescens* (L.) Britt. (Lamiaceae)
Snem(DI), Sipui(HM)
Frequent
Herb
Jhum/local/highland Cultivar
Inflorescence and/ or seeds used as chutney and fermented chutney (Chang-ZE).
Sold in the local markets @ Rs.5/Bundle.
PM- 73/IC no.-560831; 15-12-2007; S.Muolkoi.
PM-74/IC no.-560832; 15-12-2007; S.Muolkoi. (Ph: 240)

*Piper nigrum* L. (Piperaceae)
Morshaidi(DI)
Occasional
Climber
Cultivar
Dry seeds used as spice. Sold in the local markets @Rs.20/100gms.
PM-337; 07-12-2009; Sampharidisha. (Ph: 248)
**Piper sp. (Piperaceae)**

Michi ha singri (DI), Kobin-rang (HR)

Occasional
Climber
Wild

Dry seeds used as spice.

PM-487; 07-12-2009; Sampharidisha. (Ph: 249)

**Polygonum persum** Ham.ex. D.Don (Polygonaceae)

Singju (DI)

Rare
Herb

Semi domesticated

Young shoot used as spice and also chutney. Sold in the local markets @Rs.5/Bundle.

PM-338; 07-12-2009; Sampharidisha. (Ph: 250)

**Rhus semialata** Murr. (Anacardiaceae)

Gambao/ Khongna (DI), Khokma (HR), Kemeu (ZE)

Frequent
Tree

Semi domesticated

Seeds eaten raw as chutney. Sold in the local markets @Rs.5/unit.

PM-339; 25-10-2008; Buolzol. (Ph: 251)

**Sesamum indicum** DC. (Pedaliaceae)

Sibing(DI), Sivar (HM), Geching (ZE)

Frequent
Herb

Jhum Cultivar (white seed)

Seeds eaten grinded and raw as chatni with fresh chillies. Sold in the local markets @ Rs.15/250gms.

PM- 71/IC no-560829; 07-12-2007; S.Muolkoi.

**Sesamum indicum** DC. (Pedaliaceae)

Sibing(DI), Sidum (HM), Geching (ZE)

Frequent
Herb
Jhum Cultivar (black seed)
Seeds eaten grinded and raw as chatni with fresh chillies. Sold in the local markets @ Rs.15/250gms.
PM- 72/IC no-560830; 07-12-2007; S.Muolkoi.

*Toddalia asiatica* (L.) Lam. (Rutaceae)
Keizi (ZE)
Rare
Shrub (Large)
Wild
Young fruits eaten raw as chutney. Sold in the local markets @Rs.10/bundle.
PM-488; 26-10-2008; Michidui. (Ph: 252)

*Trigonella foenum graecum* L. (Fabaceae)
Methi sak (AS/NE)
Occasional
Herb
Cultivar
Seeds used as spice and young shoot as vegetable. Sold in the local markets @Rs.5/Bundle.
PM-340; 20-12-2007; Natun Basti.

*Zanthoxyllum armatum* DC. (Rutaceae)
Mejen(DI), Singzor(HM), Nech chi(ZE)
Occasional
Undershrub
Semi domesticated
Young shoot used as spice and vegetable. Sold in the local markets @Rs.5/Bundle.
PM-341; 26-10-2008; Michidui. (Ph: 253)

*Zanthoxyllum oxyphyllum* Edgw. (Rutaceae)
Singite (HM), Timur(NE), Leuer (PN)
Occasional
Shrub
Wild
Young Leaf/seeds used as Chutney.
PM-342; 20-12-2007; Jatinga. (Ph: 254)

*Zingiber casununar* Roxb. (Zingiberaceae)
Naga Hajing(DI), Kaphu/ Kebeb (ZE)
Occasional
Herb
Semi domesticated
Rhizomes flesh light yellowish coloured and used as spice.
PM-489; 26-10-2008; Michidui. (Ph: 256)

**Zingiber officinale** Rosc. (Zingiberaceae)
Hajing(DI), Ai thing(HM), Aithing (HR), Theing(KU), Kaphu/ Kebeb (ZE)
Abundant
Herb
Jhum Cultivar
Rhizome/young inflorescences used as spice. Sold in the local markets @ Rs.5/250gms. rhizome and Rs.5/bundle of inflorescence.
PM-343; 26-10-2008; Michidui. (Ph: 255)

b) Chilies:
The ethnic hill people always prefer hot and pungent chilies. They cultivate and conserve their desired germplasms for future cultivation inside a Bamboo Culm and make it airtight then keep it above the hearth. The regular fuming repels the fungi and insects, thus preserves the seeds. Some of the recorded and collected chilies are-

**Capsicum annum** L. (Solanaceae)
Morsa pui (HM)
Frequent/Rare
Undershrub
Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/100gms.
PM-135; IC no.-566719; 24-10-2008; Buolzol.
PM-136; IC no.-566720; 24-10-2008; Buolzol.
PM-140; IC no.-566724; 25-10-2008; Buolzol.
PM-141; IC no.-566725; 25-10-2008; Buolzol. (Ph: 257, 258 & 275)

**Capsicum annum** L. (Solanaceae)
Morsa te (HM)
Frequent/Rare
Undershrub
Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/100gms.
PM-142; IC no.-566726; 25-10-2008; Buolzol.
PM-145; IC no.-566729; 22-10-2008; Moulveng.
PM-146; IC no.-566730; 22-10-2008; Moulveng.
PM-147; IC no.-566731; 22-10-2008; Moulveng.
PM-154; IC no.-566738; 24-10-2008; Buolzol. (Ph: 275)

Capsicum annum L. (Solanaceae)
Morsai dima(DI), Morsha te (HM)
Frequent
Undershrub
Jhum Cultivar (Small fruits)
Fruit-With vegetable/chatni Rs.5/100gms.
PM-325; 22-09-2008; Boro Waphu.

Capsicum annum L. var. abbreviata (Solanaceae)
Morsai gibir(DI), Saph marchoi te (HM), Naga Morsa(NE)
Frequent
Undershrub
Cultivar (Small fruits)
Fruit-With vegetable/chatni Rs.5/five fruits
PM-326; 05-01-2009; Gurubari. (Ph: 259)

Capsicum annum L. var. grossum (Willd.) Sendt. (Solanaceae)
Morsai gibir(DI), Saph marcha (HM), Naga Morsa(NE)
Frequent
Undershrub
Cultivar/ Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.10/five fruits.
PM-139/IC no.-566723; 22-09-2008; Boro Waphu. (Ph: 260 to 262)

Capsicum frutescens L. (Solanaceae)
Morsha pui(HM)
Frequent/Rare
Undershrub
Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/100gms.
Capsicum frutescens L. (Solanaceae)
Morsha te (HM)
Frequent/Rare
Undershrub
Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/100gms.

Capsicum frutescens L. (Solanaceae)
Morchai gonchi/ Morchai kashiba (DI), Maju ek morsha (HM), Dhungangne (ZE)
Frequent/Rare
Undershrub
Jhum Cultivar
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/100gms.

Capsicum minima L. (Solanaceae)
Morsai giding lik(DI), Maju ek morsha (HM)
Frequent
Undershrub
Cultivar (Fruit small round with aroma)
Fruit eaten with vegetable/Chutney. Sold in the local markets @ Rs.5/50gms.

Note: Based on the local name of the Chilies the Passport Information Data and categorization of the species and varieties has been done.
Ph: 276. a. tuber & b. stem and leaf: *D. alata* (Thaphukhlong-DI)

Ph: 277. a. tuber & b. stem and leaf: *D. alata* Thaphu sathai(DI)

Ph: 278. a. tuber & b. stem and leaf: *D. bulbifera* (Thaphu miyung-wablai-DI)
Ph: 279. tuber: *Stemona tuberosa* (Basel phauk-HM)

Ph: 280. a. tuber & b. stem, leaf and fruits: *D. pentaphylla* (Thaphin-DI); Wild

Ph: 281. a. stem and leaf & b. bulbil: *D. pentaphylla* (Thaphin-DI); Cultivar
Ph: 282. a. tuber & b. stem and leaf: *D. aculeata* (Thagdi-DI)

Ph: 283. a. tuber & b. stem and leaf: *D. alata* (Thaphu Gajao-DI)

Ph: 284. a. tuber & b. stem and leaf: *D. alata* (Thayung-DI)
Photoplates: 58: Edible Yam Genetic Resources

Ph: 285. a. bulbil & tuber, b. stem and leaf: *D. alata* (Thaphu Bonglep-DI)

Ph: 286. a. tuber & b. stem, leaf and bulbil: *D. alata* (Tarul-NE)

Ph: 284. a. tuber, stem and leaf b. bulbil and inflorescence: *D. orbiculata* (Thaphu-rhemin-DI)

Ph: 287. a. tuber & b. stem and leaf: *Smilax china* (Thassap/ Susni-DI)

Ph: 290: *D. bulbifera* (Thaphu-Hagrani-DI)
PHOTOPLATE: 60: TARO GENETIC RESOURCES: EDIBLE TAROS

Ph: 291: Alocasia sp. (Manai guphu)

Ph: 292: A. macrorrhiza (Thagong yung)

Ph: 293: Alocasia sp. (Midurangja) Ph: 294: Amorphophallus bulbifera (Thabema)

Ph: 295: Homalomena aromatica (Tharem) Ph: 296: Lasia spinosa (Thathakhlaa)
Ph: 297: Xanthosoma sp.

Ph: 298: X.sagittifolium (Dawl sel phauk ) Ph: 299: X. violaceum (Manai gisim)

Ph: 300: Colocasia esculenta (Balchin) Ph: 301: C. esculenta (Balka)
PHOTOPLATE: 64: TARO GENETIC RESOURCES: EDIBLE TAROS

Ph: 313: *C. esculenta* (Tha-gisim hagrani) Ph: 314: *C. esculenta* (Bahlip)

MEDICINAL/ORNAMENTAL TAROS:

Ph: 315: *Agladonema* sp. Ph: 316: *Caladium* sp.

PHOTOPLATE: 65: VEGETABLES

Ph: 320: Abelmoschus esculentus
Ph: 322: Abelmoschus manihot
Ph: 323: Aralia armata
Ph: 324: Basella rubra
Ph: 321: A. esculentus
Ph: 323: Aralia armata
Ph: 325: B. alba
Ph: 326: *Begonia palmata*

Ph: 327: *B. roxburghii*

Ph: 328: *Blumea lacera*

Ph: 329: *Brassica juncea*

Ph: 330: *Chonemorpha macrophylla*

Ph: 331: *Clerodendrum colebrookianum*
PHOTOPLATE: 68: VEGETABLES

Ph: 338: *Polygonum perfoliatum*

Ph: 339: *Portulaca oleracea*

Ph: 340: *Phlogacanthus curviflorus*

Ph: 341: *P. tubiflorus*

Ph: 342: *Rhynchotechum ellipticum*

Ph: 343: *Spilenthes acmella var.oleracea*
IX. TUBER CROP RESOURCES

a) Yam Genetic Resources:

Edible Yam resources are the most important source of carbohydrate for the ethnic people of N.C.Hills of Assam. Most of the tubers collected for consumption by the ethnic people are wild grown. Since time immemorial the hill people are managing the tuber crops as famine food during food scarcity in certain period of the year when all the rice exhausts the limited stock that were grown and harvested from Jhum. They start mixing rice with the tubers as a source of carbohydrate. As a result the domestication process started and cultivation of these crops in the Jhum as well as homestead area is a common practice for better crop management and food security of the ethnic people in the area. In the present study an attempt has been made to document the edible Yam genetic resources from the study area and identified considering the types on the basis of the vernacular names of the area.

*Dioscorea aculeata* L. (Dioscoreaceae)

Thagdi(DI), Barhtlum(HM)
Occasional
Climber
Semi domesticated
White barked sweet tuber eaten boiled and also as vegetable. Sold in the local markets @ Rs.15/kg.
PM-160/ IC no.-569100; 22-12-2008; Moulveng. (Ph: 282)
Note: The most preferred type of tuber for its sweet taste has been recorded to be domesticated from the present study area.

*Dioscorea alata* L. (Dioscoreaceae)

Thaphukhlong(DI), Banra (HR), Hereu (ZE)
Occasional
Climber
Semi domesticated
Large red barked tuber cooked with vegetable and also mixed with rice. Sold in the local markets @Rs.10/kg.
PM- 156/ IC no.-569096; 18-12-2008; Choto Waphu. (Ph: 276)
Thaphu sathai (DI), Bahra (HM), Banra (HR), Baha (KU/VA), Basa (MI), Hereu (ZE)
Occasional
Climber
Semi domesticated
Small white tuber cooked with vegetable and also mixed with rice. Sold in the local markets @Rs. 10/kg.
PM-157/ IC no.-569097; 18-12-2008; Choto Waphu. (Ph: 277)

*Dioscorea alata* L. (Dioscoreaceae)

Thayung (DI)
Occasional
Climber
Semi domesticated
Long slender tuber eaten cooked as vegetable.
PM-161/IC no.-569101; 22-12-2008; Gunjung. (Ph: 284)
Note: Tuber is also used as pig fodder when available.

*Dioscorea alata* L. (Dioscoreaceae)

Thaphu Bonglep (DI), Hereu (ZE)
Frequent
Climber
Jhum Cultivar
Large tuber cooked with vegetable and also mixed with rice. Sold in the local markets @ Rs.10/kg.
PM-162/ IC no.-569102; 28-12-2008; Dimalik Raji. (Ph: 285)

*Dioscorea alata* L. (Dioscoreaceae)

Thaphu Gajao (DI)
Frequent
Climber
Semi domesticated/Jhum Cultivar
Large red barked tuber cooked with vegetable and also mixed with rice. Sold in the local markets @ Rs.10/kg.
PM-163/ IC no.-569103; 05-01-2009; Gurubari. (Ph: 283)

*Dioscorea alata* L. (Dioscoreaceae)

Tarul (NE), Hnruireu (ZE)
Occasional Climber Jhum Cultivar
Large tuber cooked with vegetable and also mixed with rice. Sold in the local markets @ Rs.10/kg.
PM-164/ IC no.-569104; 28-12-2008; Kana Basti. (Ph: 286)

**Dioscorea alata** L. (Dioscoreaceae)
Hagrani thaphu-gidiba (DI)
Frequent Climber
Wild
Tuber is mainly used as pig fodder but can be eaten cooked the soft tubers by human being.
PM-439; 22-09-2008; Gurubari. (Ph: 289)

**Dioscorea bulbifera** L. (Dioscoreaceae)
Thaphu miyung-wablai(DI)
Occasional Climber
Semi domesticated
Small red tuber cooked with vegetable and also mixed with rice. Sold in the local markets @Rs.10/kg.
PM-158/ IC no.-569098; 18-12-2008; Choto Waphu. (Ph: 278)

**Dioscorea bulbifera** L. (Dioscoreaceae)
Thaphu-Hagrani (DI)
Frequent Climber
Wild
Tuber is mainly used as pig fodder.
PM-440; 07-12-2009; Sampharidisha. (Ph: 290)

**Dioscorea orbiculata** Hook. f. (Dioscoreaceae)
Thaphu-rhemin (DI)
Frequent Climber
Wild

143
Long slender white tuber eaten cooked as vegetable.
PM-165/IC no.-569105; 22-12-2008; Gunjung. (Ph: 284)
Note: Tuber is also used as pig fodder when available.

**Dioscorea pentaphylla** L. (Dioscoreaceae)
Thaphin(DI), Ram bahra(HM), Baha(MI)
Occasional
Climber
Wild/Semi domesticated
Large oblong cultivated soft tuber is cooked as vegetable and also mixed with rice.
PM-159/IC no.-569099; 20-12-2008; Dikrik/Gurubari. (Ph: 280 & 281)
Note: Two different types were recorded—wild and cultivated. Wild type (Ram bahaling-HM/MI) contains more hairs or roots arising from tuber and the leaflets glabrous; used as pig fodder. But distinctly the later type (Ram bahah-HM/MI) contains fewer hairs or roots arising from tuber and the leaf lamina are hairy.

**Dioscorea villosa** Willd. ex Kunth (Dioscoreaceae)
Thaphu-nairo(DI)
Frequent
Climber
Wild
Soft tuber sometimes eaten cooked as vegetable.
PM-441; 22-12-2008; Gunjung. (Ph: 285)
Note: Tuber is mainly used as pig fodder.

**Stemona tuberosa** Lour. (Stemonaceae)
Basel phauk (HM)
Rare
Climber
Semi domesticated
Tuber eaten boiled and also as vegetable.
PM-442; 22-12-2008; Moulveng. (Ph: 279)

**Smilax china** Maxim. (Smilacaceae)
Thassap/ Susni (DI), Jun se-pi (HR), Reucheu (ZE)
Occasional
Climber
Wild
Tuber- boiled juice as revitalizing tonic daily Rs.20/kg.
PM-167/ IC no.-569107; 22-12-2008; Dikrik. (Ph: 287)

**Smilax glabra** Roxb. (Smilacaceae)
- Thassap (DI), Jun se-pi (HR), Reuchu (ZE)
- Occasional
- Climber
- Wild
- Tuber eaten cooked as vegetable.
PM-166/ IC no.-569106; 22-12-2008; Gunjung. (Ph: 286)

**Stephania glandulifera** Miers. (Menispermaceae)
- Shidigubru (DI), Jun se-pi (HR)
- Frequent
- Climber
- Wild
- Fresh leaves are used as plate and cooked rice is given to children; believed to be recovered from bed-wetting disease of children by the *Dimasas*.
PM.-443; 21-12-2007; Longma-III. (Ph: 288)

**Non Edible Yam:**

**Dioscorea hispida** Dennst. (Dioscoreaceae)
- Thadangjia (DI)
- Rare
- Creeper/Climber
- Wild
- Tuber product is reported to have narcotic properties and even poisonous for human being.
PM.-444; 22-12-2008; Gunjung.

**b) Taro Genetic Resources:**

**Alocasia indica** (Roxb.) Schott. (Araceae)
- Tha hagong (DI)
- Occasional
- Herb
- Cultivar
Fresh leaf sheath, tuber and stolon eaten cooked as vegetable. Sold in the local markets @Rs.10/bundle of leaf sheath and stolon.

PM-344; 07-12-2009; Sampharidisha.

**Alocasia macrorrhiza** (L.) G.Don (Araceae)

Thagong yung(DI), Kebei(ZE)
Occasional
Herb
Cultivar
Large fresh or dried tuber eaten cooked with sour vegetable. Sold in the local markets @Rs.10/kg.of tuber.

PM-169/ IC no.-569109; 12-01-2009; Dibarai. (Ph: 292)

**Alocasia sp.** (Araceae)

Midurangija(DI)
Occasional
Herb
Wild

Fresh leaf sheath eaten cooked as vegetable mostly preferred with dried fish.

PM-445; 07-12-2009; Sampharidisha. (Ph: 293)

**Alocasia sp.** (Araceae)

Manai guphu(DI)
Occasional
Herb
Cultivar

Fresh leaf sheath eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle of leaf sheath.

PM-103/ IC no.-566687; 27-10-2008; Buolzol. (Ph: 291)

**Amorphophallus bulbifera** (Roxb.) Bl. (Araceae)

Thabema(DI), Saldong(HM), Telcong (KU), Teldon(MI)
Occasional
Herb
Semi-wild

Tuber preferred to eaten cooked with meat. Sold in the local markets @Rs.10/kg.

PM-107/ IC no.-566691; 27-10-2008; Boro Waphu. (Ph: 294)

**Colocasia esculenta** (L.) Schott, (Araceae)
Balchin (HM/MI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-92/ IC no.-566676; 27-10-2008; Moulveng. (Ph: 300)

*Colocasia esculenta* (L.) Schott, (Araceae)

Bahlip (HM/MI)
Frequent
Herb
Wild
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-93/ IC no.-566677; 27-10-2008; Moulveng. (Ph: 314)

*Colocasia esculenta* (L.) Schott, (Araceae)

Thakhlong (DI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-94/ IC no.-566678; 27-10-2008; Boro Waphu. (Ph: 302)

*Colocasia esculenta* (L.) Schott, (Araceae)

Thahon (DI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-96/ IC no.-566680; 27-10-2008; Choto Waphu. (Ph: 303)

*Colocasia esculenta* (L.) Schott, (Araceae)

Thadimai(DI)
Frequent
Herb
Jhum Cultivar
Fresh leaf sheath/tuber eaten cooked as vegetable.
PM-97/ IC no.-566681; 27-10-2008; Boro Waphu. (Ph: 304)
**Colocasia esculenta** (L.) Schott, (Araceae)

Balak pui (HM/MI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-98/ IC no.-566682; 27-10-2008; Bouldora. (Ph: 305)

**Colocasia esculenta** (L.) Schott, (Araceae)

Thamadao (DI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath/tuber eaten cooked as vegetable.
PM-99/ IC no.-566683; 27-10-2008; Gurubari. (Ph: 306)

**Colocasia esculenta** (L.) Schott, (Araceae)

Thadisa gajao (DI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath and pink coloured tuber eaten cooked as vegetable. Sold in the local markets @Rs.10/kg. tuber.
PM-100/ IC no.-566684; 27-10-2008; Boro Waphu. (Ph: 307)

**Colocasia esculenta** (L.) Schott, (Araceae)

Tha bongor (DI)
Frequent
Herb
Jhum Cultivar
Fresh/dried leaf sheath and tuber eaten cooked as vegetable.
PM-101/ IC no.-566685; 27-10-2008; Boro Waphu. (Ph: 308)

**Colocasia esculenta** (L.) Schott, (Araceae)

Balka (MI), Batta (HR), Mukhi (NE)
Frequent
Herb
Jhum Cultivar
Fresh leaf sheath and tuber eaten cooked as vegetable. Sold in the local markets @Rs.10/kg. tuber.
PM-102/ IC no.-566686; 27-10-2008; Bouldora. (Ph: 301)

**Colocasia esculenta** (L.) Schott, (Araceae)

Bathalhnik (HR)
Frequent
Herb
Jhum Cultivar
Fresh blackish purple leaf sheath and stout tuber eaten cooked as vegetable.
PM-104/ IC no.-566688; 24-10-2008; Bulzol. (Ph: 312)

**Colocasia esculenta** (L.) Schott, (Araceae)

Bathalhnik (HR)
Frequent
Herb
Jhum Cultivar
Fresh blackish purple leaf sheath and elongated tuber eaten cooked as vegetable.
PM-105/ IC no.-566689; 24-10-2008; Bulzol. (Ph: 311)

**Colocasia sp.** (Araceae)

Tha gondai(DI)
Frequent
Herb
Wild
Fresh Leaf sheath eaten cooked as vegetable.
PM-446;07-12-2009; Sampharidisha. (Ph: 310)

**Colocasia esculenta** (L.) Schott. (Araceae)

Thagong (DI)
Occasional
Herb
Wild
Entire small plant eaten cooked as vegetable and also eaten raw as chutney with other spices. Sold in the local markets @Rs.5/bundle.
PM- 447; 13-12-2007; Hojai. (Ph: 309)

**Colocasia esculenta** (L.) Schott. (Araceae)

Tha gisim hagrani(DI), Dol (HM)
Occasional
Herb
Wild
Fresh leaf sheath and soft tubers harvested only during dry season and eaten cooked as vegetable.
PM-449; 13-12-2007; Hojai. (Ph: 313)

*Homalomena aromatica* Schott. (Araceae)
Tharem/Thagong-yungsa (DI)
Occasional
Herb
Semi domesticated
Fresh aromatic leaf sheath either eaten cooked or as chutney with chilies and spices. Sold in the local markets @Rs.5/bundle of leaf sheath.
PM-168/ IC no.-569108; 12-01-2009; Dikrik. (Ph: 295)

*Lasia spinosa* L. (Araceae)
Shidabu/Thathakhla (DI),Changhrat(HM)
Occasional
Herb
Wild
Tender leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-170/ IC no.-569110; 12-01-2009; Dibarai. (Ph: 296)

*Xanthosoma sagittifolium* (L.) Schott. (Araceae)
Dawl sel phauk(HM), Banai(HR),Dawl sialne (MI)
Frequent
Herb
Cultivar
Fresh leaf sheath/tuber eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle of leaf sheath and Rs.10/kg. tuber.
PM-95/ IC no.-566679; 27-10-2008; Moulveng. (Ph: 298)

*Xanthosoma violaceum* (Vell.)Mansfeld. (Araceae)
Manai gisim(DI), Dawl sel phak (HM), Banai(HR), Dawl sialne (MI)
Frequent
Herb
Cultivar

150
Fresh leaf sheath/tuber eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle of leaf sheath and Rs.10/kg. tuber.
PM-91/ IC no.-566675; 27-10-2008; Longma-III. (Ph: 299)

**Xanthosoma sp.** (Araceae)

Dudh kochu(NE), Banai(HR),Dawl sialne (MI)
Frequent
Herb
Cultivar
Fresh leaf sheath and tuber eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle of leaf sheath.
PM-450; 22-09-2008; Buolzol. (Ph: 297)

**Medicinal/Ornamental Taros:**

**Alocasia cucullata** Schott. (Araceae)

Tha-khashiba Hagrani(DI)
Occasional
Herb
Wild
The plant is recorded to be wild grown and managed as ornamental plant in the villages. Not edible.
PM-451; 16-12-2007: Choto Waphu. (Ph: 318)

**Alocasia fornicata** Schott. (Araceae)

Tha gidiba Hagrani(DI), Dol thuang (HR), Baibing (HM)
Occasional
Herb
Wild
The tuber paste is used as antidote medicine against snake and civet tiger bite. Not edible.
PM-452;07-12-2009; Sampharidisha. (Ph: 319)

**Aglaonema sp.** (Araceae)

Hagrani Tha (DI)
Occasional
Herb
Wild
The live plant is sometimes supplied to the local flower nurseries as ornamental plant.
PM-453; 07-12-2009; Sampharidisha. (Ph: 315)

*Caladium sp.* (Araceae)
Hagrani Tha gajao (DI)
Occasional
Herb
Wild
The live plant is cultivated as ornamental plant.
PM-454; 16-12-2007: Choto Waphu. (Ph: 316)

*Philodendron elegans* K.Krause (Araceae)
Hagrani Tha lot (DI), Nahlam (HM)
Occasional
Herb
Wild
The live plant is sometimes supplied to the local flower nurseries as ornamental money plant.
PM-455; 07-12-2009; Sampharidisha. (Ph: 317)

c) Other Tuber and rhizomatous crop Resources:

*Asparagus racemosus* Willd. (Liliaceae)
Satmul(NE), Rum bahl (HM)
Occasional
Climber
Semi-wild
Fasciculate root juice-used against hypertension & young shoot mixed vegetable.
Rs.10/ bundle.
PM-345; 15-12-2007; Saisel.

*Canna edulis* Ker-Gawl. (Cannaceae)
Par baul Fauk(HM), Nung gum (ZE)
Occasional
Herb
Cultivar
Rhizome eaten cooked as vegetable.
Ipomea batatas (L.) Lamk. (Convolvulaceae)

Thamunglai guphu (DI), Kolkai (HM), Gaithum (MI), Reukumbe (ZE)
Frequent
Creeper
Cultivar
White barked tuber-eaten boiled. Sold in the local markets @ Rs. 10/kg.

PM-348; 22-09-2008; Gurubari. (Ph: 131)

Ipomea batatas (L.) Lamk. (Convolvulaceae)

Thamunglai Gajao (DI), Kolkai (HM), Gaithum (MI), Reukumbe (ZE)
Frequent
Creeper
Cultivar
White barked tuber-eaten boiled. Sold in the local markets @ Rs. 10/kg.

PM-349; 22-09-2008; Gurubari. (Ph: 130)

Manihot esculenta Crantz, Syn. M. utilisima Pohl. (Euphorbiaceae)

Ruthi (DI), Thing kowlkai (HM), Ba thing (HR)
Frequent
Undershrub
Cultivar
White barked tuber-eaten boiled & raw. Sold in the local markets @ Rs. 10/kg.

PM-250; 16-12-2007: Choto Waphu. (Ph: 135 to 138)

Note: There are two distinct type of tuber flesh colour-white and pink has been recorded.

Maranta arundinacea L. (Marantaceae)

Tha Lairusa (DI), Hnathel (HM), Hpogimbai (ZE)
Occasional
Herb
Cultivar
White barked tuber-eaten boiled & raw. Sold in the local markets @ Rs. 10/kg.

PM-351; 22-09-2008; Gurubari. (Ph: 132)

Maranta dichotoma L. (Marantaceae)

Tha Lairu (DI), Hnathel (HM), Hpogimbai (ZE)
Occasional
X. VEGETABLES

The documentation on the vegetables includes all the leafy vegetables, fruits, roots, flowers and inflorescences which are eaten cooked or raw in various way or the both. Most of the recorded vegetables are either wild or semi domesticated and very less numbers are found to be cultivated. Some of the recorded are-

*Abelmoschus esculentus* (L.) Moench (Malvaceae)

- Pahari Bendi(DI), Uisul hm(HM), Borsomhme (MI), Bindi(ZE)
- Frequent
- Under shrub
Jhum Cultivar

Fruits eaten cooked as vegetable. Sold in the local markets @ Rs.25/Kg.
PM-79/IC no.-560837;
PM-128/IC no.-566712; 22-09-2008; Gurubari. (Ph: 320 & 321)

*Abelmoschus manihot* (L.) Medic. (Malvaceae)

Thakhla maikhri gajao(DI),Vai an thur asen(HM)
Abundant
Herb

Jhum Cultivar

Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-220; 20-12-2007; Boro Waphu. (Ph: 322)

*Alpinia nigra* (Gaertn.) Burtt (Zinziberaceae)

Deragong(DI), Aihre don(HM)
Abundant
Herb

Semi domesticated

Pith and inflorescences used as vegetable and spice. Sold in the local markets @ Rs.5/bundle / five inflorescences.
PM-490; 07-12-2009; Sampharidisha. (Ph: 241)

*Alternanthera sessiles* Br. (Amaranthaceae)

Kuang kua(MI)
Occasional
Herb
Weed

Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-221; 20-12-2007; Retzol.

Note: It is also recorded to be used as pig fodder by the Mizo people of the locality.

*Amaranthus gangeticus* L. (Amaranthaceae)

Khemsa gajao(DI), Inh muntiek (ZE)
Frequent
Herb

Jhum Cultivar

Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-222; 07-12-2009; Sampharidisha.
Amaranthus spinosus L. (Amaranthaceae)
Khutra(DI), Vai me Hna (HM)
Frequent
Herb
Weed
Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-223; 07-12-2009; Sampharidisha.

Amaranthus viridis L. (Amaranthaceae)
Mata (DI), Vaih me (HM), Inhmuntiek(ZE)
Frequent
Herb
Weed
Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-224; 07-12-2009; Sampharidisha.

Andrographis paniculata Nees. (Acanthaceae)
Chirota(DI/PN)
Occasional
Herb
Cultivar
Plant juice extract is used as stomach tonic and also shoots eaten cooked by mixing with vegetable. Sold in the local markets @Rs.5/bundle.
PM-225; 20-12-2007; Jatinga.

Aralia armata (Wall) Seem. ex Kurz. Syn. A. montana Bl (Araliaceae)
Lingdon(KU), Ture/Saifok(ZE)
Rare
Shrub
Wild
Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-226; 26-10-2008; Michidui. (Ph: 323)

Asparagus racemosus Willd. (Liliaceae)
Satmul(NE)
Occasional
Climber
Semi-wild
Young shoot eaten cooked or mixed with other vegetable.
PM-491; 28-12-2008; Kana Basti.

_Bacopa monieri_ (L.) Wettst. (Scrophulariaceae)

Brahmi (NE)
Occasional
Herb
Cultivar
Whole plant eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-227; 28-12-2008; Kana Basti.

_Bambusa balcooa_ Roxb. (Poaceae)

Wa mia (DI), Hepai/Pum (ZE)
Occasional
Large grass
Semi Wild
Shoot eaten cooked as vegetable and sliced shoot is used to prepare fermented chutney. Sold in the local markets @Rs.10-15/Kg.
PM-228; 07-12-2009; Sampharidisha. (Ph: 366 & 368)

_Basella rubra_ L. (Basellaceae)

Thakhrai gajao (DI), Maghi (ZE)
Frequent
Climber
Cultivar
Leaf and young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-229; 07-12-2009; Sampharidisha. (Ph: 324)

_Basella alba_ L. (Basellaceae)

Thakhrai guphu (DI), Maghi (ZE)
Frequent
Climber
Cultivar
Leaf and young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-230; 20-12-2008; Dikrik. (Ph: 325)

_Begonia palmata_ D.Don (Begoniaceae)
Theidon (HM), Sekhupdon (HR), Mping(ZE)
Occasional
Herb
Wild
Leaf and young shoots eaten cooked as vegetable.
PM-231; 26-10-2008; Michidui. (Ph: 326)

*Begonia roxburghii* DC. (Begoniaceae)
Sekhupdon(HR), Alumikri(DI), Sekhupdon (HR), Mping(ZE)
Occasional
Herb
Wild
Leaf and young shoots eaten cooked as vegetable. The juice extract is also used to cure dysentery.
PM-232; 26-10-2008; Nriachi bunglow. (Ph: 327)

*Blumea lacera* DC. Syn. *B. balsamifera* (L.)DC. (Asteraceae)
Mugongreng/ Gangrima(DI), Anra mang(HM), Peau(ZE)
Abundant
Shrub
Semi domesticated
Leaf and tender shoot eaten cooked as vegetable and mostly preferred with Brinjal by the Hmar people. Sold in the local markets @Rs.5/bundle.
PM-233; 22-12-2008; Moulveng. (Ph: 328)

*Brassica campestris* L. (Brassicaceae)
Huoi rauoi (HM), Ankam(KU), Nzeyicheu (ZE)
Frequent
Herb
Jhum Cultivar
Leaf and young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-234; 22-12-2008; Moulveng.

*Brassica alba* H.f. & T. (Brassicaceae)
Yaolaisa guphu (DI)
Occasional
Herb
Jhum Cultivar
Leaf and young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-235; 07-12-2009; Sampharidisha.

**Brassica nigra** Koch. (Brassicaceae)
Yaolaisa gisim(DI), Huoi ruoi (HM), Ankam(KU), Nzeyicheu(ZE)
Occasional
Herb
Jhum Cultivar
Leaf and young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-236; 07-12-2009; Sampharidisha.

**Brassica juncea** H.f. & **T.var.cuneifolia** Roxb. (Brassicaceae)
Antrum(HM), Laipatta(NE)
Abundant
Herb
Cultivar
Leaf eaten cooked as vegetable and chutney with chillies. Sold in the local markets @Rs.5/bundle.
PM-75/IC no.-560833;15-12-2007;Khamtalveng.

**Brassica juncea** (L.) Czerm. & Cosson (Brassicaceae)
Trampui /Antram(HM), Jenum(PN), Nzeyi (ZE)
Frequent
Herb
Primitive Cultivar (Purplish leaf petioles and veins)
Leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM- 78/ IC no.-560836; 20-12-2007; Jatinga. (Ph: 329)

**Bryophyllum pinnatum** Kurz. (Crassulaceae)
Tenga patta(NE), Maikhri lai (DI), Miru heu (ZE)
Occasional
Herb
Semi domesticated
Fleshy leaf eaten cooked by mixing with other vegetables. The juice extract is also taken orally against stomach pain.
**Calamus rotang** L. (Arecaceae)
Raigong(DI), Tingdon(HM), Heart(ZE)
Occasional
Lianes
Wild
Soft pith eaten cooked as vegetable and also as chutney with chillies. Sold in the local markets @Rs.20/stick of 1 meter (approx).

**Centella asiatica** (L.) Urban, Syn. *Hydrocotyle asiatica* L. (Apiaceae)
Mikharing(DI), Lambak(HM), Kopanig kua (HR), Naulai(KU), Manimunin(NE), Krimbua(ZE)
Occasional
Creeping Herb
Weed
Entire plant eaten cooked as vegetable and also as chutney. Sold in the local markets @Rs.5/bundle.

**Chenopodium album** L. (Chenopodiaceae)
Dauthulai(DI), Jhilmil sak(NE)
Occasional
Herb
Weed
Entire plant eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.

**Chonemorpha macrophylla** G.Don. (Apocynaceae)
Ankhapui(Large) & Ankhate (Small) (HM), Ankhabi(KU), Johr khithong(PN)
Frequent
Climber
Wild
Leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.

**Clerodendrum colebrookianum** Walp. (Verbenaceae)
Mismau(DI), Anphui(HM)
Abundant
Shrub
Wild
Leaf eaten cooked as vegetable and also the juice extract is taken orally against hypertension. Sold in the local markets @Rs.5/bundle.
PM-242; 22-12-2008; Gunjung. (Ph: 331)

*Clerodendron serratum* Spreng. (Verbenaceae)

Mismau khasiba(DI)

Occasional

Under shrub

Wild

Leaf and tender shoots eaten cooked as vegetable for its bitter taste.

PM-492; 22-12-2008; Gunjung. (Ph: 345)

*Corchorus capsularis* L. (Tiliaceae)

Morapat /Titapatta (DI)

Occasional

Under shrub

Cultivar

Leaf and young shoots eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.

PM-493; 22-12-2008; Gunjung.

*Corchorus olitorius* Wall. (Tiliaceae)

Morapat(DI), Vaizahrui(HM)

Occasional

Under shrub

Cultivar

Leaf and young shoots eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.

PM-243; 20-12-2008; Dikrik.

*Colocasia esculenta* (L.) Schott. (Araceae)

Thagong(DI)

Frequent

Herb

Jhum Cultivar
Fresh and dried leaf petiole eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-244; 22-12-2008; Gunjung. (Ph: 309)

*Crososepalum sp.* (Asteraceae)

Impingi (ZE)
Occasional
Herb
Wild

Leaf and young shoot eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-245; 26-10-2008; Nriachi bunglow. (Ph: 332)

*Crososepalum crepidoides* (Benth.) Moore (Asteraceae)

Impingi (ZE)
Occasional
Herb
Cultivated

Leaf and young shoot eaten cooked as vegetable. The plant paste is also used to join the fractured bones of Duck, Hens etc.
PM-494; 26-10-2008; Nriachi bunglow. (Ph: 350)


Germa (DI)
Occasional
Shrub
Wild

Inflorescences eaten cooked as vegetable.
PM-495; 07-12-2009; Sampharidisha. (Ph: 349)

*Eurrya acuminata* DC. (Theaceae)

Chizou(HM/KU), Misimbua (ZE)
Abundant
Tree
Semi domesticated

Leaf paste eaten cooked with pork meat. Sold in the local markets @ Rs.5/bundle.
PM-249; 20-12-2007; Retzol. (Ph: 333)

*Gnetum gnemon* L. (Gnetaceae)

162
Thiazing (DI), Ann el (HM), Kimgi/Keigi (ZE)
Rare
Tree/shrub
Wild
Leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-250; 26-10-2008; Nriachi bunglow. (Ph: 334)

**Hibiscus eetveldeanus** De Wild, and Th. Dur. (Malvaceae)
Thakhla maikhri gajao (DI)
Rare
Under shrub
Jhum Cultivar
Young fruit and leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-251; 07-12-2009; Sampharidisha. (Ph: 335)

**Hibiscus sabdariffa** L. (Malvaceae)
Thakhla maikhri (DI), Vai an thur asen (HM), Kiae (ZE)
Frequent
Undershrub
Jhum Cultivar
Young fruit and leaf eaten cooked as vegetable and grinded seeds used to prepare *Awmjiang* (DI) with dried fish fermented Chutney. Sold in the local markets @Rs.5/bundle.
PM-125/IC no.-566709; 22-09-2008; Gurubari (Ph: 336)

**Hibiscus sabdariffa** L. (Malvaceae)
Thakhla maikhri (DI), Vai an thur avar pa (HM), Nkiaie (ZE)
Occasional
Under shrub
Jhum Cultivar
Leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-252; 22-12-2008; Moulveng. (Ph: 337)

**Houttyunia cordata** Thunb. (Saururaceae)
Mojoukhmo (DI), Ai thang (HM), Jarmendo (PN)
Frequent
Herb

163
Cultivar
Leaf eaten cooked as vegetables and creeping stem adds flavor curry and chutney. Sold in the local markets @ Rs.5/Bundle.
PM-496; 15-12-2007; Saisel. (Ph: 242)

*Ipomea aquatica* Forsk. (Convolvulaceae)
Dine thamunglai(DI), Kolom sak(NE)
Occasional
Creeper
Aquatic weed
Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-253; 12-01-2009; Dibarai.

*Lasia spinosa* L. (Araceae)
Shidabu/Thathakhla (DI), Changhrat(HM)
Occasional
Herb
Wild
Tender leaf eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-170/ IC no.-569110; 12-01-2009; Dibarai. (Ph: 296)

*Lactuca sp.* (Asteraceae)
Lettuce (PN)
Rare
Herb
Cultivar
Leaf eaten cooked as vegetable or raw as chutney with chillies. Sold in the local markets @Rs.5/bundle.
PM-256; 20-12-2007; Jatinga.

*Lathyrus sativus* L.; DC. (Fabaceae)
Khesari(NE)
Occasional
Herb
Cultivar
Tender shoot and seeds eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-255; 20-12-2007; Natun Basti.
**Leucus linifolia** Spreng. (Lamiaceae)

Doron(NE), Phaih lo (HM)
Occasional
Herb
Weed
Young shoot eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-254; 20-12-2007; Natun Basti.

**Melocanna buccifera** (Roxb.) Kurz (Poaceae)

Wa mia(DI), Kaucheu(ZE)
Abundant
Large grass
Semi Wild
Shoot eaten cooked as vegetable and sliced shoots used to prepare fermented chutney. Sold in the local markets @Rs.10-15/Kg.
PM-257; 21-12-2007; Longma-II. (Ph: 379)

**Melocalamus compactiflorus** Benth. (Poaceae)

Washim mia(DI)
Occasional
Large grass
Semi Wild
Shoot eaten cooked as vegetable and sliced shoots used to prepare fermented chutney. Sold in the local markets @Rs.10-15/Kg.
PM-258; 07-12-2009; Samphariidisha. (Ph: 376)

**Melia azadirachta** A. Juss. (Meliaceae)

Neem(DI)
Occasional
Tree
Semi wild
Leaf roasted or mixed with other vegetables and eaten cooked. Sold in the local markets @Rs.5/ bundle.
PM-259; 16-12-2007: Choto Waphu.

**Micromelum pubescens** Blume (Rutaceae)

Thinkpui (HM)
Rare
Shrub (Large)
Wild
Young shoot with inflorescences eaten cooked as vegetable. Sold in the local markets @Rs.10/bundle.
PM-497; 20-12-2007; Retzol. (Ph: 351)

*Monochoria hastata* Solms (Monochoriaceae)
Menthoka lai (DI)
Occasional
Herb (Aquatic)
Wild
Purple coloured young inflorescences are eaten cooked as vegetable.
PM-498; 07-12-2009; Sampharidisha.

*Nyctanthes arbor-tristis* L. (Nyctanthaceae)
Pipli phang (DI)
Occasional
Tree
Cultivar
Fresh flower eaten cooked as vegetable, preferred with fresh fish.
PM-499; 16-12-2007; Choto Waphu.

*Olax acuminata* Wall. ex Benth (Olacaceae)
Yaolai (DI)
Occasional
Shrub
Wild
Leaf and young shoot eaten cooked as vegetable.
PM-500; 07-12-2009; Sampharidisha. (Ph: 348)

*Oroxyllum indicum* (L.)Vent (Bignoniaceae)
Kalong (DI), Bakolong (HR) Phual-changkok (HM)
Occasional
Tree
Wild
Fleshy corollas eaten cooked as vegetable with fresh fish. Sold in the local markets @ Rs.5/ five corollas.
PM-313; 16-12-2007; Choto Waphu.

166
**Oxalis corniculata** L. (Oxalidaceae)
Khungbai an (HM)
Abundant
Herb
Wild/weed
The leaves are eaten raw or cooked as vegetable for curing minor stomach ailments.
PM-501; 20-12-2007; Retzol.

**Paederia foetida** L. (Rubiaceae)
Saonkiphu(DI), Voi hnam zai(HM), Hebeheu-ria(ZE)
Frequent
Climber
Wild
Leaf eaten cooked as vegetable and also juice extract is used against stomach pain.
Sold in the local markets @Rs.5 Rs.5/bundle.
PM-261; 07-12-2009; Sampharidisha.

**Phlogacanthus curviflorus** Nees. (Acanthaceae)
Aluso(DI)
Occasional
Under shrub
Wild
Dry/fresh inflorescences eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-314; 07-12-2009; Sampharidisha. (Ph: 340)

**Phlogacanthus tubiflorus** Nees. (Acanthaceae)
Aluso(DI)
Occasional
Undershrub
Wild
Dry/fresh inflorescences eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-315; 07-12-2009; Sampharidisha. (Ph: 341)

**Polygonum chinense** L. (Polygonaceae)
Maikhri thai (DI), Heganturia(ZE)
Abundant
Scandent herb
Wild
Tender shoots eaten cooked as vegetable.
PM-502; 07-12-2009; Sampharidisha.

*Polygonum perfoliatum* L. (Polygonaceae)
Mikhri lai(DI), Heganturia(ZE)
Occasional
Climber
Wild
Sour leaf eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-263; 26-10-2008; Saikam. (Ph: 338)

*Polygonum persum* Ham.ex.D.Don (Polygonaceae)
Singju(DI)
Rare
Herb
Semi domesticated
Young shoot used as vegetable, spice and also chutney. Sold in the local markets
@Rs.5/Bundle.
PM-503; 07-12-2009; Sampharidisha. (Ph: 250)

*Portulaca oleracea* L. (Portulucaceae)
Barthoslai(DI), Inrainuthei(HM)
Occasional
Creeper
Weed
Shoots eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-264; 15-12-2007; Khamtalveng. (Ph: 339)

*Raphanus sativus* L. (Brassicaceae)
Mula (DI), Ankam-tilnei (KU), Mula sak(NE), Njeiyi-pereuteube (ZE)
Frequent
Herb
Cultivar
Leaf/tap root eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle
of leaf or Rs.10/kg. of tap root.
Rhynchotechum ellipticum (Wall.ex Dietr.) A. DC. (Gesneriaceae)
Mimalai(DI), Telhlep (HM/KU), Endroigi(ZE)
Abundant
Under shrub
Wild
Leaf eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.

Rumex vesicarius L. (Polygonaceae)
Suka sak(AS/NE)
Occasional
Herb
Cultivar
Young shoot eaten cooked as vegetable. Sold in the local markets @ Rs.10/bundle.

Sarchochlamys pulcherrima (Roxb.) Gaud. (Urticaceae)
Mishaagi(DI), Lengo(HM), Endaugi(ZE)
Abundant
Under shrub
Semi Wild
Young leaf eaten cooked as vegetable and mainly preferred with Banana inflorescence. Sold in the local markets @ Rs.5/bundle.

Sesbania grandiflora Pers. (Fabaceae)
Bokphool(AS/NE)
Occasional
Tree
Cultivar
Flower eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.

Solanum nigrum Linn. (Solanaceae)
Hagrani kimkhalai(DI)
Occasional
Herb
Weed
Young shoot eaten cooked as vegetable. Sold in the local markets @ Rs.5/bundle.
PM-270; 21-12-2007; Longma-II.

*Solanum spirale* Roxb. (Solanaceae)
Kanarengma(DI), Nkabua (ZE)
Occasional
Herb
Semi domesticated
Young shoots and fruits eaten cooked as vegetable. Sold in the local markets @
Rs.5/bundle.
PM-271; 16-12-2007: Choto Waphu. (Ph: 198)

*Spilanthes acmella* L. *var. oleracea* Clarke. (Asteraceae)
Samberma(DI), Ansa Tlang(HM), Klungbua(ZE)
Frequent
Herb
Semi domesticated
Leaf and shoots eaten cooked as vegetable. Sold in the local markets @
Rs.5/bundle.
PM- 76/ IC no.-560834; 15-12-2007; Chilchur/Khemtalveng. (Ph: 343)

*Spilanthes acmella* L. *var.paniculata* Clarke. (Asteraceae)
Samberma(DI), Ansa Tlang(HM), Klungbua(ZE)
Frequent
Herb
Wild
Leaf eaten cooked as vegetable and the inflorescence used to cure tooth ache. Sold
in the local markets @ Rs.5/bundle.
PM-272; 15-12-2007; Khmatalveng.

*Travesia palmata* (Roxb) Vis. (Araliaceae)
Kemtaudi(DI), Kotebel(HM)
Occasional
Shrub
Semi Wild
Inflorescence eaten cooked as vegetable or as boiled chutney with chilies. Sold in
the local markets @ Rs.10/bundle.
Trigonella foenum graecum L. (Fabaceae)
Methi sak (AS/NE)
Occasional
Herb
Cultivar
Seeds used as spice and young shoot as vegetable. Sold in the local markets @Rs.5/Bundle.

Vitis angustifolia Wall. (Ampelidaceae)
Dushrem (DI)
Occasional
Climber
Semi domesticated
Leaf eaten cooked as vegetable for its sour taste.

Vitis peduncularis Wall. (Ampelidaceae)
Dushrem maikhri (DI)
Frequent
Climber
Wild
Leaf eaten cooked as vegetable for its sour taste.

Xanthosoma sagittifolium (L.) Schott. (Araceae)
Dawl sel phak (HM), Banai (HR), Dawl sialne (MI)
Frequent
Herb
Cultivar
Fresh leaf sheath eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.

Xanthosoma violaceum (Vell.) Mansfeld. (Araceae)
Manai gisim (DI), Dawl sel phak (HM), Banai (HR), Dawl sialne (MI)
Frequent
Herb
Cultivar
Fresh leaf sheath eaten cooked as vegetable. Sold in the local markets @Rs.5/bundle.
PM-508; 07-12-2009; Sampharidisha. (Ph: 299)
B. MASTICATORIES AND FUMIGATORS

The plant resources used as Masticatories and Fumigators by the ethnic people, especially the elder people are economically important and made of the plant parts of locally available cultivated, semi domesticated and wild plant resources. Most of the plants are found to be grown in the homestead area as a part of local plant resources management strategy for easy access. Some of the recorded plant species are given as in the following-

_Areca catechu_ L. (Arecaceae)

Gowai (DI), Kuvara (HM), Kuva (HR), Tegut chi (ZE)
Frequent
Tree
Cultivar
Fresh or dry nuts chewed with betel-leaf _Piper betle_ L.) and lime. Sold in the local markets @10/five fruits.
PM-509; 12-01-2009; Dibarai.

_Careya arborea_ Roxb. (Lecithydaceae)

Bonapthi (DI), Hnapui/Biripatta (HR)
Occasional
Climber
Wild
Dried leaves used as local _Biri_ with dried tobacco leaves.
PM-510; 22-09-2008; Buolzol. (Ph: 90)

_Caryota urens_ L. (Arecaceae)

Sman phang(DI)
Occasional
Tree
Wild
Fresh or dry nuts chewed with betel-leaf _Piper betle_ L.) and lime.
PM- 511; 07-12-2009; Sampharidisha.

_Nicotiana rustica_ L. (Solanaceae)

Damalai(DI), Dum hna (HM/KU), Nkeu (ZE)
Frequent
Herb
Semi domesticated
Dried leaf is chewed as masticator. Sold in the local markets @Rs.10/100gms.
PM-260; 25-11-2007; Khuongluong. (Ph: 87 & 88)

*Nicotina tabacum* L. (Solanaceae)

Damalai (DI), Dum hna (HM)
Occasional
Herb
Cultivar
Dried leaf either chewed as masticator or used for smoking in hookah called *Damakho slim* by the aged Dimasas. Sold in the local markets @Rs.10/100gms.
PM-512; 22-12-2008; Moulveng.

*Piper betle* L. (Piperaceae)

Mithi (DI), Panpatta (PN), Panbua (HR)
Frequent
Climber
Jhum Cultivar
Fresh leaves chewed as masticator with betel-nut. Sold in the local markets @Rs.10/bundle of 24 leaves.
PM-262; 20-12-2007; Jatinga.

*P. wallichii* (Miq) Hand. Mazz. (Piperaceae)

Mithibon (DI), Kobi rang (HR), Guchi (ZE)
Occasional
Climber
Wild
Fresh leaves chewed with betel-nut as masticator.
PM-513; 07-12-2009; Sampharidisha. (Ph: 89)

*Poinsettia pulcherrima* R. Grah. (Euphorbiaceae)

Tlasik par (HM), Hekarapa (ZE), Per sen (HR), Christmas gaschi (KU)
Occasional
Shrub
Wild
Dried latex is preferred to chew by children.
PM- 516; 26-10-2008; Nriachi bunglow.
C. OIL YIELDING PLANTS

The oil yielding plant resources used by the local ethnic groups mainly for edible, fuel and medicinal purposes extracted from the locally available plants. The oil yielding fruits or seeds for edible purpose is recorded to be used in raw form without extracting the oils. Some of the plant resources recorded from the area and their uses are as in the following-

*Arachis hypogea* L. (Fabaceae)

Badam (KU)
Occasional
Herb
Cultivar
Underground nuts are grinded and mixed with local fermented foods. 
PM-516; 25-11-2007; Khuongluong.

*Brassica alba* H.f. & T. (Brassicaceae)

Yaolaisa guphu (DI), Jenum(PN)
Occasional
Herb
Cultivar
Seeds/young pods grinded into paste and used in local chutneys and also leaf/ young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bundle. 
PM-235; 24-01-2009; Jatinga.

*Brassica campestries var. sarson* (Brassicaceae)

Yaolaisa (DI)
Occasional
Herb
Cultivar
Seeds/young pods grinded into paste and used in local chutneys and also leaf/ young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bundle. 
PM-517; 21-12-2007; Longma-II.

*Brassica nigra* Koch. (Brassicaceae)

Yaolaisa gisim(DI), Huoirruoi (HM), Ankam(KU), Nzeyicheu(ZE)
Occasional
Herb
Cultivar
Seeds /young pods grinded into paste and used in local chutneys and also leaf/
young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bundle.
PM-236; 20-12-2007; Retzol.

*Brassica juncea* H.f. & *T. var. cuneifolia* Roxb. (Brassicaceae)
Antrum(HM), Laipatta(NE)
Abundant
Herb
Primitive Cultivar
Seeds/young pods grinded into paste and used in local chutneys and also leaf/
young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bundle.
PM-75/IC no.-560833; 15-12-2007; Khamtal veng.

*Brassica juncea* (L.) Czerm. & Cosson (Brassicaceae)
Trampui /Antram(HM), Jenum(PN), Nzeyi (ZE)
Frequent
Herb
Primitive Cultivar (Purplish leaf petiole/vein)
Seeds/young pods grinded into paste and used in local chutneys and also leaf/
young fruits eaten cooked as vegetable. Sold in the local markets @Rs.5/Bundle.
PM- 78/IC no.-560836; 20-12-2007; Jatinga.

*Cymbopogon citratus* Stapf. (Poaceae)
Hnarim-um (HM)
Occasional
Grass
Cultivar
Crude paste of the plants is used against the vermins etc. Soft pith used as spices
and eaten cooked for flavoring vegetables. Sold in the local markets @Rs.5/Bundle.
PM-77/IC no.-560835; 15-12-2007; Saisel.

*Jatropha curcas* L. (Euphoibiaceae)
Rudaokhlong thai (DI), Dim.,-1 (HR), Mut maleng (HM), Lankhong (ZE)
Abundant
Shrub
Wild
Dried seeds are beaded in a bamboo stick and used as torch.
PM-518; 16-12-2007; Choto Waphu.

*Jatropha gossypifolia* L. (Euphorbiaceae)
Rudaokhlong gajao (DI), Dimul (HR)
Abundant
Shrub
Wild
Dried seeds are beaded in a bamboo stick and used as torch. Again the latex is used to cure toothache by the *Dimasas*.
PM-519; 16-12-2007; Choto Waphu.

*Perilla frutescens* (L.) Britt. (Lamiaceae)
Snem (DI), Sipui (HM),
Frequent
Herb
Jhum/local/highland Cultivar
Inflorescence and/or seeds used as chutney and fermented chutney (Chang-ZE).
Sold in the local markets @ Rs.5.Bundle.
PM-73/IC no.-560831; 15-12-2007; S.Muolkoi.
PM-74/IC no.-560832; 15-12-2007; S.Muolkoi. (Ph: 240)

*Ricinus communis* L. (Euphorbiaceae)
Rudao (DI), Lungando (KU)
Frequent
Shrub
Wild
Dried seeds are beaded in a bamboo stick and used as torch. Crude oil is used for massaging to relieve from body pain.
PM-520; 16-12-2007; Choto Waphu.

*Sesamum indicum* DC. (Pedaliaceae)
Sibing (DI), Sivar (HM), Geching (ZE)
Frequent
Herb
Jhum Cultivar (white seed)
Seeds eaten grinded and raw as chatni with fresh chillies. Sold in the local markets @ Rs.15/250gms.
PM- 71/IC no-560829; 07-12-2007; S.Muolkoi.

*Sesamum indicum* DC. (Pedaliaceae)

Sibing(DI), Sidum (HM), Geching (ZE)
Frequent
Herb
Jhum Cultivar (black seed)
Seeds eaten grinded and raw as chatni with fresh chillies. Sold in the local markets @ Rs.15/250gms.
PM- 72/IC no-560830; 07-12-2007; S.Muolkoi.
PHOTOPLATE: 71: MEDICINAL PLANTS

Ph: 358: *Drymeria chordata*  Ph: 359: *Solarium verbacefolia*

Ph: 360: *Gynocardia odorata*

D. MEDICINAL PLANT RESOURCES

The medicinal plant resources used for treatment of various diseases by the local ethnic groups are most important plant resources as like as the edible plant resources in the area. Due to the bottleneck communication and lack of infrastructure in health care services and medicines, the local medicine men has got an inseparable relation with the locally available plant resources for preparation of medicine for curing various diseases. In the present study three ethnic communities were included for documentation of the local medicinal plant resources; they are namely- Hrangkhols, Hmars and Zeme Nagas. Some of the medicinal plants are also recorded to be used as vegetable by these ethnic groups. Following are the recorded medicinal plant resources with their mode of use and other uses from the present study area are given.

I. Medicinal Plants used by the Hrangkhols:

*Acorus calamus* L. (Araceae)

Inamchek (HR)

Occasional

Herb

Wild

Tuber and leaf paste is taken orally to cure gastric, but never to be consumed during pregnancy.

PM-521; 25-10-2008; Buolzol.

Other uses: The plant part is taken along with a person during journey in the hills to avoid evil spirits. The plant is kept in the houses for the same.

It is also kept in the animal house as python repellent.

*Artocarpus heterophyllus* Lamk. (Moraceae)

Thaiphlung(DI), Lamkhong(HM/HR), Lunkhuong(MI)

Frequent

Tree

Cultivar

Tender 4 to 5 shoots consumed empty stomach early in the morning for 2-3 days for curing stomach ailments like pain and gastric.

PM-522; 25-10-2008; Buolzol.
Other uses: Fruits and seeds eaten raw when ripened and eaten cooked at young stage.

*Alocasia fornicata* Schott. (Araceae)
Dol thuang (HR), Tha gidiba Hagrani (DI)
Occasional
Herb
Wild
The tuber paste is used as antidote medicine against snake and civet tiger bite. Not edible.
PM-523; 25-10-2008; Buolzol. (Ph: 319)

*Begonia roxburghii* DC. (Begoniaceae)
Sekhupdon (HR), Alumikri (DI), Mping (ZE)
Occasional
Herb
Wild
Half cup of the juice extract is taken orally twice daily to cure dysentery.
PM-524; 25-10-2008; Buolzol. (Ph: 327)
Other uses: Plant consumed as vegetable and also a good Pig fodder.

*Bridelia retusa* (L.) Spreng. (Euphorbiaceae)
Thaidaoblib (DI), Phaktel lien (HM)
Occasional
Lianes/Scandent
Wild
Salty-sour fruits made into paste and taken orally to cure loose motion.
PM-525; 26-10-2008; Buolzol. (Ph: 92)

*Careya arborea* Roxb. (Lecithydaceae)
Hnapui (HR)
Frequent
Tree
Wild
Bark of the tree boiled for long time and drinks the water 2 glassful for only once for curing dysentery and other stomach ailments.
PM-526; 25-10-2008; Buolzol. (Ph: 90)

*Clerodendron infortunatum* Gaertn. Syn. *C.viscosum* Vent. (Verbenaceae)
Fuisiea (HR)
Abundant
Under shrub
Wild
Young shoots boiled with water and used for bathing to cure scabies and other skin diseases. Young shoot is also anti-helminthic and eaten once early in the morning for few days.
PM-527; 25-10-2008; Buolzol. (Ph: 354)

_Croton caudatus_ Geisel. (Euphorbiaceae)
Ran-lung-damdi (HR), Agurdukha(DI), Ran-lung-damdoi (HM/MI)
Frequent
Under shrub
Wild
Tender shoot juice taken orally, daily once early in the morning as stomach tonic and claimed to be anti-carcinogenic.
PM-528; 25-10-2008; Buolzol.
Other uses: Matured seeds grinded and can be used as ichthyotoxins to stupefy fishes in water. Same can also be used for arrow poisoning.

_Datura metel_ L. (Solanaceae)
Kimbong (DI/HR)
Frequent
Herb
Wild
Mustard oil is smeared on leaf lamina and makes it warm and applied for relieving localized body pain due to swelling.
PM-529; 21-12-2007; Longma-III/22-09-2008; Buolzol.

_Drymeria cordata_ (L) Roemer & Scultes. (Caryophyllaceae)
Dalokshal (HR), Samsang-karing (DI)
Occasional
Herb
Wild
The fresh leaf paste is applied above the forehead to control fever especially the malaria fever.
PM-530; 25-10-2008; Buolzol. (Ph: 358)
Other uses: Eaten cooked as vegetable.

**Eupatorium odoratum** L. (Asteraceae)
Borma (HR), Sankhabli (DI)
Abundant
Herb
Wild
Leaf paste is used as antibiotic for curing fresh cut wound surfaces in human.
PM- 531; 22-09-2008; Buolzol.

**Ficus racemosa** Wall. (Moraceae)
Irthot (HR), Khandao (DI)
Frequent
Tree
Wild
Five or seven leaf wrapped as cone-shaped and burning charcoal putted. Then when the sap comes out used to treat ear ailment.
PM-532 ; 22-09-2008; Buolzol. (Ph: 98 & 353)

**Gloriosa superba** L. (Liliaceae)
Khimdaula (DI/HR)
Frequent
Herb
Wild
Fresh leaves are made into paste and applied locally for curing cut wounds.
PM-533; 21-12-2007; Longma-III/ 22-09-2008; Buolzol. (Ph: 361)

**Gynocardia odorata** Brown (Flacourtiaceae)
Soh-ling (PN)
Rare
Tree
Wild
Fresh barks are removed and cut into pieces, then dried and powdered. The powder is made into paste with lukewarm water and applied locally to remove skin pigmentation and leucoderma by the Jaintia (Pnar) and Hrangkhols.
PM-534; 20-12-2007; Jatinga. (Ph: 360)

**Jatropha curcas** L. (Euphorbiaceae)
Dimul (HR), Rudaokhlong thai (DI), Lankhong (ZE)
Abundant
Shrub
Wild
The latex is used as anti-inflammatory and curing cut wound treatment.
PM-535; 25-10-2008; Buolzol.
Other uses: Dried seeds are beaded in a bamboo stick and used as torch.

**Jatropha gossypifolia** L. (Euphorbiaceae)
Dimul (HR), Rudaokhlong gajao (DI)
Abundant
Shrub
Wild
The latex is applied to cure teeth ache and mouth ulcer.
PM-536; 25-10-2008; Buolzol.
Other uses: Dried seeds are beaded in a bamboo stick and used as torch.

**Lindernia japonica** Thunb. Syn. *Mazus rugosus* Lour. (Scrophulariaceae)
Annikheak (HR), Khangkrai-regu (DI)
Abundant
Herb
Wild
The plant is boiled in water and is used for body massage. The plant is also eaten cooked by mixing with other vegetables for early recovery after child delivery.
PM-537; 25-10-2008; Buolzol. (Ph: 356)

**Litsea glutinosa** (Lour.) Robins. (Lauraceae)
Disilum (HR), Dislim (DI)
Abundant
Tree
Wild
Tender shoots of the plant and *Merrinia sp*. Convolvulaceae (*Mallang*-HR) leaf paste is made and applied to rupture the boil in human.
PM-538; 25-10-2008; Buolzol.

**Milletia pachycarpa** Benth. (Fabaceae)
Rucho/Irre (HR), Rojao phang (DI)
Occasional
Lianes
Wild

Leaf and stem juice is used to treat both human and animal scabies and other skin diseases.
PM-539; 22-09-2008; Buolzol. (Ph: 419)
Other uses: Used as fish poison for fishing in streams.

**Oroxyllum indicum** (L.) Vent (Bignoniaceae)

Kalong (DI), Bakolong (HR)
Occasional
Tree
Wild

Bark of the tree, leaf of *momordica charantia var. muricata* (Chengkhahna-HR) and *Hedyotes scandens* (Hachuk-HR) plant by mixing made into paste and taken orally, daily in the morning once for sure curing from jaundice.
PM-540; 25-10-2008; Buolzol.
Other uses: A fleshy bark boiled with natural fibers to dye it and imparts blue colouration.

**Paederia foetida** L. (Rubiaceae)

Saonkiphu(DI/HR), Voi hnam zai(HM), Hebeheu-ria(ZE)
Frequent
Climber
Wild

Half cup fresh juice extract is taken orally empty stomach very early in the morning to cure stomach ailments like gastric and indigestion etc.
PM-; 22-09-2008; Buolzol/261; 07-12-2009; Sampharidisha.
Other uses: Leaf eaten cooked as vegetable.

**Piper wallichi** L. (Piperaceae)

Kobin-rang (HR), Michi ha singri (DI)
Occasional
Climber
Wild

The roots eaten raw twice daily which is bitter in taste for treatment of the ailments like body pain, swelling, gastric, diarrhea and teeth ache.
PM-541; 25-10-2008; Buolzol.
Other uses: Dry seeds used as spice.
**Plumbago zeylanica** L. (Plumbaginaceae)

Thikerei (HR), Thekrai-gaphu (DI)

Occasional

Herb

Wild

Shoot is made into paste applied for curing ringworm and leprosy in human.

PM-542; 25-10-2008; Buolzol. (Ph: 329)

Other uses: Fresh branches made into bunch and kept in animal keeping house as vermin/termite/insect repellent.

**Poinsettia pulcherrima** R. Grah. (Euphorbiaceae)

Tlasik par (HM), Per sen/Daingul per (HR), Christmas gaschi (KU), Hekarapa (ZE)

Occasional

Shrub

Wild

Dried latex used as chewing gum to cure teethache.

PM-543; 25-10-2008; Buolzol.

Other uses: Dried latex is preferred to chew by children.

**Psidium guajava** L. (Myrtaceae)

Thei sukharem (HR), Sukrem(DI), Kawl thai(HM), Thaichang pah(KU), Bangbo chi(ZE)

Frequent

Tree

Cultivar

Young 5-6 shoots taken daily early in the morning for curing stomach pain and also used as carminative.

PM-544; 25-10-2008; Buolzol.

Other uses: Fruits eaten raw.

**Rhus semialata** Murr. (Anacardiaceae)

Khokma(HR), Gambao/ Khongna (DI), Kemeu(ZE)

Frequent

Tree

Semi domesticated
Seed powder is taken orally twice daily against dysentery. Seed powder is also used digestive powder as well as Carminative.

PM-545; 25-10-2008; Buolzol. (Ph: 251)

Other uses: Grinded seeds eaten raw as chutney with chilies.

*Scoparia dulcis* L. (Scrophulariaceae)

Tinthi (HR), Khung-baihlo (HM)
Abundant
Herb
Wild

Root extract is mixed with half cup of water and taken orally early in the morning for curing stomach pain.

PM-546; 22-09-2008; Buolzol.

Other uses: Whole plant is used for preparation of rice beer cake.

*Stephania glandulifera* Miers. (Menispermaceae)

Jun se-pi (HR), Shidigubru(DI)
Frequent
Climber
Wild

Fresh leaves are used as plate and cooked rice is given to children; believed to be recovered from bed-wetting disease of children.

PM-547; 25-10-2008; Buolzol. (Ph: 288)

*Solanum myriacanthum* Dunal. *S. khasianum* Clarke (Solanaceae)

Se-ek-irhling (HR), Pantao surang (DI)
Abundant
Herb
Wild

Grinded seeds are made into *Biri* and smokes kept inside the mouth for pain relieve from teeth ache.

PM-548; 25-10-2008; Buolzol.

*Solanum verbascifolium* L. (Solanaceae)

Panthao lai (DI). Manta pui (HR)
Occasional
Shrub
Cultivar
Young shoot and leaves are made into paste and juice is extracted. Half cup once daily in empty stomach until curing the jaundice.

PM-549; 22-09-2008; Buolzol/ 25-09-2008; Gurubari. (Ph: 359)

**Syzygium cumini** (L.) Skeels (Myrtaceae)

Hmuizolong (HR), Jambu thai (DI), Sepuinusu (HM), Thei-vom (KU), Mui-chi (ZE)

Occasional

Tree

Wild/Semi Wild

Dried fruits grinded and mixed with water and use as refreshing drink and curing diabetes.

PM-550; 25-10-2008; Buolzol.

Other uses: The bark of the tree is boiled with cotton or *Eri* silk yarn thus shows the purple brown coloration. Fresh ripened fruits eaten raw.

**Thunbergia grandiflora** Wall. (Thunbergiaceae)

Thankhobi (HR)

Abundant

Climber

Wild

After cutting the stem the water coming out is used for treatment of eye ailment as eye drop applied daily twice. The same is also applied for early curing fresh cut wound surfaces in human body.

PM-551; 22-09-2008; Buolzol. (Ph: 352)

**Terminalia chebula** Retz. (Combretaceae)

Ortoki (HR), Shilikha thai (DI)

Occasional

Tree

Cultivar

Fresh and dried fruits grinded and taken orally early morning for curing dysentery and gastric.

PM-552; 25-10-2008; Buolzol.

Other uses: Fresh and dried fruits eaten raw.

**Tinospora cordifolia** Miers. (Menispermaceae)

Kimkhathai lot (DI)
Occasional
Climber
Semi domesticated
The stem is crushed and juice is extracted and taken orally early in the morning to cure dysentery and gastric problems.
PM- 553; 22-09-2008; Buolzol/07-12-2009; Sampharidisha.  

_Zingiber zerumbet_ (L.) Rosc. ex Smith (Zingiberaceae)

Hajing gidiba (DI),Gawang (ZE)
Frequent
Herb
Semi domesticated
Rhizome paste is applied locally to cure severe ruptured boils on human body.
PM- 554; 22-09-2008; Buolzol/07-12-2009; Sampharidisha. (Ph: 329)

Unidentified
Mami-misile (HR)
Occasional
Herb
Wild
Fresh leaf paste is applied in the infected nails to cure it.
PM-555; 25-10-2008; Buolzol. (Ph: 355)

**II. Medicinal Plants used by the Hmars:**

_Achyrenthes aspera_ L. (Amaranthaceae)

Uih-hlo (HM)
Frequent
Herb
Wild
Young shoots made into paste and locally applied to fresh cut wounds for early healing.
PM-556; 15-12-2007; Khamtalveng.

_Alocasia fornicata_ Schott. (Araceae)

Baibing (HM), Tha gidiba Hagrani(DI), Dol thuang (HR)
Occasional
Herb
Wild
The tuber paste is applied on boils to rupture early.
PM-557; 09-12-2007; Bidon.
Other uses: The tuber paste is used as antidote medicine against snake and civet tiger bite by the Hrangkhols and Dimasas. (Ph: 319)

*Alstonia scholaris* Br. (Apocynaceae)
Chongpereng (HM)
Frequent
Tree
Wild
Bark is crushed and soaked in water for some time and is taken daily until curing dysentery.
PM-558 ; 25-11-2007; Khuongluong.

*Asparagus racemosus* Willd. (Liliaceae)
Rum bahl (HM), Satmul(NE)
Occasional
Climber
Semi domesticated
Fasciculated root juice taken orally, once daily in the early morning to control hypertension also to cure dysentery.
PM-559; 15-12-2007; Saisel.
Other uses: Young shoot eaten cooked with mixed vegetable.

*Bauhinia scandens* L. (Caesalpiniaceae)
Jongli-lon (HM), Bandar jakhla (DI)
Occasional
Climber
Wild
Fresh bark is boiled with water and taken orally to cure stomach pain.
PM-560; 20-12-2007; Retzol.
Other uses: The plant is considered to be sacred by the Dimasas.

*Cajanus cajan* (L.) Hutch (Fabaceae)
Betleng(HM), Belhang(KU), Sewpi(ZE)
Frequent
Shrub
Cultivar
Leaf juice extract of half cup is taken orally to cure jaundice.
PM-561; 09-12-2007; Bidon.
Other uses: Tender pods /seeds either eaten raw or cooked as vegetable.

*Cassia alata* L. (Fabaceae)
Angreng /Dadu-lo (HM)
Frequent
Shrub
Wild
Fresh leaves and barks are made into paste and applied locally against scabies and ringworms.
PM-562; 20-12-2007; Retzol.

*Centella asiatica* (L.) Urban, Syn. *Hydrocotyle asiatica* L. (Apiaceae)
Mikharing(DI), Lambak(HM), Naulai(KU), Manimuni(NE), Krimbua(ZE)
Occasional
Creeping Herb
Weed
The plant is eaten cooked as revitalizer by mother of new born baby. Also as chutney made with the juice of *Citrus limon* L. to cure stomach ailments.
PM-563; 20-12-2007; Retzol.
Other uses: Entire plant eaten cooked as vegetable and also as chutney.

*Clerodendrum colebrookianum* Walp. (Verbenaceae)
Mismau(DI), Anphui(HM)
Abundant
Shrub
Wild
The leaf juice extract is taken orally once early in the morning once to control high blood pressure.
PM-564; 18-12-2007; Remaveng
Other uses: Leaf eaten cooked as vegetable. (Ph: 331)

*Colocasia esculenta* (L.) Schott. (Araceae)
Dol (HM), Tha gisim hagrani(DI)
Occasional
Herb
Wild
Petiole juice is applied locally to cure boils. The epidermis is removed like a ribbon and tied in fresh cut wounds for early curing.
PM-565; 20-12-2007; S. Muolkoi. (Ph: 313)
Other uses: Fresh leaf sheath and soft tubers harvested only during dry season and eaten cooked as vegetable.

**Costus speciosus** Sm. (Zingiberaceae)
Simbu thut (HM)
Frequent
Herb
Wild
Boiled rhizome water is taken orally daily once empty stomach to cure kidney stones.
PM-567; 22-12-2008; Moulveng.

**Drynaria quersifolia** (L.) J. Sm. (Drynariaceae)
Kupana thinga kop (HM), Nchew (ZE)
Abundant
Epiphytic fern
Wild
The rhizome juice is applied to cure fresh cut wounds.
PM-568; 15-12-2007; S. Saisel. (Ph: 236)
Other uses: The fleshy creeping rhizome is collected during dry season, which are cleaned, pounded, mixed with rice flour and baked into cakes.

**Elaegnus latifolia** L. Syn. *E. infundibularis* Momiyama. (Elaeagnaceae)
Matau (HM)
Frequent
Lianes
Semi-wild
Leaf is boiled with water and is used to bath for curing body ache.
PM-569; 22-12-2008; Moulveng. (Ph: 97)
Other uses: Fruits eaten raw and Jelly prepared from ripened fruits.

**Entada pursaetha** DC. (Mimosaceae)
Poi (HM), Suthai (D)
Occasional
Climber
Wild
Fresh fruit paste is applied locally as antidote against insect bite and other stunged insects.
PM-470; 20-12-2007; S. Muolkoi. (Ph: 229)
Other uses: Seed paste mixed with black mustard seeds and used before cremation by the Dimasas.

_Eryngium foetidum_ L. (Apiaceae)
Patikhom(HM), Naga Dhania(NE), Bakhor(ZE)
Frequent
Herb
Cultivar
Crushed plant is made into paste and taken orally to control allergy.
PM-571; 15-12-2007; Saisel.
Other uses: Leaf used for flavoring curry and chutney.

_Ficus glomerata_ Roxb. (Moraceae)
Thei thot (HM), Dermi (DI)
Occasional
Tree
Wild
Five or seven leaves are taken together and made into a cone, then filled with water and are heated. The water is then applied in the eye for eye problems.
PM-572; 15-12-2007; Khamtalveng. (Ph: 99)
Other uses: Ripened fruits eaten raw.

_Hibiscus sabdariffa_ L. (Malvaceae)
Thakhiao maikhri(DI), Vai an thur avar pa(HM), Nkiaie (ZE)
Occasional
Under shrub
Jhum Cultivar
Leaf boiled and glassful is taken orally to cure dysentery.
PM-573; 22-12-2008; Moulveng. (Ph: 336)
Other uses: Leaf eaten cooked as vegetable.
**Jatropha curcas** L. (Euphorbiaceae)
- Mut maleng (HM), Rudaokhlong (DI), Dimul (HR), Lankhong (ZE)
- Abundant
- Shrub
- Wild/semi-domesticated
- The latex is mixed with *Aloe vera* L. leaf paste and applied to the burning skins.
- PM-574; 15-12-2007; S. Saisel.
- Other uses: The plants are grown as a live fencing.

**Leucus linifolia** Spreng. (Lamiaceae)
- Doron(NE), Phaih lo (HM)
- Occasional
- Herb
- Weed
- Leaf juice extracted is poured through nostrils to cure nasal bleeding.
- PM-575; 20-12-2007; Retzol.
- Other uses: Young shoot eaten cooked as vegetable.

**Nerium indicum** Mill. (Apocynaceae)
- Totoro-pareng (HM)
- Frequent
- Large shrub
- Cultivar
- Milky latex mixed with a little salt and applied to rupture boils.
- PM-576; 15-12-2007; Saisel.

**Ocimum basilicum** L. (Lamiaceae)
- Bahanda (DI), Vaipar(HM), Yungne(ZE)
- Frequent
- Herb
- Jhum Cultivar
- Leaf extract is taken orally twice daily for curing cough and cold.
- PM-577; 20-12-2007; S. Muolkoi. (Ph: 247)
- Other uses: Leaf used as chutney with green chilies.

**Oroxyllum indicum** (L.)Vent (Bignoniaceae)
- Phual-changkok (HM), Kalong (DI), Bakolong(HR)
- Occasional
Name: Tree

*Wild*

Bark crashed and the extract is mixed with water and taken to cure jaundice.

PM-578; 15-12-2007; Khamtalveng.

Other uses: Fleshy corollas eaten cooked as vegetable with fresh fish. Fleshy bark boiled with natural fibers to dye it and imparts blue colouration.

**Oxalis corniculata** L. (Oxalidaceae)

Khungbai an (HM)

Abundant

Herb

Wild/weed

The leaves are eaten raw or cooked as vegetable for curing minor stomach ailments.

PM-579; 20-12-2007; Retzol.

**Parkia roxburghii** G. Don. (Mimosaceae)

Zongta (HM/KU), Bairithai(DI), Nkampi(ZE)

Frequent

Tree

Semi Wild

Young fruits made into paste and take orally raw to cure stomach pain.

PM-580; 15-12-2007; Saisel. (Ph: 208)

Other uses: Young pods/matured seeds eaten cooked as vegetable and prepares chutney with dried fish.

**Poinsettia pulcherrima** R. Grah. (Euphorbiaceae)

Tlasik par (HM), Hekarapa (ZE), Per sen (HR), Christmas gaschi (KU)

Occasional

Shrub

Wild

Dried latex is applied to control teeth ache.

PM-581; 20-12-2007; Muolkoi

Other uses: Dried latex is preferred to chew by children.

**Rauvolfia serpentina** (L)Benth Kurz .ex. (Apocynaceae)

Thingzung kha (HM)

Occasional
Herb Cultivar
Crushed root juice extract is taken orally to control high blood pressure.
PM-582; 22-12-2008; Moulveng.

*Scoparia dulcis* L. (Scrophulariaceae)
Khung-baihlo (HM), Tinthi (HR)
Abundant
Herb
Wild
Plant extract is taken orally empty stomach early in the morning to cure diabetes and stomach pain.
PM-583; 15-12-2007; Saisel.

*Solanum torvum* Sw. (Solanaceae)
Sam tok (HM), Panthao khimkhatai gidiba(DI), Leenguipi(KU), Karinchi(ZE)
Abundant
Under shrub
Wild/ Semi domesticated
Young fruits are bitter taste and eaten cooked with mixed vegetable to control high blood pressure.
PM-584; 15-12-2007; Khamtalveng.

*Spilanthes acmella* L. *var.paniculata* Clarke. (Asteraceae)
Ansa Tlang(HM), Samberma(DI), Klungbua(ZE)
Frequent
Herb
Wild
Fresh inflorescences made into paste and applied locally to relieve teeth ache. The leaf paste is also taken early in the morning to cure mouth ulcer and also to prevent odour.
PM-585; 15-12-2007; Khamtalveng.

*Other uses:* Leaf eaten cooked as vegetable.

*Spondias pinnata* (L.f.) Kurz. (Anacardiaceae)
Jongmot (HM), Thaisudi(DI), Njing-chi(ZE)
Frequent
Tree
Wild /Semi domesticated
Ripened fruit pulp are heated and applied before bedtime to cure infection in between fingers.
PM-586; 20-12-2007; S. Muolkoi
Other uses: Ripened fruits eaten raw and tender fruits eaten cooked with fish.

**Travesia palmata** (Roxb) Vis. (Araliaceae)
Kotebel(HM), Kemtaudi(DI)
Occasional
Shrub
Semi domesticated
Inflorescences are boiled and made into paste and taken orally to cure dysentery.
PM-487; 22-12-2008; Moulveng. (Ph: 344)
Other uses: Inflorescence eaten cooked as vegetable or as boiled chutney with chilies.

**Terminalia arjuna** W&A. (Combretaceae)
Thing-hreiot popa (HM)
Occasional
Tree
Semi domesticated
Fresh barks crushed with leaves of *Cajanus cajan* (L.) Huth. and the extracted juice is taken orally to cure jaundice.
PM-588; 15-12-2007; Saisel.

**Vinca rosea** L. Syn. *Catharanthus roseus* (Apocynaceae)
Kuntluong par (HM)
Occasional
Herb
Cultivar
Few leaves made into paste and taken orally daily once to cure diabetes disease.
PM-589; 22-12-2008; Moulveng.

**Zanthoxylum oxyphyllum** Edgw. (Rutaceae)
Singite (HM), Timur(NE), Leuer (PN)
Occasional
Shrub
Wild
The crushed fruits applied for curing toothache.
Other uses: Young Leaf/seeds used as Chutney.
PM-590; 25-11-2007; Khuongluong. (Ph: 254)

**Zea mays** L. (Poaceae)
Vaimin (HM)
Frequent
Herb
Cultivar
Grinded corns are mixed with water and taken orally to cure mushroom poisoning.
PM-591; 20-12-2007; Retool.
Other uses: It is the second major cereal grown in the district.

**III. Medicinal Plants used by the Zeme Nagas:**

**Adhatoda vasica** Nees .Syn. **Justicia adhatoda** L. (Acanthaceae)
Geurim-heu (ZE)
Frequent
Shrub
Wild
Leaf extract is taken orally twice daily to cure tonsillitis and cough. Boiled leaf extract is also useful in controlling malaria fever.
PM-592; 26-10-2008; Saikam.

**Ageratum conyzoides** L. (Asteraceae)
Garibaheu (ZE)
Abundant
Herb
Wild
Leaf paste is applied locally for healing fresh cut wounds. It is also used as antidote for snake biting.
PM-593; 16-11-2008; Kelolo.

**Allium hookeri** Thw. (Liliaceae)
Tingdra(ZE), Tlang purun(HM)
Frequent
Herb
Juice is extracted and made into warm by heating and massaged over the body for quick relieving pain.

Other uses: Whole plant used as spice.

**Alstonia scholaris** Br. (Apocynaceae)
- Chongpereng (HM), Henam putungdui (ZE)
- Tree
- Wild
- Bark is crushed and soaked in water for some time and is taken daily until curing dysentery.

**Ananas comosus** (L.) Merr. (Bromeliaceae)
- Puatingram chi (ZE), Laimuri(DI), Rengthei(HM), Mortei (HR), Lengthai (KU)
- Herb
- Cultivar
- Half cup of the young leaf extract is taken orally once daily early in the morning to repel worm in children.

**Andrographis paniculata** Nees. (Acanthaceae)
- Chirota(DI/PN/ZE)
- Occasional
- Herb
- Cultivar
- The plant paste mixed with a little tuber of *Zingiber officinale* Rosc. and taken orally twice to cure cough and also to repel worms.

**Begonia palmata** D.Don (Begoniaceae)
- Theidon (HM), Sekhupdon (HR), Mping(ZE)
- The plant juice extract is used as stomach tonic and also shoots eaten cooked by mixing with vegetable.
Occasional
Herb
Wild
The juice extract is also taken orally twice daily to cure dysentery and cough.
PM-598; 26-10-2008; Michidui. (Ph: 326)
Other uses: Leaf and young shoots eaten cooked as vegetable.

*Begonia roxburghii* DC. (Begoniaceae)
Sekhupdon (HR), Alumikri (DI), Sekhupdon (HR), Mping (ZE)
Occasional
Herb
Wild
The juice extract is also taken orally twice daily to cure dysentery and cough.
PM-599; 26-10-2008; Nriachi bunglow. (Ph: 327)
Other uses: Leaf and young shoots eaten cooked as vegetable.

*Bryophyllum pinnatum* Kurz. (Crassulaceae)
Miru heu (ZE), Tenga patta (NE), Maikhri lai (DI)
Occasional
Herb
Semi domesticated
Leaf juice extract is also taken orally against stomach pain (i.e. removing kidney stones). Leaf paste is also applied on burned surfaces.
PM-600; 27-10-2008; Nriachi bunglow.

*Cajanus cajan* (L.) Hutch (Fabaceae)
Sewpi (ZE), Betleng (HM), Belhang (KU)
Frequent
Shrub
Cultivar
Leaf juice extract of half cup is taken orally twice daily to cure jaundice.
PM-601; 16-11-2008; Kelolo.
Other uses: Eaten cooked or raw as vegetable.

*Centella asiatica* (L.) Urban, Syn: *Hydrocotyle asiatica* L. (Apiaceae)
Mikharing (DI), Lambak (HM), Kopanig kua (HR), Naulai (KU), Manimuni (NE),
Krimbua (ZE)
Occasional
Creeping Herb

Weed

The plant is eaten cooked as revitalizer by mother of new born baby. Half cup of fresh plant juice extract taken orally early in the morning to cure dysentery, cholera and gastric. Clean juice is also applied as eye drop.

PM-602; 27-10-2008; Nriachi bunglow.

Other uses: Whole plant eaten cooked as vegetable.

*Curcuma domestica* Valet. (Zingiberaceae)

Silik di(DI), Aieng(HM/KU), leng(HR), Gumnei (ZE)

Frequent

Herb

Jhum Cultivar

The fresh rhizome and seeds of *Corchorus capsularis* L. are made into paste and applied to kill larvae in the wounds in human as well as domestic animals.

PM-603; 28-10-2008; Michidui.

Other uses: Dried rhizome powder used in curry.

*Eryngium foetidum* L. (Apiaceae)

Bakhni (ZE), Patikhom(HM), Naga Dhania(NJ)

Frequent

Herb

Cultivar

Plant paste is taken orally to enhance digestion.

PM-604; 28-10-2008; Michidui.

Other uses: Leaf used for flavoring curry and chutney.

*Eupatorium odoratum* L. (Asteraceae)

Sankhabli (DI), Kuliheu (ZE)

Abundant

Herb

Wild

Leaf is crushed to make paste and applied locally to cut wound surfaces to stop bleeding.

PM-605; 26-10-2008; Saikan.

Other uses: The plant is used as ichthyotoxins to stupefy fishes in water and also as bio pesticides.

200
**Sonchus arvensis** L. (Asteraceae)

Hepairamheo (ZE)

Abundant

Herb

Wild /weed

Leaves 7 to 10 crushed and boiled in water for about half an hour and the cooled water is taken orally empty stomach early in the morning. Frequently the dose is given to the childrens to control intestinal worms.

PM-606; 26-10-2008; Saikam.

**Vinca rosea** L.  Syn. *Catharanthus roseus* (Apocynaceae)

Wangpa (ZE), Kuntluong par (HM)

Occasional

Herb

Cultivar

Leaves are made into paste and taken orally daily once to cure diabetes disease.

PM-607; 27-10-2008; Nriachi bunglow.

**Zingiber officinale** Rosc. (Zingiberaceae)

Hajing(DI), Ai thing(HM), Aithing (HR), Theing(KU), Kaphu/ Kebeb (ZE)

Abundant

Herb

Jhum Cultivar

Rhizome juice is mixed with lemon juice and taken orally to cure cough and also against indigestion problem.

PM-608; 26-10-2008; Michidui. (Ph: 255)

Other uses: Rhizome/young inflorescences used as spice.
Ph: 363. a. culm & b. spathe: *Dendrocalamus asper*

Ph: 364. a. culm & b. spathe: *Bambusa arundinacea*

Ph: 365. a. culm & b. spathe: *Bambusa auriculata*
Ph: 366: *Bambusa balcooa*

Ph: 367: *Oxytenanthera parviflora*

Ph: 368.a. culm & b. spathe: *Bambusa balcooa*

Ph: 369.a. culm & b. spathe: *Bambusa cacharensis*
Ph: 370.a. culm & b. spathe: Bambusa garuchakua

Ph: 371.a. culm & b. spathe: Dendrocalamus hookeri

Ph: 372.a. culm & b. spathe: Bambusa pseudopallida
Ph: 373.a. culm & b. spathe: *Bambusa tulda*

Ph: 374.a. culm & b. spathe: *Bambusa vulgaris var. vittata*

Ph: 375.a. culm & b. spathe: *Bambusa vulgaris forma waminii*
Ph: 376.a. culm & b. spathe: *Melocalamus compactiflorus*

Ph: 377.a. culm & b. spathe: *Dendrocalamus patellaris*

Ph: 378.a. culm & b. spathe: *Dendrocalamus strictus*
PHOTOPLATE: 77: BAMBOO GENETIC RESOURCES

Ph: 379.a. fruit & b. spathe: Melocanna baccifera

Ph: 380.a. culm & b. spathe: Pseudosasa japonica

Ph: 381.a., b. culm & c. spathe: Gigantochloa albociliata
Ph: 382.a. culm & b. spathe: *Dendrocalamus longispathus*

Ph: 383.a. culm & b. spathe: *Phyllostachys mannii*

Ph: 384.a. culm & b. spathe: *Bambusa jaintiana*
Ph: 385.a. culm & b. spathe: *Melocalamus indicus*

Ph: 386.a. culm & b. spathe: *Chimonobambusa quadrangularis*

Ph: 387.a. culm & b. spathe: *Dendrocalamus hamiltonii*
PHOTOPLATE: 81: BAMBOO CONSTRUCTION AND BAMBOO BASKETRY

DIMASA: A. House made of bamboo

DIMASA: B. The Bamboo roof

DIMASA: C. Bamboo construction work
PHOTOPLATE: 82: BAMBOO CONSTRUCTION AND BAMBOO BASKETRY

DIMASA: D. Khailim - storage basket.

DIMASA: E. Household articles and Muri (Musical instrument)  F. Household articles

DIMASA: G. Kulu  

DIMASA: I. Jembai  

DIMASA: J. Kojong
PHOTOPLATE: 83: BAMBOO CONSTRUCTION AND BAMBOO BASKETRY


Ph: 397: Folk women selling Bamboo Basketry at Haflong

HMAR: A. Hmui B. Herawt


BIATE: A. Bamboo basketry
PHOTOPLATE: 84: BAMBOO CONSTRUCTION AND BAMBOO BASKETRY

BIATE: B. Bamboo basketry

BIATE: C. Biate bow

Ph: 399: BIATE: A to C

Ph: 400: HRANGKHOL: A: Resem
E. BAMBOO AND CANE RESOURCES

I. Bamboo Genetic Resources:

Bamboo is woody grass belonging to the family Poacae and sub-family Bambusoideae. The bamboo genetic resources are varied and wide grown in the hilly terrains of N.C.Hills district. Most of them are wildly grown and some are recorded to be cultivated in the homestead area. The utilization and management of different species of bamboo is most important for the ethnic people of the district. As they are hill dwelling and due to lack of good communication network, the bamboo resource occupies a special position in their traditional ethnic life i.e. young shoot as food, construction of house, making household items, utensils and also in traditional rites and rituals etc. Some of the recorded bamboo resources from the area are as in the following-

_Bambusa arundinacea_ (Retz.) Willd. Syn._Bambusa bambos_ (Linn.) Voss.
Kotoh bah (AS), Washi (DI)
A very densely tufted bamboo, producing large dense clumps. _Culms_ strong, hollow, upto 30 m tall, 15-18 cm in diameter; branches with thorns.
PM-609; 16-12-2007: Choto Waphu. (Ph: 364)

_Bambusa auriculata_ Kurz.
Makal bah (AS), Washi (DI)
An evergreen, tufted bamboo. _Culms_ 12-16 m tall, 5-7 cm in diameter.
PM-610; 22-09-2008; Gurubari. (Ph: 365)

_Bambusa balcooa_ Roxb.
Bholuka bah (AS), Wayung(DI)
A tall caespitose bamboo. _Culms_ 12-20 m high, 8-15 cm in diameter, very thick walled. Much branched from the base.
PM-611; 20-12-2008; Dikrik. (Ph: 366)

_Bambusa balcooa_ Roxb.
Bholuka bah (AS), Wayung (DI)
A tall caespitose bamboo. _Culms_ 12-20 m high, 8-15 cm in diameter, very thick walled. Branches arise from 7-10 ft. above.
PM-612; 26-10-2008; Michidui. (Ph: 368)

_Bambusa cacharensis_ R.Mazumdar.
Wa lao (DI)
A tall bamboo. *Culms* 20-21 m tall, 5-10 cm in diameter. Endemic to N.C.Hills.
PM-613; 07-12-2009; Sampharidisha. (Ph: 369)

*Bambusa garuchakua* Barooah and Borthakur.

Bhenda makal bah(AS), Washi (DI)
A tall bamboo species. Found to be cultivated low lying areas.
PM-614; 25-12-2008; Diyungmukh. (Ph: 370)

*Bambusa jaintiana* R.Majumdar.

Washi (DI)
This species is allied to *Bambusa tulda* but differs in having glabrous *culm* sheaths. Sometimes yellowish white stripe at base observed.
PM-615; 08-12-2009; Sampharidisha. (Ph: 384)


Dang bah(AS), Wa kashiba (DI)
A thickly growing, caespitose bamboo. *Culms* usually 2-4 m high, 1.5-2.5 cm in diameter. Recorded to be cultivated as hedge.
PM-616; 12-01-2009; Dibarai.

*Bambusa pallida* Munro.

Bijuli bah(AS), Wamli (DI)
A caespitose bamboo. *Culms* 13-20 m high, 5-8 cm in diameter, smooth, covered with white powder. Recorded to be cultivated from the area.
PM-617; 12-01-2009; Dibarai.

*Bambusa pseudopallida* R. Mazumdar.

Wamli (DI)
This species is allied to *B. pallida* Munro. having shrubby habit. *Culm* sheaths blade longer than the sheath but auricle pointed, one projecting upwards and the other downwards.
PM-618; 22-09-2008; Gurubari. (Ph: 372)

*Bambusa tulda* Roxb.

Jatibah (AS), Washi (DI)
An evergreen or deciduous tufted bamboo variety. *Culms* 7-20 cm high, 5-10 cm in diameter, sometimes streaked with yellow.
PM-619; 22-09-2008; Gurubari. (Ph: 373)

*Bambusa vulgaris* var. *vittata* A.C. Riviere.
Sonali bah (AS), Washi (DI)
This variety differs from *B. vulgaris* in having clear pale-yellow culms with few narrow dark green vertical streaks or rarely light green with pale-yellow streaks.
PM-620; 12-01-2009; Disgao razi. (Ph: 374)

*Bambusa vulgaris* forma *waminii* (Brandis) Wen.

Kolosi bah (AS)
This form differs from typical *B. vulgaris* by its internodes 10-15 cm long, rarely longer, at base much swollen (pitcher shaped), the swollen part 10-20 cm in diameter.
PM-621; 12-01-2009; Haflong town. (Ph: 375)

*Chimonobambusa callosa* (Munro) Nakai Syn. *Arundinaria callosa* Munro.

Wa shu(DI)
A shrubby bamboo. Culms erect, 4-7 m tall, 1.2-2.5 cm in diameter, greyish-green; nodes armed with a circle of conical spines.
PM-622; 25-12-2008; Diyungmukh.

*Chimonobambusa jainiana* Das & Pal.

Wa mishel (DI), Kepaii (ZE)
A rather soft, evergreen, caespitose bamboo. Culms 7-10 m tall, 2.5-3.8 cm in diameter.
PM-623; 12-01-2009; Disgao razi

*Chimonobambusa quadriangularis* (Fenzi)Makino

Washi thapra (DI)
Thorny, hard, durable bamboo and recorded to be cultivated.
PM-624; 08-12-2009; Sampharidisha. (Ph: 386)

*Dendrocalamus asper* Roem. and Schult (Baker ex. Heyne)

Washi (DI)
Solid and hard bamboo, recorded to be cultivated also.
PM-625; 21-09-2008; Upper Bagetter. (Ph: 363)

*Dendrocalamus giganteus* Munro.

Wa mishel (DI), Kepaii (ZE)
The tallest bamboo with close culms. Culms 25-30 m tall, 20-30 cm in diameter, usually 2-2.5 cm thick. Scrapping the stem the cotton is extracted and is use to bandage cut wounds. The culms are also used for carrying and storage of water.
PM-626 ; 26-10-2008; Nriachi bunglow.
**Dendrocalamus hookeri** Munro

Washi (DI)

Recorded to be cultivated in Dikrik village.

PM-627; 20-12-2008; Dikrik. (Ph: 371)

**Dendrocalamus longispathus** Kurz

Walao (DI)

Wild grown with very long *Culms*, creeping rhizome.

PM-628; 05-11-2009; Borail reserve forest/Ditockcherra. (Ph: 382)

**Dendrocalamus patellaris** Gamble. Syn. *Ampelocalamus patellaris* (Gamble) Stapleton

Wa mishel (DI), Kepaii (ZE)

A deciduous densely tufted bamboo. *Culms* 8-16 m tall, 5-12 cm in diameter.

PM-629; 12-01-2009; Sarkari bagan.(Ph: 377)

**Dendrocalamus hamiltonii** Nees et Arn. ex Munro

Kako bah(AS), Washi (DI)

An evergreen, tufted, large caespitose bamboo. *Culms* 10-20 m high, 10-16 cm in diameter, thin walled.

PM-630; 12-01-2009; Nehru yuva Kendra, Sarkari bagan(Ph: 387)

**Dendrocalamus strictus** (Roxb.) Nees.

Wa mishel (DI), Kepaii (ZE)

A deciduous densely tufted bamboo. *Culms* 8-16 m tall, 2.5-8 cm in diameter, thick walled.

PM-631; 12-01-2009; Disgao razi. (Ph: 378)

**Dinochloa maclellandii** (Munro) Kurz.

Wa dukha(DI)

An evergreen lofty climbing bamboo. *Culms* up to 30 m long.

PM-632; 29-10-2008; Laisong

**Gigantochloa albociliata** (Munro)Kurz

Wathi gisim (DI), Phesa bash/Kali chundi (Bengali; Creeping rhizomes and a purple black ring just above the nodes. *Culms* thin walled, 3-5 cm. in diameter.

PM-633; 05-11-2009; Borail reserve forest/Ditockcherra. (Ph: 381)

**Melocanna baccifera** (Roxb.) Kurz Syn. *Melocanna bamhusoides* Trin.

Mulibah (AS), Wathi (DI)
Most common and wild grown in the district. Shoot is mostly preferred to eaten cooked with pork meat.
PM-634; 07-12-2009; Sampharidisha. (Ph: 379)

*Melocalamus compactiflorus* (Kurz) Benth. Syn. *Dinochloa compactiflora* (Kurz)
McClure
Wayung (DI)
Densely tufted bamboo. *Culms* 20-30 m tall, 8-20 cm in diameter. Shoot mostly preferred by the ethnic people.
PM-635; 07-12-2009; Sampharidisha. (Ph: 376)

*Melocalamus indicus* R.Mazumder
Washim (DI)
Young stem hairy, much branched and tufted bamboo. Shoot mostly preferred to eaten cooked by *Dimasas*.
PM-636; 08-12-2009; Sampharidisha. (Ph: 385)

*Oxytenanthera parvifolia* Brandis ex Gamble.
Wathai-washi (DI)
Most commonly wild grown in the district. Shoots eaten cooked and seeds used to prepare local rice beer *Judima* by the *Dimasas*.
PM-637; 22-09-2008; Gurubari. (Ph: 367)

*Phyllostachys mannii* Gamble
Wadreng (DI)
The only differences with the *Bambusa pallida* Munro. are the *Culms* very thin walled and little larger in size.
PM-638; 07-12-2009; Sampharidisha. (Ph: 383)

*Pseudosasa japonica* (Sieb. & Zucc. ex Steud.) Makino ex Nakai.
Wa apatani (DI)
A shrubby bamboo. *Culms* 2-5 m tall, 5-15 mm in diameter, green. Found to be cultivated only.
PM-639; 12-01-2009; Topodisha. (Ph: 380)

*Schizostachyum helferi* (Mumo) R. Majumder
Wa misher (DI)
Branches pendulous, Recorded to be cultivated.
PM-640; 23-10-2009; Miyungkhrow
II. Cane Genetic Resources:

Cane or Rattan are mostly trailing or climbing spiny-palms with characteristic scaly fruits, classified under the palm family Aracaceae (Palmae). Like the bamboos the canes are also mostly wild grown in the district and occupy an important position in the traditional life of the ethnic hill people. They mainly use the cane resources for construction and making household items like basketry etc. The most common use observed is used as ropes and fibers for tie up in construction and also in making household items or bamboo basketry. Some of the important canes recorded from the study area are as in the following-

*Plectocomia assamica* Griff.
   Raígongang (DI)
   A densely tufted ratten. Fruits are edible.
   PM-641; 20-12-2007; Jatinga. (Ph: 388)

*Calamus flagellum* Griff.
   Raígong longerba (DI)
   A large scandent ratten.
   PM-642; 20-12-2007; Jatinga. (Ph: 389)

*Calamus gracilis* Roxb.
   Raígong dukha (DI)
   A slender climbing cane.
   PM-643; 20-12-2008; Dikrik. (Ph: 390)

*Calamus rotang* L.
   Raígong phang gidiba (DI), Tingdon(HM), Heart(ZE)
   Scrambling, stout cane. Pith of the young shoots eaten cooked as vegetable or chutney.
   PM-644; 20-12-2007; Retzol. (Ph: 391)

*Calamus tenuis* Roxb.
   Raígong dukha (DI)
   A thin climbing cane.
   PM-645; 21-12-2007; Longma-III. (Ph: 392)

*Calamus acanthopathus* Griff.
   Raígong phang gidiba (DI)
   A large and high scandent cane. *Stem* large, upto 2.5 cm in diameter.
**Daemonorops jenkinsianus** (Griff.) Mart.
Raigong gidiba(DI), Heart/Jui (ZE); Thiam/Rumai-tuni (HR)
High scandent cane. *Stem* large, upto 2.5 cm in diameter.

**Calamus leptospadix** Griff
Raigong dukha (DI)
Stem climbing or scrambling, stout.

PM-648; 20-12-2007; Retzol. (Ph: 395)

### III. Bamboo Basketry and Household items:

Bamboo and cane resources are the most important plant resources found to be utilized by all the ethnic groups of the present study area. They use in almost all the time starting from day to day life to every festive occasions. Some of the most common and important bamboo and Cane constructions, baskets or household items and other utensils etc as well as musical instruments documented are given very briefly.

**The Dimasas:** (DIMASA: A to K: Ph: 396)

- DIMASA: A. House made of bamboo
- DIMASA: B. The Bamboo roof
- DIMASA: C. Bamboo construction work
- DIMASA: D. Khailim-storage basket
- DIMASA: E. Household articles and *Muri*(Musical instrument)
- DIMASA: F. Household articles
- DIMASA: G. Kulu (Traditional rice beer filter/extractor)
- DIMASA: H. Yamza (Traditional bamboo mat)
- DIMASA: I. Jembai (Basket/container and also used to keep fishes during fishing)
- DIMASA: J. Kojong (Comb)
- DIMASA: K. Gowai Katho (Traditional *Pan bota*)

Ph: 397: Folk women selling Bamboo Basketry products at Haflong.

**The Hmars:** (HMAR: A to F: Ph: 398)

- HMAR:A. Hmui (Traditional spinning wheel)
- HMAR: B. Herawt (Traditional cotton fiber separator from bole)
HMAR: C. Fahrel (Mortar and pistil husking rice and making grain flour. This is made of only *Mesua ferrea* L. wood.)

HMAR: D. Khuong (Traditional drum)

HMAR: E. Kawng vang, Kawng phui, Pai kawng, Kwang vawn and Ta Khlip (All are different types of baskets)

HMAR: F. Container made of dried shell of *Lagernaria siceraria* (Molina) Standley. and Bamboo.

**The Biates**: (BIATE: A to C: Ph: 399)

BIATE: A: Different types of baskets used for different purposes.
1. Koksingnei
2. Champai
3. Merchakok
4. Seng
5. Kok

BIATE: B: Some other important household items.
1. Ritai (Hair band)
2. Mebor
3. Changal Phar (Basket used for extraction of rice beer)
4. Sengbem
5. Sampai
6. Bentak
7. Sanlai (Traditional stool)
8. Rel (Storage basket)
9. Rilei (Used for cleaning grains)

BIATE: C: Bow used by traditional *Biate* hunter.
1. Isaan
2. Phan

**The Hrangkhols**: (HRANGKHOL: A: Ph: 400)

HRANGKHOL: A.

The Vaipheis: (VAIPHEIS: A & B: Ph: 401)

VAIPHEI: A. Traditional fire making box and Gunpowder storage container.
VAIPHEI: B. Traditional fire making box.

The Rongmei Nagas: (RONGMEI NAGA: A. & B.: Ph: 402)

RONGMEI NAGA: A.
1. Kaa (Basket)
2. Kalowang (Basket)
3. Jaumu (Container made of dried shell of *Lagernaria siceraria* (Molina) Standley.)
4. Kaukdun (Basket/container)

RONGMEI NAGA: B.
Moi (Traditional spinning wheel)
PHOTOPLATE: 86: MATERIAL USES: DYE YIELDING PLANTS

Ph: 403: Baphicanthus cusia
Ph: 404: Bixa orellana
Ph: 405: Lawsonia inermis
Ph: 406: Pronephrium lakhimpurensis
Ph: 407: Morinda angustifolia
Ph: 408: Mussaenda roxburghii
Ph: 409: *Kaempferia rotunda*

Ph: 410: *Abelmoschus moschatus*


Ph: 411: b. Brush made of fruit

Ph: 412: Removing bark of *Sterculia villosa* by a *Dimasa* man
**PHOTOPLATE: 88: MATERIAL USES: MISCELLANEOUS USES OF PLANTS**

Ph: 413: *Phrynium capitatum*

Ph: 414: *Sida rhombifolia*

Ph: 415: *Trema orientalis*

Ph: 416: *Sterospermum chelonoides*

Ph: 417: *Argyrea argintina*

Ph: 418: *Butea minor*
PHOTOPLATE: 89: MATERIAL USES: FISH POISON, SOAP & DETERGENT AND PESTICIDAL PLANTS

Ph: 419: *Milletia pachycarpa*

Ph: 420: *Randia spinosa*

Ph: 421: *Sapindus mukorossi*

Ph: 422: *Araliaceae* (Maithaiju-DI)

Ph: 423: *Melia composita*

Ph: 424: *Plumbago zeylanica*
Heteropanax fragrans

Perceea lanceolata

Ricinus communis

Jonthai: the traditional priest using Melocanna buccifera culm and Musa sp. leaf.

Damadidikho at the confluence of river Diyung and Hagong.

Clan Gods worshiped here.
F. PLANT RESOURCES FOR MATERIAL USES

Plant resources for material uses are important resources for the ethnic people of the area and they are found to be utilized and manage these resources sustainably with the available local plant resources. According to their uses the, it is further subdivided into the following-

I. Soap, Detergent and Alkali preparation:
II. Dye Yielding Plants:
III. Fiber Yielding Plants:
IV. Ichthyotoxic Plants:
V. *Eri* Silkworm Rearing Plants:
VI. Pesticidal Plants:
VII. Sacred Groves and Sacred Plants of the *Dimasas*:
VIII. Miscellaneous Plant Resources:

I. Soap, Detergent and Alkali preparation:

The recorded locally available plant resources to be used for traditional soap, detergent and alkali preparation are discussed along with their mode of use under this subheading. These uses are still prevalent in the present study area due to the communication gap and lack of modern infrastructure facilities related to modern lifestyle. The documented plant resources for the purpose are as in the following-

* *Aloe vera* L. (Agavaceae)

Sabun-phang (DI)
Occasional
Herb
Cultivar
Tender shoots crushed and rubbed on the water soaked clothes to produce lather. It is used to wash *Rithap* (*Eri* silk shawl) by the *Dimasas*. Sold in the local markets@Rs.5/ 5 leaves.

PM-649; 12-06-2008; Choto waphu, Haflong.

*Bauhinia vahlii* (Wt. & Arn.) Benth. (Caesalpiniaceae)

Vaibe (HM)
Occasional
Lianes/ climber
Wild
Tender shoots and bark are crushed and rubbed over the body and head to produce lather while bathing.
PM-650; 20-12-2007; Retzol.

**Dioscorea bulbifera** L. (Dioscoreaceae)
Thaphu miyung-wablai (DI), Basel phauk (HM), Baha (MI)
Occasional
Climber
Semi domesticated
Tender shoots are crushed and rubbed on the wet hairs and skin to produce lather for bathing.
PM-651; 18-12-2008; Choto Waphu. (Ph: 278)

**Ipomea batatas** (L.) Lamk. (Convolvulaceae)
Thamunglai Gajao (DI), Kolkai (HM), Gaithum (MI), Reukumbe (ZE)
Frequent
Creeper
Cultivar
The peeled and crushed tuber paste is applied to rejuvenate skin.
PM-652; 20-12-2007; Muolkoi.

**Musa bulbisiana** Colla. (Musaceae)
Thailikatsia/Thailik gibi (DI), Nachang (MI/HM)
Frequent
Large herb
Cultivar
Dried leaf sheath and stem are burned and the ash is taken in a pot and the water poured on it. The extract is known as *Khari* (DI). It is used to clean clothes boiled in a container and a little *Khari* is added. Later the boiled clothes are thoroughly washed.
PM-653; 24-08-2008; Longma-III. (Ph: 124)

**Sesamum indicum** DC. (Pedaliaceae)
Sibing (DI), Sivar (HM), Geching (ZE)
Frequent
Herb
Jhum Cultivar
Leaves crushed and rubbed on the wet hairs and body to produce lather for bathing.
Sapindus mukurossi Gaertn. (Sapindaceae)

Phukathai (DI), Lhling-simu (HM), Bulung (KU), Tegau-chi (ZE)
Occasional
Tree
Wild
Dry or fresh crushed seed coat produces lather; is used for washing Rithap (Eri silk shawl) by the Dimasas. It is also used for bathing and substitute of shampoo for cleaning hairs.

PM-655; 07-12-2009; Sampharidish. (Ph: 421)

Sida rhombifolia L. (Malvaceae)

Jaraphang (DI)
Occasional
Under shrub
Wild
Tender shoot rubbed on body and head that produces lather for bathing.

PM-656; 22-09-2008; Gurubari. (Ph: 414)

Ocimum basilicum L. (Lamiaceae)

Bahanda (DI), Vaipar (HM), Yungne (ZE)
Frequent
Herb
Jhum Cultivar
Crushed leaf used as hand wash to keep away bad odour.

PM-657; 07-12-2009; Sampharidish. (Ph: 247)

Impatiens balsamina L. (Balsaminaceae)

Sabon- laiphang (DI)
Frequent
Herb
Wild
Crushed stem is crushed and rubbed by hands and used as hand wash.

PM-658; 20-12-2007; Boro Waphu.

Unidentified species (Araliaceae)
Maithaiju (DI)
Occasional
Dried stem burned into charcoal is taken in a pot and then water poured on it. The extract is known as *Maithaiju Khari* (DI). It is used mainly as alkali solution for cooking and also to clean clothes. The clothes boiled in a container and a little *Khari* is added. Later the boiled clothes are thoroughly washed.

PM- 659; 07-12-2009; Sampharidisha. (Ph: 422)

**II. Dye Yielding Plants:**

The vegetable dyes used by the local people are eco friendly and also known to be skin friendly. They use various plants and plant parts for the purpose for different colouration. Some of the recorded plant resources with their colour and mode of uses are given as in the following-

*Baccaurea ramifolia* (Roxb.) Muell.-Arg. (Euphorbiaceae)

- Letuk(AS), Kosmai thai(DI), Theipangkai (KU), Pangkai thei (HM), Kauchi (ZE)
- Occasional
- Tree
- Semi domesticated
- Fresh leaf paste yields chocolate coloured dye. Used for dyeing cotton and other natural fibers.

PM-660; 20-12-2007; Jatinga.

*Baphicanthus cusia* (Nees) Brem. (Acanthaceae)

- Janglongphang (DI)
- Occasional
- Shrub
- Wild
- Leaf and bark dried and grinded then boiled with water. It imparts indigo blue dye used for dyeing cotton fibers.

PM- 661; 12-01-2009; Dibarai. (Ph: 403)

*Basella rubra* L. (Basellaceae)

- Thakhrai gajao(DI), Maghi(ZE)
- Frequent
- Climber
Cultivar
Fresh ripened fruit juice is used to dye cotton fibres.
PM-662; 07-12-2009; Sampharidisha. (Ph: 324)

*Bixa orellana* L. (Bixaceae)

Sindur phang (DI)
Occasional
Tree
Wild
Dried seeds mixed with water and used to dye natural fibers that imparts orange-red colouration.
PM-663; 22-09-2008; Gurubari. (Ph: 404)

*Curcuma domestica* Valet. (Zingiberaceae)

Silik di(DI), Aieng(HM/KU),Gumnei (ZE)
Frequent
Herb
Jhum Cultivar
Dried rhizome powder boiled with water and used to dye natural fibers.
PM-664; 07-12-2009; Sampharidisha.

*Hedyotes scandens* D. Don. (Rubiaceae)

Hachuk (HR)
Occasional
Tree
Wild
The plant body is crushed and used for dyeing natural fibres. It imparts purple-black colouration.
PM-665; 25-10-2008; Buolzol. (Ph: 357)

*Hodgsonia macrocarpa* (Bl.) Cogn. (Cucurbitaceae)

Khaukluthaibai(DI), Kha um(HM), Nsui chi(ZE)
Frequent
Climber
Wild
Crushed stem produces brown coloured dye that is used for dyeing cotton fibres.
PM-666; 12-01-2009; Dibarai. (Ph: 174)

*Indigofera tinctoria* L. (Fabaceae)
Gisimlai-phang (DI)
Occasional
Under shrub
Cultivar
Leaves and young shoots made into paste and used for dying natural fibers.
PM-667 ; 15-01-2009; Dimalik Razi.

Kaempferia rotunda L. (Zingiberaceae)
Silikdi bakhor-gisim(DI)
Rare
Herb
Wild
Rhizome paste imparts black coloured dye that is used to dye cotton fibre.
PM-668; 07-12-2009; Sampharidisha. (Ph: 409)

Lawsonia inermis L. (Lythraceae)
Jantoka (DI)
Occasional
Shrub
Cultivar
Leaves made into paste and applied into finger nails. After washing nails become orange-red coloured.
PM-669; 20-12-2008; Dikrik. (Ph: 405)

Morinda angustifolia Roxb. (Rubiaceae)
Serlong-phang (DI)
Occasional
Shrub
Wild
Fresh roots cut into pieces and boiled in water. The boiled juice is used to dye cotton fibres.
PM- 670; 12-01-2009; Dibarai. (Ph: 407)

Mussaenda roxburghii Hk.f. (Rubiaceae)
Klimbihan-dao (DI)
Abundant
Shrub
Wild
Barks and leaves boiled in water and imparts yellow colour that is used to dye cotton fibres and colouring baskets.

PM-671; 12-01-2009; Dibarai. (Ph: 408)

**Nyctanthes arbor-tristis** L. (Nyctanthaceae)

- Pipli phang (DI)
- Occasional
- Tree
- Cultivar

Fresh flower paste is used to dye household items. Imparts orange colour.

PM-672; 16-12-2007: Choto Waphu.

**Oroxyllum indicum** (L.)Vent (Bignoniaceae)

- Kalong (DI), Bakolong(HR), Phual-changkok (HM)
- Occasional
- Tree
- Wild

Fleshy barks boiled with natural fibers to dye it and imparts blue colouration.

PM-673; 16-12-2007: Choto Waphu.

**Phlogacanthus curviflorus** Nees. (Acanthaceae)

- Aluso(DI)
- Occasional
- Under shrub
- Wild

Stem close to the soil surface part is used to produce red dye, that is mainly used for dyeing natural fibers like cotton and Eri silk.

PM-674; 07-12-2009; Sampharidisha. (Ph: 340)

**Pronephrium lakkimpurensis** (Rosenst.) Holt. (Thelypteridaceae)

- Daomalai birchi (DI)
- Abundant
- Herb/Fern
- Wild

Fresh leaf/fronds made into paste and then used to dye natural fibers that imparts olive green colouration.

PM-675; 07-12-2009; Sampharidisha. (Ph: 406)

**Sarchochlamys pulcherrima** (Roxb.) Gaud. (Urticaceae)
Mishaigi(DI), Lengo(HM), Endaugi(ZE)
Abundant
Under shrub
Wild
Leaf and fresh stems boiled in water to dye clothes and imparts Brown colouration.
PM-676; 21-12-2007; Longma-I.

*Syzygium cumini* (L.) Skeels (Myrtaceae)
Jambu thai(DI), Sepuinusu (HM), Thei-vom (KU), Hmuizolong(HR), Jamun (NE), Mui-chi (ZE)
Occasional
Tree
Wild/Semi Wild
The bark of the tree is boiled with cotton or Eri silk yarn thus shows the purple brown coloration. This is also used to dye trap nets by the traditional hunters for camouflage advantage to trap animals like Bat etc.
PM-677; 22-12-2008; Gunjung.

*Tectona grandis* L. f. (Verbenaceae)
Sugun phang (DI)
Occasional
Tree
Cultivated
The tender shoots rubbed and used to dye household and other child’s playthings.
PM-678; 13-12-2007; Hojai.

**III. Fiber Yielding Plants:**

Plant resources for extraction or fibers to use in day to day life as well as for weaving etc. are recorded from the study area. Some of the plants with mode of fiber extraction and their uses recorded are given as in the following-

*Abelmoschus manihot* (L.) Medic. (Malvaceae)
Thakhlao maikhri gajao(DI), Vai an thur asen(HM)
Abundant
Herb
Jhum Cultivar
Raw fiber is extracted from the bark of the plant body and used to make cordages.
PM-679; 22-12-2008; Moulveng. (Ph: 322)

**Abelmoschus moschatus** (L.) Medic. (Malvaceae)

Michi mogrong/Michi moro (Di)
Frequent
Under shrub
Wild
Raw fiber is extracted from the bark of the plant body and used to make ropes and cordages.
PM-680; 07-12-2009; Sampharidisha. (Ph: 410)

**Abroma augusta** L. (Sterculiaceae)

Gorukhia-koroi (AS), Dieng-tyrkhum (PN)
Frequent
Shrub
Wild
After rating of the bark in water for 5-7 days the pale yellow coloured and soft fibers are extracted and are used for making rope.
PM-681; 20-12-2007; Jatinga. (Ph: 91)

**Abutilon indicum** (L.) Sweet. (Malvaceae)

Dukhun phang (Di)
Occasional
Herb (Perennial)
Wild
Retted stem fibers in water in used as rope for making the indigenous traps by the ethnic people.
PM-682; 21-12-2007; Longma-II.

**Bauhinia vahlii** (Wt. & Arn.) Benth. (Caesalpiniaceae)

Vaibe (HM)
Occasional
Lianes/Climber
Wild
bark are crushed and rubbed over the body and head to produce lather while bathing.
PM-683; 20-12-2007; Retzol.
**Bombax ceiba** Burm. (Bombaceae)

Simliphang (DI)

Occasional

Tree

Wild

Fibers extracted from matured fruits are used for making mattress and pillow.

PM-684; 22-12-2008; Gunjung.

**Corchorus capsularis** L. (Tiliaceae)

Morapat /Titapatta (DI)

Occasional

Under shrub

Cultivar

After rating of the bark in water for 5-7 days the soft fibers extracted and are used for making rope, cordage and bags etc.

PM-685; 22-12-2008; Gunjung.

**Corchorus olitorius** Wall. (Tiliaceae)

Morapat(DI), Vaizahrui(HM)

Occasional

Under shrub

Cultivar

After rating of the bark in water for 5-7 days the soft fibers extracted and are used for making rope, cordage and bags etc.

PM-686; 20-12-2008; Dikrik.

**Gossypium herbaceaum** L. (Malvaceae)

Khun (DI), Pat (HR), Klung (ZE)

Occasional

Shrub

Cultivar

Ripened bole is the source of raw cotton fiber. It is used in the traditional weaving.

PM-88/ IC no.-560842; 18-02-2008; Gurubari.

**Grewia hirsuta** Vahl. (Tiliaceae)

Phan (KU)

Occasional

Shrub
Wild
Stem bark fibers are used to make ropes and mats.
PM-687; 25-11-2007; Khuongluong.

*Hibiscus sabdariffa* L. (Malvaceae)
- Thakhla maikhri (DI), Vai an thur avar pa (HM), Nkiaie (ZE)
- Occasional
- Undershrub
- Jhum Cultivar
- Raw green bark is a very strong fiber used as rope.
PM-688; 22-12-2008; Moulveng. (Ph: 336)

*Milletia pachycarpa* Benth. (Fabaceae)
- Rojao phang (DI), Rucho/Irre (HR)
- Occasional
- Lianes
- Wild
- Stem fiber is very strong and used as rope in day to day life by the *Dimasas*.
PM-689; 22-09-2008; Gurubari. (Ph: 419)

*Pandanus sp.* (Pandanaceae)
- Pat khui (HR)
- Occasional
- Under shrub
- Semi domesticated
- Dried fruit is used as cleaning brush.
PM-690; 22-09-2008; Buolzol. (Ph: 411)

*Sida cordifolia* L. (Malvaceae)
- Jaraphang (DI)
- Occasional
- Herb (much branched)
- Wild
- From stem fiber white silky fiber extracted and having a very good quality fiber used to make ropes etc.
PM-691; 22-09-2008; Gurubari.

*Sterculia villosa* Roxb. (Sterculiaceae)
- Dukhundu (DI)
Frequent
Large tree
Wild
Inner layers of the bark are very strong and coarse fiber mainly used for rope, basket-rope (*Lonkhaideu*-DI) and many aspects of day to day life.
PM-692; 16-12-2007; Choto Waphu. (Ph: 412)

**Urena lobata** L. (Malvaceae)
Thalte (KU)
Occasional
Under shrub
Wild
Strong, white stem fiber is used to make ropes and mats.
PM-693; 25-11-2007; Khuongluong.

**Yucca sp.** (Liliaceae)
Dukhun-shu phang (DI), Pat khui (HR)
Occasional
Under shrub
Wild
Rated leaf fibers are used to make ropes.
PM-694; 20-12-2008; Dikrik.

### IV. Ichthyotoxic Plants:

These plant resources are used for individual as well as community fishing for grand feast by the ethnic groups of the area. They use these herbal fish stupefying plant resources to stupefy the fishes in water during fishing. These herbal poisons are used for localized fishing in water and have no effect on water bodies. This fishing technique is for their livelihood and sustainably managed not to kill all the fishes in the water bodies like streams and lakes etc. Some of the recorded such plant resources are-

**Acacia pinnata** (L.) Willd. (Mimosaceae)
Suji (DI), Khang muk(HM), Tingchi-heu (ZE)
Occasional
Lianes
Semi wild/semi domesticated
Stem bark is crushed with stone and used as ichthyotoxins to stupefy fishes in water.
PM-695; 20-12-2007; Retzol. (Ph: 200)

*Albizzia procera* (Roxb.) Benth. (Mimosaceae)

Jengreng (DI), Nhenui (ZE)
Frequent
Tree
Wild
The bark is thrashed with stone and the juice can be used as ichthyotoxins to stupefy fishes in water.
PM-696; 13-12-2007; Hojai.

*Cassia mimosoides* L. (Caesalpinioaceae)

Ru methep (DI)
Frequent
Under shrub
Wild
The fresh leaf and stem thrashed with stone and the juice can be used as ichthyotoxins to stupefy fishes in water.
PM-697; 16-12-2007; Choto Waphu.

*Croton caudatus* Geisel. (Scrophulariaceae)

Agurdukha(DI), Ran-lung-damdoi (HM/MI)
Frequent
Under shrub
Wild
Matured seeds grinded and can be used as ichthyotoxins to stupefy fishes in water. Same can also be used for arrow poisoning.
PM-698; 20-12-2007; Retzol.

*Eupatorium odoratum* L. (Asteraceae)

Sankhabli (DI), Kuliheu (ZE)
Abundant
Herb
Wild
The whole plant thrashed with stone and the juice can be used as ichthyotoxins to stupefy fishes in water.

PM-699; 07-12-2009; Sampharidisha.

**Ficus elastica** Roxb. ex.Hornem (Moraceae)
Derimi robor phang (DI)
Occasional
Tree
Wild
Fruit paste can be used as ichthyotoxins to stupefy fishes in water.

PM-700; 07-12-2009; Sampharidisha.

**Millettia pachycarpa** Benth. (Fabaceae)
Rojao phang (DI), Rucho/Irre (HR)
Occasional
Lianes
Wild
The roots of the plant thrashed with stone and the juice can be used as ichthyotoxins to stupefy fishes in water.

PM-701; 22-09-2008; Gurubari. (Ph: 419)

**Schima wallichii** (DC.) Korth. (Theaceae)
Khainsuri (DI), Khuzli gachi (HR), Nkiai (ZE)
Abundant
Tree
Wild
The bark is thrashed with stone and the juice can be used as ichthyotoxins to stupefy fishes in water.

PM-702; 22-09-2008; Buolzol.

**Spondias pinnata** (L.f.) Kurz. (Anacardiaceae)
Thaisudi(DI),Njing-chi(ZE)
Frequent
Tree
Wild/Semi domesticated
Few fruits taken inside a bag and soaked it for few 3 to 5 days in stagnant water and thus can be used as ichthyotoxins to stupefy fishes in stagnant water.

PM-703; 26-10-2008; Michidui.
**Travesia palmata** (Roxb) Vis. (Araliaceae)

Kemtaudi (DI), Kotebel (HM)

Occasional
Shrub
Semi Wild

Matured fruits grinded and can be used as ichthyotoxins to stupefy fishes in water.

PM-704; 22-12-2008; Moulveng. (Ph: 344)

**Randia spinosa** (Thunb.) Poir (Rubiaceae)

Ru panthao (DI)

Frequent
Tree
Wild

Fruits, barks and leaves grinded and can be used as ichthyotoxins to stupefy fishes in water.

PM-705; 05-11-2009; Borail reserve forest. (Ph: 420)

**Zanthoxylum armatum** DC. (Rutaceae)

Mejen (DI), Singzor (HM), Nech chi (ZE)

Occasional
Undershrub
Semi domesticated

Mature fruits are grinded and used for fish poisoning.

PM-706; 26-10-2008; Michidui. (Ph: 253)

**V. Eri Silkworm Rearing Plants:**

*Eri* silkworm (*Samia ricini* Donovan.) rearing is the most important cottage industry and age old traditional practice among all the ethnic groups of North Cachar district of Assam. In the traditional life of the Dimasas it has an important and inseparable aspect in the day to day life. Some of the recorded such plants are-

**Gmelina arborea** L. (Verbenaceae)

Gambari (DI), Vong (KU)

Frequent
Tree
Cultivated
Leaves are used for traditional rearing of *Eri* silkworm.
PM-707; 22-09-2008; Gurubari.

**Heteropanax fragrans** Seem. (Araliaceae)
Gungsur (DI)
Frequent
Tree
Semi domesticated
The leaves are used for traditional rearing of *Eri* silkworm.
PM-708; 22-09-2008; Gurubari. (Ph: 425)

**Hodgsonia macrocarpa** (Bl.) Cogn. (Cucurbitaceae)
Khaukhltuhaibai(DI), Kha um(HM), Nsui chi(ZE)
Frequent
Climber
Wild
The leaves are seldom used for traditional rearing of *Eri* silkworm.
PM-709; 12-01-2009; Dibarai. (Ph: 174)

**Litsea assamica** Hk.f. (Lauraceae)
Dislim (DI)
Frequent
Tree
Semi domesticated
The leaves are used for traditional rearing of *Eri* silkworm.
PM-710; 22-09-2008; Gurubari.

**Manihot esculenta** Crantz, Syn. *M. utilissima* Pohl. (Euphorbiaceae)
Ruthi(DI), Thing kowlkai(HM), Ba thing (HR)
Frequent
Under shrub
Cultivar
The leaves are used for traditional rearing of *Eri* silkworms as substitute of *Ricinus communis* L. (Euphorbiaceae) leaves.
PM-711; 16-12-2007: Choto Waphu. (Ph: 136 to 138)

**Morus acidosa** Griff. (Moraceae)
Sumu-maikhri (DI), Thing thaimel/Thaimou(HM/MI), Mbun chi(ZE)
Frequent
Tree
Cultivar
The leaves are used for traditional rearing of *Eri* silkworm.
PM-712; 16-12-2007: Choto Waphu. (Ph: 65)

*Persea lanceolata* Nees. (Lauraceae)

Rathang (DI)
Frequent
Tree
Semi domesticated
The leaves are used for traditional rearing of *Eri* silkworm.
PM-713; 16-12-2007: Choto Waphu. (Ph: 426)

*Ricinus communis* L. (Euphorbiaceae)

Rudao (DI), Lungando (KU)
Frequent
Shrub
Wild
The leaves are the primary food for traditional rearing of *Eri* silkworm (*Samia ricini* Donovan.)
PM-714; 16-12-2007; Choto Waphu. (Ph: 427)

*Sterculia alata* Roxb. (Sterculiaceae)

Rathang-dukhu (DI)
Frequent
Tree
Wild
The leaves are used for traditional rearing of *Eri* silkworms as substitute of *Ricinus communis* L. (Euphorbiaceae) leaves.
PM-715; 16-12-2007; Choto Waphu.

**VI. Pesticidal Plants:**

Plant resources used for killing and repelling pest or vermin is an important aspect for saving the crops in the *Jhum* cultivation and in the crops grown in the homestead area. But the local ethnic people mainly uses in the crops grown in the homestead area and to
kill or repel the vermin in the domestic animal like Cock, Duck, Goat and Pig etc. Some of the recorded such plant resources are-

**Aloe vera** L. (Agavaceae)
- Sabun-phang (DI)
- Occasional
- Herb
- Cultivar
  Fleshy fresh leaf paste is soaked in water and sprayed in crop plants to keep away insect pests.
- PM-716; 12-06-2008; Choto waphu.

**Canarium bengalense** Roxb. (Burseraceae)
- Dhuna phang (DI), Kurta (ZE)
- Occasional
- Tree
- Wild
  Burned resin fume is used as mosquito and other insect repellent. Sold in the local markets @ Rs. 100/- per kg.
- PM-717; 26-10-2008; Saikam.

**Christilla parasitica** (L.) Lev. (Thelypteridaceae)
- Bih dhekia (AS), Daomalai (DI)
- Abundant
- Herb (Fern)
- Wild
  Fresh leaves/fronds thrashed with stone and the juice mixed with water sprayed in crop plants to keep away insect pests. Dried leaves also kept in animal keeping houses as insect repellent.
- PM-718; 07-12-2009; Sampharidisha.

**Cymbopogon citratus** Stapf. (Poaceae)
- Hnarim-um (HM)
- Occasional
- Grass
- Cultivar

228
Above ground plant is made into paste and soaked in water and sprayed in surrounding of the household to keep away mosquitoes and other insect pests. PM-719; 15-12-2007; Saisel.

_Eupatorium odoratum_ L. (Asteraceae)

Sankhabli (DI), Kuliheu (ZE)
Abundant
Herb
Wild

The whole plant thrashed with stone and the juice mixed with water sprayed in crop plants to keep away insect pests. PM-720; 07-12-2009; Sampharidisha.

_Melia azadirachta_ A. Juss. (Meliaceae)

Neem (DI)
Occasional
Tree
Semi wild

Fresh leaf and seed paste is soaked in water and sprayed in crop plants to keep away insect pests. Dried and smeared leaves are put in the animal keeping house as vermin repellent. PM-721; 16-12-2007: Choto Waphu.

_Melia composita_ Willd. (Meliaceae)

Thaimodow (DI)
Occasional
Tree
Wild

Fresh leaf and seed paste is soaked in water and sprayed in crop plants to keep away insect pests. PM-722; 16-12-2007: Choto Waphu. (Ph: 423)

_Milletia pachycarpa_ Benth. (Fabaceae)

Rojao phang (DI), Rucho/Irre (HR)
Occasional
Lianes
Wild
The roots of the plant thrashed and made into powder which is used to vermin in cattle like Goat.

PM-723; 21-12-2007; Longma-III. (Ph: 419)

*Murraya koenigii* (L.) Spreng. (Rutaceae)
Thamsi-youngihabia (DI), Narashingha (NE)
Occasional
Shrub
Semi domesticated
Dried and smeared leaves are put in the animal keeping house as vermin repellent.

PM-724; 07-12-2009; Sampharidisha.

*Nicotiana rustica* L. (Solanaceae)
Damalai(DI), Dum hna (HM/KU), Nkeu (ZE)
Frequent
Herb
Semi domesticated
Dried leaves kept under mattress of the bed also in animal keeping houses as insect repellent.

PM-725; 25-11-2007; Khuongluong. (Ph: 87)

*Nicotina tabacum* L. (Solanaceae)
Damalai(DI), Dum hna (HM)
Occasional
Herb
Cultivar
Dried leaves kept under mattress of the bed in the bedroom and also in animal keeping houses as insect repellent. Hookah smoking (*Damakho slim*-DI) water is used to keep away of the insect pests from kitchen garden crops.

PM-726; 22-12-2008; Moulveng.

*Oroxyllum indicum* (L.JVent. (Bignoniaceae)
Kalong (DI), Bakolong(HR)
Occasional
Tree
Wild
Fresh fleshy barks and young fruits paste is soaked in water and sprayed in crop plants to keep away insect pests.
PM-727; 16-12-2007: Choto Waphu.

*Plumbago zeylanica* L. (Plumbaginaceae)
Thikerei (HR)
Occasional
Shrub
Semi domesticated
Dried and smeared leaves are put in the animal keeping house as vermin repellent.

PM-728; 22-09-2008; Buolzol. (Ph: 424)

*Vitex negundo* Linn. (Verbenaceae)
Cheuli (ZE)
Occasional
Shrub
Semi domesticated
Dried and smeared leaves are put in the animal keeping house as vermin repellent.

PM-729; 26-10-2008; Nriachi bunglow.

VII. Miscellaneous uses of Plants:

a). Plants used for house construction and firewood:

The plants available in the surroundings are utilized and managed for construction of houses and other household items including firewood for cooking and keeping the hearth firing to keep the house warm during winter season. The timbers extracted from the tree are used for construction of the main structure of the house and the bamboos for the wall and roof etc. Some of the recorded plants and their uses are given below.

*Albizia lebbeck* Benth. (Mimosaceae)
Jengreng (DI)
Jengreng (DI), Nhenui (ZE)
Frequent
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood.

PM-730; 22-09-2008; Boro Waphu.

*Albizia procera* (Roxb.) Benth. (Mimosaceae)
Jengreng (DI), Nhenui (ZE)
Frequent
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood.
PM-731; 13-12-2007; Hojai.

*Alstonia scholaris* (L.) R.Br. (Apocynaceae)
Bonkhlong (DI)
Occasional
Tree
Wild
Wood is good timber that is used for construction of house and also use to *Muree* - a musical instrument by the Dimasas.
PM-732; 07-12-2009; Sampharidisha.

*Artocarpus chaplasha* Roxb./ *Artocarpus chama* Buch.-Ham. (Moraceae)
Jram (DI)
Frequent
Tree
Wild
Wood is a very good timber that is used for construction of house and also as firewood.
PM-733; 22-09-2008; Gurubari.

*Artocarpus heterophyllus* Lamk. (Moraceae)
Thaiphlung(DI), Lamkhong(HM/KU), Lunkhuong(MI)
Frequent
Tree
Cultivar
Wood is a very good timber that is used for construction of house and also as firewood.
PM-734; 22-09-2008; Boro Waphu.

*Bambusa balcooa* Roxb. (Poaceae)
Wa mia (DI), Hepai (ZE)
Occasional
Large grass

232
Semi domesticated
The heavy culms of the plant are used for pillar and wall of the house.
PM-735; 12-01-2009; Dibarai. (Ph: 366 & 368)

*Careya arborea* Roxb. (Lecithydaeae)
Bonapthi (DI), Hnapui/Biripatta (HR)
Occasional
Climber
Wild
Timber yielding plant; good for house construction.
PM-736; 22-09-2008; Buolzol. (Ph: 90)

*Castanopsis indicus* (Roxb.) A.DC. (Fagaceae)
Isera (HR), Thingsa chi (ZE)
Occasional
Tree
Wild
Wood is a very good timber that is used for construction of house and also as firewood.
PM-737; 24-10-2008; Buolzol. (Ph: 94)

Khatmai (DI)
Occasional
Tree
Wild
Wood is a very good timber that is used for construction of house and also as firewood.
PM-738; 07-12-2009; Sampharidisha.

*Dillenia indica* L. (Dilleniaceae)
Thaidi (D), Ithlang (HM), Mandi (ZE)
Occasional
Tree
Wild/Semi domesticated
Wood is good timber that is used for construction of house and also as firewood.
PM- 740; 20-12-2007; Retzol.

*Ficus glomerata* Roxb. (Moraceae)

233
Dermi (DI)
Occasional
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood.
PM-741; 22-09-2008; Gurubari. (Ph: 99)

_Gmelina arborea_ L. (Verbenaceae)
Gambari (DI), Vong (KU)
Frequent
Tree
Cultivar
Wood is a very good timber that is used as planks for construction of house.
PM-742; 07-12-2009; Thaijuwari.

_Imperata cylindrica_ (L.) Raeus. (Poaceae)
Son (DI)
Frequent
Grass
Wild
The grass is the main roofing material for thatch house used almost all places in the study area.
PM-743; 07-12-2009; Sampharidisha.

_Mangifera indica_ L. (Anacardiaceae)
Thaiju(DI),Thai hai(HM/MI), Hai thai (KU), Mba Chi (ZE)
Frequent
Tree
Local Cultivar/ Semi domesticated
Wood is good timber that is used for construction of house and also as firewood.
PM-744; 07-12-2009; Thaijuwari.

_Mangifera sylvatica_ Roxb. (Anacardiaceae)
Thaiju mairong(DI), Gam Thaihai(MI), Hnamba chi(ZE)
Rare
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood.
Melia azadirachta A. Juss. (Meliaceae)
Neem (DI)
Occasional
Tree
Semi wild
Wood is good timber that is used for construction of house and also as firewood.

Melia composita Willd. (Meliaceae)
Thaimodow (DI)
Occasional
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood.

Melocalamus compactiflorus (Kurz) Benth. Syn. Dinochloa compactiflora (Kurz)
McClure (Poaceae)
Wayung (DI)
Frequent
Large grass
Semi domesticated
The heavy culms of the plant are used for pillar, floor and wall of the house.

Melocanna baccifera (Roxb.) Kurz (Poaceae)
Wathi (DI), Nria (ZE)
Abundant
Grass
Wild
This bamboo is widely used for wall of the house by thrashing and weaving it in different design and also used to make roof of the rest house in the Jhum field.

Mesue ferrea L. (Clusiaceae)
Nahar (DI), Khalsei (KU)
Occasional
Tree
Semi-wild
Wood is good timber that is used for construction of house and also as the Rehmin
(Pestle for husking paddy-DI).
PM-749; 16-12-2007: Thaijuwari.

Michelia champaka L. (Magnoliaceae)
Chap phang (DI)
Occasional
Tree
Semi-domesticated
Wood is good timber that is used for construction of house and furniture.
PM-750; 07-12-2009; Sampharidisha.

Narenga benghalensis (Balansa) Bor (Poaceae)
Shaun gidiba (DI), Shaun (HM)
Frequent
Herb (Grass)
Wild
The dried grass is the common material for making roof of house.
PM-751; 20-12-2007; Jatinga.

Oxytenanthera parviflora Brandis ex Gamble (Poaceae)
Wa (DI)
Abundant
Grass
Wild
This bamboo is widely used for making pillars and wall of the house.
PM-752; 13-12-2007; Jiri. (Ph: 367)

Persea lanceolata Nees. (Lauraceae)
Rathang (DI)
Frequent
Tree
Semi domesticated
Wood is good timber that is used as planks for construction of house.
PM-753; 16-12-2007: Choto Waphu. (Ph: 426)

Sapindus mukurossi Gaertn. (Sapindaceae)

236
Phukathai (DI), Lhling-simu (HM), Bulung (KU), Tegau-chi (ZE)
Occasional
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood. PM-754; 07-12-2009; Sampharidisha.

**Schima wallichi** (DC.) Korth. (Theaceae)
Khainsuri (DI), Khuzli gachi (HR), Nkiai (ZE)
Abundant
Tree
Wild
Wood is good timber that is used for construction of house and also as firewood. PM-755; 22-09-2008; Buolzol.

**Spondias pinnata** (L.f.) Kurz. (Anacardiaceae)
Thaisudi (DI), Njing-chi (ZE)
Frequent
Tree
Wild/Semi domesticated
Wood is generally used as firewood.
PM-756; 26-10-2008; Michidui.

**Sterospermum chelonoides** (L.f.) DC. (Bignoniaceae)
Bon-mrum (DI), Nakhar (HM), Mallato (NE)
Abundant
Tree
Wild
The long young stem is a very good construction material for roof. This is most commonly used plant for house building by all the ethnic groups of the district.
PM-757; 07-12-2009; Sampharidisha. (Ph: 416)

**Syzygium cumini** (L.) Skeels (Myrtaceae)
Jambu thai (DI), Sepuinusu (HM), Thei-vom (KU), Hmuizolong (HR), Jamun (NE), Mui-chi (ZE)
Occasional
Tree
Wild/Semi domesticated

237
Wood is very good timber that is used for construction of house.

PM-758; 22-12-2008; Gunjung.

*Tectona grandis* L. f. (Verbenaceae)

Sugun phang (DI)
Occasional
Tree
Cultivated

Wood is very good timber that is used for construction of house and also as firewood.

PM-759; 13-12-2007; Dhangi.

*Terminalia chebula* Retz. (Combretaceae)

Shilikha thai(DI), Ortoki(HR)
Occasional
Tree
Cultivar

Wood is very good timber that is used for construction of house.

PM-760; 22-09-2008; Buolzol.

*Zizyphus mauritiana* Lamk. (Rhamnaceae)

Thaigungdi-(DI), Ngai-chi (ZE)
Occasional
Tree
Semi-wild

Wood is good timber that is used for construction of house and also as firewood.

PM-761; 22-09-2008; Boro Waphu.

b). Some other uses:

Some of the miscellaneous uses of the plants recorded include living plant fencing and also necessary items in day to day life of ethnic people of the district. The main advantage behind the living plant fencing is the once it grows there is very less effort needed to maintain the fence. On the other hand the plants used are mostly ornamental or avenue plants that gives the aesthetic pleasure to the people.

*Argyrea argentina* Choisy (Convolvulaceae)

Poi (HR)
Occasional
Lianes
Wild
The dried stem is used to make basket (*Longkhai-DI*) and bamboo stool base.
PM-762; 22-09-2008; Buolzol. (Ph: 417)

*Butea minor* Ham. (Fabaceae)

Bonaphthi(DI), Dumburi (HR)
Occasional
Lianes
Wild
The dried stem is used to make basket (*Longkhai-DI*) and bamboo stool base.
PM-763; 07-12-2009; Sampharidisha. (Ph: 418)

*Curculigo recurvata* Dryand. (Amaryllidaceae)

Johr-khi patta (PN)
Frequent
Herb
Wild
The fresh leaf is commonly used as packing material for Betel leaf, dried fish and fermented food items.
PM-764; 20-12-2007; Jatinga.

*Erythrina indica* Lamk. (Fabaceae)

Songko-kang (KU)
Frequent
Tree
Wild
The plants are grown as a live fencing.
PM-765; 16-12-2007; Choto Waphu.

*Hibiscus mutabilis* L. (Malvaceae)

Joba phang-gidiba (DI)
Frequent
Shrub
Cultivar
The plants are grown as a live fencing.
PM-766; 07-12-2009; Sampharidisha.
**Hibiscus rosa-sinensis** L. (Malvaceae)

Joba phang (DI)
Frequent
Shrub
Cultivar
The plants are grown as a live fencing.
PM-767; 16-12-2007; Choto Waphu.

**Jatropha curcas** L. (Euphorbiaceae)

Rudaokhlong (DI), Dimul (HR), Mut maleng (HM), Lankhong (ZE)
Abundant
Shrub
Wild
The plants are grown as a live fencing.
PM-768; 16-12-2007; Choto Waphu.

**Jatropha gossypifolia** L. (Euphorbiaceae)

Rudaokhlong gajao (DI), Dimul (HR)
Abundant
Shrub
Wild
The plants are grown as a live fencing.
PM-769; 16-12-2007; Choto Waphu.

**Lagernaria siceraria** (Molina) Standley (Cucurbitaceae)

Milau(DI), Um(HM/ KU), Teurau(ZE)
Frequent
Climber
Cultivar
Dried matured shells are important household item for all the ethnic tribes of the present study area. They use it for storing seeds, spices and condiments, local Beer and also for blending of it. The common practice observed about the table spoon made of it is traditionally indispensable item for distributing local Beer to the participants as well as invited guests in the festivals and ceremonies.
PM-770; 22-09-2008; Gurubari.

**Lantana camera** L. (Verbenaceae)

Khimgari (DI) Dingdi (HM)
Abundant
Shrub
Wild
The plants are grown as a live fencing.
PM-771; 07-12-2009; Sampharidisha.

Nicotiana rustica L. (Solanaceae)
Damalai (DI), Dum hna (HM/KU), Nkeu (ZE)
Frequent
Herb
Semi domesticated
*Tuiburtui* (HM), an intoxicating liquor is prepared from the leaves by a traditional distillation method.
PM-772; 22-12-2008; Moulveng. (Ph: 87)

Phrynium capitatum Willd. (Marantaceae)
Lairu gidiba (DI), Mathial (HM), Mot (KU), Nungnegu (ZE)
Frequent
Herb
Semi domesticated
Leaves lamina is widely used as plate and also packing material in day to day life and ceremonies by all the ethnic communities of the district.
PM-773; 22-09-2008; Gurubari. (Ph: 413)

Poinsettia pulcherrima R. Grah. (Euphorbiaceae)
Hekarapa (ZE), Per sen (HR), Christmas gaschi (KU)
Occasional
Shrub
Wild
The plants are grown as a live fencing.
PM-774; 26-10-2008; Nriachi bunglow.

Sida rhombifolia L. (Malvaceae)
Jaraphang (DI), Thingkung-chibe (ZE)
Occasional
Under shrub
Wild
The dried branches are used as broom.
Thysanolaena maxima Ktze (Poaceae)
Balongchi (DI)
Occasional
Under shrub
Wild
The dried inflorescences/panicles are used as broom. Sold in the local markets @ Rs.15/each broom.
PM-776; 07-12-2009; Sampharidisha.

Trema orientalis Bl. (Ulmaceae)
Kholoshi/ Pathlang (DI), Hatou (HM)
Abundant
Tree
Wild
Burned charcoal is used to produce gunpowder explosive.
PM-777; 21-12-2007; Longma-III. (Ph: 415)

Production process of Gun Powder from Trema orientalis Bl.:
Since long time the traditional hunters from the present study area used the burned charcoal of Trema orientalis Bl. to produce gunpowder for hunting animals in the jungle. The traditional method of gunpowder production process can be schematically shown as in the following-

Wood of Trema orientalis Bl. cut in to pieces of 6 inches
\[\rightarrow\]
Burned on fire and charcoal collected
\[\rightarrow\]
Grinding of charcoal into very fine powder by mortar and pestle
\[\rightarrow\]
*Mixing of Potassium permanganate (KMnO\(_4\)) and grinding for several hours
\[\rightarrow\]
Water or the liquid part will come out
\[\rightarrow\]
Grinding process continues till liquid dries and the powder form attained
\[\rightarrow\]
Roasting of the powder in an open pan by low heat under and rotating very slowly with a bamboo stick

Simultaneously with roasting in low heat and rotating gently very little KMnO₄ added

Now a pinch of the product is tested on a small burning wood fire to see the sparkle. If not sparkling good then the adding very little KMnO₄ and roasting process continues until getting desired sparkling or the powder quality as end product.

*Note: In recent days it is known to be made the powder quality more effective the Potassium permanganate (KMnO₄) crystals are added.

*Vitex negundo* Linn. (Verbenaceae)

Cheuli (ZE)

Occasional

Shrub

Semi domesticated

The plants are grown as a live fencing.

PM-778 ; 26-10-2008; Nriachi bungalow.
G. SCARED GROVES AND PLANTS OF THE DIMASAS

I. Sacred Groves of the Dimasas:

The religion, followed by the Dimasas, is rather a mixture of animism and Hinduism. There are six ancestral gods viz. Sibrai, Alu raja Raja, Naikhu Raja, Wa Raja, Ganiyang-Brayung and Hamiadao who are called Madai and the whole Dimasa land is under their jurisdiction. Out of this idea emerged the concept of area-god amongst them.

Map: 4: Map of N.C.Hills showing Dikhos of the Dimasas. (Approximate location; not to the scale)
The area-god has their unstructured abodes in different places of the Dimasa land and their abodes or shrines are known as *Dikhos*. Of course *Sibrai* (*Hindu Siva*) occupies the highest place in every worship. In earlier times the whole Dimasa land was divided into twelve religious *Dikhos*; the people believed that gods and goddesses residing in a particular *Dikho* protect the people of that area and control their destiny. These *Dikhos* are very important as the forest patches are conserved through the community participation for ethical aspects. Till today there are a total of 12 *Dikhos* (Sacred Groves) maintained by the Dimasa community. These *Sacred Groves* are also an important role in conservation of *Biodiversity* as there are no human activities like *Jhum* etc. are allowed. So, on the other hand it can be said that these are the places of *Biodiversity* conservation through community participation. A very brief account of those sacred places can be summarized as in the following-

i. **Aludikho**: There are two *Aludikhos* maintained by the *Dimasa* community. One at Mahurbra village near Dihangi at the confluence of river Mahur & Diyung. Another one is at Thongikhrow/Wajaw village in a remote place of Maibang area. The reason behind maintaining same two *Dikhos* in two different parts of the district is that the people worshipping their own *Clan God* can access and go to the nearest one for their traditional rituals and rites.

ii. **Longmailaidikho/ Longmailumdikho**: Located at Moti village area in the Mahur area.

iii. **Longmailumdikho/ Longmailaidikho**: Another one is located at Dijowahapa village area in the Mahur area.

iv. **Manjadikho**: Located at Mailu village area in the Langting area.

v. **Damadidikho/Riaodikho**: Located in between Sampharidisa & Gaijon/Nogdi Daulagupu village area, at the confluence of river Hagong & Diyung i.e. Abungbra. It is the biggest *Dikho* among all the 12 *Dikhos* and covers 16 bighas of land protected as *Sacred Grove*. The five *Clan Gods* i.e. *Naikuraja, Nobarai, Waraja, Shivarai* and *Kampadi* are worshiped here. (Ph: 429 & 430)

**Administrative system of the Damadidikho**: The administrative system have been shown from highest ranked priest and subsequently descending to the common people of different clans; as the spiritual performing levels are concerned in the community.
GISIA (SON OF THE GOD) → i. JONTHAIMA (HEAD PRIEST) → BAROWA (ASSISTANT) → JONTHAI (SUBCLAN WISE 12 JONTHAIS) → GENERAL VILLAGE PEOPLE.

vi. Hamridikho: Located at Palaipa/Daudungkhor village area, in Thaijuwari area at the confluence of river Langting & Diyung

vii. Misimdikho: Located at Gerem basti village area in the Mahur area.

viii. Baiglaidikho/Baigiadikho: Located at Bongkhai village area, a remote place Khepre area, near Nagaland state border.

ix. Waibradaikho: Located at Hajageder village of Langting area and is considered as Daikhongmah Deng (means Purest Dikho) among all the Dikhos of the community which has been rediscovered recently as it was unknown since long time.

x. Mongrangdikho/Semkhordikho: Located at the Semkhor village area. This is the original Dikho of the Semsas for worshipping their Clan God and also known as Semkhordikho.

ei. Mongrangdikho: Located at Delen bathari/near Banjikhalu village of Maibang area (12kms.from Maibang town); at the confluence of river Dugu & Delen i.e. Dugubra. This Dikho is for the Semsas dwelling outside the Semkhor village for worshipping their own Clan God.

xii. Ronchandidikho (Bamin): During the time of Kachari Kingdom the Dikho was originally located at Dajdi village area in the Maibang-East area (Dhansiri river side). But when the capital of the Kachari Kingdom was shifted to Khaspur (now in Cachar District of Barak valley) the Dikho was also shifted. At present in Khaspur only the monuments and temples are there and the traditional priest the Gisia/Jonthais are not available. So, now all the traditional rituals and rites of the Dikho are performed at the Dikho of the Dajdi locality.

II. Sacred Plants of the Dimasas:

Natural resources in the life of the Dimasas of N.C. Hills have a strong influence in their traditional life style. Specially, where they live or set up villages for dwellings has a great influence by the plants resources of that area. Apart from the food and other materialistic utilization and management of the locally available plant resources have an intrinsic traditional attachment in the aspects of culture and tradition of the Dimasas of the present study area. The identity of the areas or villages given after the important and available plant resources of that area and thus naming is done accordingly. All the plants
including plants used for worshipping and naming of the areas are important and considered to be sacred plants by the Dimasa people of the district. So, the sacred plants can be divided as in the following sub-headings:

a) Sacred plants related to worshipping by the Dimasas:

b) Plant used for naming by the Dimasas:
   i. Plants used for naming places/ villages.
   ii. Plants used for naming Clans.

a) Sacred Plants related to Worshipping by the Dimasas:

**Abroma augusta** L. (Sterculiaceae)

Bon naga (DI), Gorukhia-koroi (AS), Dieng-tyrkhum (PN)

Frequent

Shrub

Wild

A twig is used at the time of sacrifice of buffalos in *Maimuhtarba* ceremony of the Dimasas.

PM-779; 07-12-2009; Sampharidisha. (Ph: 91)

**Areca catechu** L. (Areaceae)

Gowai (DI), Kuvara (HM), Tegut chi (ZE)

Frequent

Tree

Cultivar

A pair of fresh fruits with *P. wallichii* (Miq) Hand. Mazz. (Mithibon-DI) leaves are indispensable item during worshipping by the Dimasas.

PM-780; 12-01-2009; Dibarai.

**Bambusa sp.** (Bambusaceae)

Wa (DI)

Abundant

Large herb

Wild

Leaves and culms are used in worshipping.

PM-781; 07-12-2009; Sampharidisha.

**Bauhinia scandens** L. (Caesalpiniaceae)

Bandar jakhla (DI), Jongli-lon (HM)
Occasional
Climber
Wild
The plant is considered to be sacred by the Dimasas.
PM-782; 12-01-2009; Dikrik.

**Celosia cristata** L. (Amaranthaceae)

Khemsa gajao (DI)
Occasional
Herb
Cultivar
The twig with inflorescences used in a religious ceremony called Dakinsa by the Dimasas.
PM-784; 07-12-2009; Sampharidisha.

**Dendrocalamus sp.** (Babmusaceae)

Wa (DI)
Abundant
Large herb
Wild
Leaves and culms are used in worshipping.
PM-785; 20-12-2007; Boro Waphu.

**Embilica officinalis** Gaertn, Syn. **Phyllanthus emblica** L. (Euphorbiaceae)

Hamlaithai(DI), Gam so-lu(MI), Jauka chi (ZE)
Frequent
Tree
Semi Wild
The tree is worshiped by the father of a sick baby for early recovery by the Dimasas. Thus worshipping parents never cut the tree in their lifetime.
PM-786; 22-09-2008; Gurubari.

**Entada pursaetha** DC. (Mimosaceae)

Poi (HM), Suthai (D)
Occassional
Climber
Wild
Seed paste mixed with black mustard seeds and used before cremation by the Dimasas and dried fruits used as decorative item just above the front door of the main house.

PM-787; 21-07-2007; Longma-I. (Ph: 229)

*Melocanna buccifera* (Roxb.) Kurz, Prelim. (Poaceae)

Wa-thi (DI)
Abundant
Large herb
Wild

Culms are used for water purification rituals especially during Misengba ceremony by the Dimasas. Again offering of rice beer (*Judima*) in it to the deities in various worshipping ceremonies is common.

PM-788; 21-12-2007; Longma-III. (Ph: 379)

*Musa sp.* (Musaceae)

Thailik (DI)
Abundant
Large herb
Wild

Leaves and leaf sheaths are used in worshipping.

PM-789; 21-12-2007; Longma-III.

*Piper wallichii* (Miq) Hand. Mazz. (Piperaceae)

Mithibon (DI), Kobi rang (HR)
Occasional
Climber
Wild

A pair fresh leaves with a pair of fresh *Areca catechu* L. (Gowai-DI) fruits are indispensable item during worshipping by the Dimasas.

PM-790; 12-01-2009; Dibarai.

*Smilax perfoliata* Bl. (Smilacaceae)

Shidigubru(DI), Jun se-pi (HR),
Frequent
Climber
Wild
Fresh leaves are used as plate and cooked rice is given to children; believed to be recovered from bed-wetting disease of children by the *Dimasas*.

PM-791; 21-12-2007; Longma-III.

**Streblus asper** Lour. (Moraceae)

Khande (D)

Occasional

Tree

Wild

The tree is believed to be the house of the evil spirits by the *Dimasas*. When a person remains sick for long time the village priest (*Jonthai*) worships below the tree for early recovery of the person.

PM-792; 07-12-2009; Sampharidisha.

b) Plants used for Naming by the *Dimasas*:

i. **Naming places/villages derived from plant(s) name**: Some of the names of the villages given after the local vernacular *Dimasa* name has shown as in the following-

250
<table>
<thead>
<tr>
<th>Sl. no.</th>
<th>Coll. no.</th>
<th>Name of villages</th>
<th>Vernacular names of the plants</th>
<th>Botanical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PM-792</td>
<td>Boro waphu</td>
<td>Wa-Bamboo; guphu-white</td>
<td><em>Dendrocalamus giganteus</em> Munro.</td>
</tr>
<tr>
<td>2.</td>
<td>PM-793</td>
<td>Boro washilling</td>
<td>Wa-Bamboo; shilling-garden</td>
<td><em>Dendrocalamus hamiltonii</em> Nees et Arn. ex Munro</td>
</tr>
<tr>
<td>3.</td>
<td>PM-794</td>
<td>Choto waphu</td>
<td>Wa-Bamboo; guphu-white</td>
<td><em>Dendrocalamus hookeri</em> Munro</td>
</tr>
<tr>
<td>4.</td>
<td>PM-795</td>
<td>Choto washilling</td>
<td>Wa-Bamboo; shilling-garden</td>
<td><em>Dendrocalamus hookeri</em> Munro</td>
</tr>
<tr>
<td>5.</td>
<td>PM-796</td>
<td>Dihamlai</td>
<td>Di-water; Hamlai-Emli</td>
<td><em>Emblica officinalis</em> Gaertn.</td>
</tr>
<tr>
<td>6.</td>
<td>PM-797</td>
<td>Galaphang</td>
<td>Gala-Bitter gourd; Phang-Plant</td>
<td><em>Momordica charantia var. muricata</em> (Willd.) H.L. Chakravarty</td>
</tr>
<tr>
<td>7.</td>
<td>PM-798</td>
<td>Gowaidisha</td>
<td>Gowai-Areca nut;Dishash stream</td>
<td><em>Areca catechu</em> L.</td>
</tr>
<tr>
<td>8.</td>
<td>PM-799</td>
<td>Gurubari</td>
<td>Guru-Sugarcane; Bari-cultivation field</td>
<td><em>Saccharum officinarum</em> L.</td>
</tr>
<tr>
<td>9.</td>
<td>PM-800</td>
<td>Jaramdisa</td>
<td>Jaram-Artocarpus plant; Disa-stream</td>
<td><em>Artocarpus chama</em> Buch.-Ham.</td>
</tr>
<tr>
<td>10.</td>
<td>PM-801</td>
<td>Maibang</td>
<td>Mai-paddy; bang-large quantity</td>
<td><em>Oryza sativa</em> L.</td>
</tr>
<tr>
<td>11.</td>
<td>PM-802</td>
<td>Mailong disha</td>
<td>Mai-paddy; Dishash stream</td>
<td><em>Oryza sativa</em> L.</td>
</tr>
<tr>
<td>12.</td>
<td>PM-803</td>
<td>Mailu</td>
<td>Mai-paddy</td>
<td><em>Oryza sativa</em> L.</td>
</tr>
<tr>
<td>13.</td>
<td>PM-804</td>
<td>Michikur</td>
<td>Michi-Finger millet</td>
<td><em>Setaria italic</em> (L.) Beauv.</td>
</tr>
<tr>
<td>15.</td>
<td>PM-806</td>
<td>Railing-hadi</td>
<td>Rai-Cane; Hadi-wet land paddy</td>
<td><em>Daemonorops jenkinsianus</em> (Griff.) Mart.</td>
</tr>
<tr>
<td>16.</td>
<td>PM-807</td>
<td>Sampharidisha</td>
<td>Samphariphang-Michelia plant; Dishash stream</td>
<td><em>Michelia champaca</em> L.</td>
</tr>
<tr>
<td>17.</td>
<td>PM-808</td>
<td>Thaijuphangwari</td>
<td>Thaiju-Mango; Wari-lake</td>
<td><em>Mangifera indica</em> L.</td>
</tr>
<tr>
<td>18.</td>
<td>PM-809</td>
<td>Tentriphang-hading</td>
<td>Tentriphang-Tamarind plant; Hading-Hill</td>
<td><em>Tamarindus indica</em> L.</td>
</tr>
<tr>
<td>19.</td>
<td>PM-810</td>
<td>Wadreng disha</td>
<td>Wadreng-Bamboo; Disha-stream</td>
<td><em>Dendrocalamus sp.</em></td>
</tr>
<tr>
<td>20.</td>
<td>PM-811</td>
<td>Wajao</td>
<td>Wa-Bamboo; Gajao-Red</td>
<td><em>Dinchoila macellandii</em> (Munro) Kurz</td>
</tr>
<tr>
<td>21.</td>
<td>PM-812</td>
<td>Washu bil</td>
<td>Wa-Bamboo; Shu-thorn</td>
<td><em>Chimonobambusa callosa</em> (Munro) Nakai</td>
</tr>
<tr>
<td>23.</td>
<td>PM-814</td>
<td>Wayung disha</td>
<td>Wayung-Bamboo; Disha-stream</td>
<td><em>Melocanna compactiflorus</em> (Kurz) Benth.</td>
</tr>
</tbody>
</table>
ii. Plants used for naming of Clans:

The Damasa community has 40 male clans (Sengphong) and 42 female clans (Jaddi). Many of the names of the clans have been named after the vernacular Dimasa names of the plants. A brief account of the male and female clan has been given as in the following tables.

The naming of the male clans is related to the plants but the division of the labour was also known to be the criteria for such naming.

Table: 15:

<table>
<thead>
<tr>
<th>Clan no.</th>
<th>Coll. no.</th>
<th>Name of male clans</th>
<th>Vernacular names of the plants</th>
<th>Botanical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>PM-815</td>
<td>Mitherphangsa</td>
<td>Mither-the plant; Phang-plant; Sa-Son</td>
<td>Actephila excelsa Muell.</td>
</tr>
<tr>
<td>32.</td>
<td>PM-816</td>
<td>Maibangsa</td>
<td>Mai -Rice; Bang-large ammount and Sa -son</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>34.</td>
<td>PM-817</td>
<td>Sorongphangsa</td>
<td>Soronphang-the plant; Sa-son</td>
<td>A tree (Unidentified)</td>
</tr>
<tr>
<td>38.</td>
<td>PM-818</td>
<td>Jarambosa</td>
<td>Jaram -the plant and Sa-son</td>
<td>Artocarpus chama Buch.Ham.</td>
</tr>
<tr>
<td>39.</td>
<td>PM-819</td>
<td>Lafthaisa</td>
<td>Lafthai-the plant; Sa-son</td>
<td>A tree (Unidentified)</td>
</tr>
</tbody>
</table>

The female clans are known to be named after the materials deposited to the treasury of the king. The same named clan has the different matrilineal origin.
Table: 16:

<table>
<thead>
<tr>
<th>Clan no.</th>
<th>Coll. no.</th>
<th>Name of female clans</th>
<th>Vernacular names of the plants</th>
<th>Botanical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>PM-820</td>
<td>Banglaima gedeba fashaidi</td>
<td>Banglaima-A rice landrace; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>4</td>
<td>PM-821</td>
<td>Mairong fashidi kasiba</td>
<td>Mairong-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>5</td>
<td>PM-822</td>
<td>Mairong gedebasam desagao</td>
<td>Mairong-Rice kernel; Gedeba-large; desagao-leader</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>7</td>
<td>PM-823</td>
<td>Mairong gedeba</td>
<td>Mairong-Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>8</td>
<td>PM-824</td>
<td>Hamlai gimiindi</td>
<td>Hamlai-the plant; gimiindi-ripe</td>
<td>Emblica officinalis Gaertn.</td>
</tr>
<tr>
<td>9</td>
<td>PM-825</td>
<td>Maireng gedeba</td>
<td>Maireng- Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>11</td>
<td>PM-826</td>
<td>Mairong praisong</td>
<td>Mairong-Rice kernel</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>13</td>
<td>PM-827</td>
<td>Banglaima kasiba</td>
<td>Banglaima-A rice landrace; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>14</td>
<td>PM-828</td>
<td>Mairong gedeba</td>
<td>Mairong-Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>16</td>
<td>PM-829</td>
<td>Maireng gedeba</td>
<td>Mairong- Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>18</td>
<td>PM-830</td>
<td>Mairong daoga jairungdi</td>
<td>Mairong-Rice kernel; Jairungdi-rice cleaning expert</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>19</td>
<td>PM-831</td>
<td>Mairongma gedeba</td>
<td>Mairongma-large Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>20</td>
<td>PM-832</td>
<td>Mairong gedeba</td>
<td>Mairong- Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>21</td>
<td>PM-833</td>
<td>Mairong kasiba</td>
<td>Mairong-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>22</td>
<td>PM-834</td>
<td>Mairongma gedeba</td>
<td>Mairongma-large Rice kernel; Gedeba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>23</td>
<td>PM-835</td>
<td>Mairong gedeba</td>
<td>Mairong- Rice kernel; Gedeba-large</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>26</td>
<td>PM-836</td>
<td>Banglaima</td>
<td>Banglaima-A rice landrace</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>27</td>
<td>PM-837</td>
<td>Maireng</td>
<td>Maireng- Rice kernel</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>29</td>
<td>PM-838</td>
<td>Mairong kasiba</td>
<td>Mairong-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>30</td>
<td>PM-839</td>
<td>Mairong</td>
<td>Mairong- Rice kernel</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>31</td>
<td>PM-840</td>
<td>Banglaima kasiba</td>
<td>Banglaima-A rice landrace; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>32</td>
<td>PM-841</td>
<td>Mairong kasiba</td>
<td>Mairong-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>34</td>
<td>PM-842</td>
<td>Maireng kasiba</td>
<td>Maireng-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>35</td>
<td>PM-843</td>
<td>Mairengma</td>
<td>Mairengma-a kind of Rice kernel</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>36</td>
<td>PM-844</td>
<td>Maireng kasiba</td>
<td>Maireng-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>39</td>
<td>PM-845</td>
<td>Maireng</td>
<td>Maireng-Rice kernel</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>40</td>
<td>PM-846</td>
<td>Maireng kasiba</td>
<td>Maireng-Rice kernel; kasiba-small</td>
<td>Oryza sativa L.</td>
</tr>
<tr>
<td>41</td>
<td>PM-847</td>
<td>Kimbersi</td>
<td>Kim-Kimdaula plant; ber-flower</td>
<td>Gloriosa superba L.</td>
</tr>
<tr>
<td>42</td>
<td>PM-848</td>
<td>Birengsa</td>
<td>Biring maisa-A fine sticky rice landrace, used for traditional beer judima preparation</td>
<td>Oryza sativa L.</td>
</tr>
</tbody>
</table>

Clan references: Guga Upendra Chandra (1912), Cacharer Itibritta,(Original Bangla version) pp.105 (Semphong list) and pp.106 (Jaddi list).
Ph: 431: *Jhum* field management in Longma-III village

Ph: 432: *Jhum* field management in Dihangi village

Ph: 433: *Jhum* field regeneration in Gurubari and Ph: 434: N. Leikul village
Photo Plate: 92: Plant Resources in Agriculture Management


Ph: 437: Using force of gravity for irrigation from Junu nala stream in the Hojai village

Ph: 438: Sloping Land management in Jatinga
Land management: Ph: 439: Terrace cultivation in Natun basti

Land management: Ph: 440: Longma-I village

Ph: 441: Stream diversion in Longma-I village

Ph: 442: Stream diversion in Longma II village

Ph: 443: Water storage tank in Hojai village
H. PLANT RESOURCES IN AGRICULTURE MANAGEMENT

In recent days the burning problem regarding the environmental degradation is an important issue and concern for the scientists working in the field of environmental science. The publication related to the environmental degradation, especially in respect of the *Jhum*/burn and slash cultivation practices by the ethnic hill dwelling people is a matter of much concern for the soil and biodiversity degradation. The loss of flora and fauna in such practices is the need of the hour to save the bio-resources on the earth.

**Ethnic hill people and local resources**

Topographically, the district is dominated by hilly tracts and river Valleys with some plains with the elevation ranging from 240 to 1200m above msl. and climatically characterized by subtropical humid conditions. The normal rainy season is from April to last October. *Jhum or shifting cultivation* is the main agricultural practice in the area.

The hill ethnic people dwelling in the hills since time immemorial are important tools for study and management to find out solution to the problem. The hill people are being less populated managed the resources available in their surroundings for livelihood and as far as possible in a sustainable way. Again the fact is that these people were there since time immemorial, living there and have to live in their own environmental niche in future also.

**Traditional life and local resources**

The tradition, culture and socio-religious aspects like traditional rites and rituals in their day to day life have an intrinsic relationship and are inseparable. Every aspects of traditional life style are mostly related to the nature and natural resources available in their surroundings. In traditional agricultural practices the local resources management including flora and fauna is an important aspect and challenge for these people for better productivity in space and time for food security or as a whole the endogenous development of their own. So, in a nut shell it can be said that they are living as a part of that environment and surviving there keeping alive their own tradition.

**Traditional and modern science on hill agricultural practices**

From the present study it can be mentioned that the time tested age old tradition in relation to the utilization and management of the plant resources in traditional practices are the matter of much concern for the ethnic groups of the area. This is mainly for three broad aspects- economic, ecological and social/ethical in the present study area. The management techniques observed was sufficiently sustainable as their tradition but as the need of the hour the mass people of the ethnic groups are needed to give awareness on
environmental sustainability in a sustainable way. When the traditional knowledge and modern science collaborates and find out solution and its improvements; it can work really because the problems are totally location specific and only can be managed at local level only.

We know that the traditional knowledge in local resource management is important for ethnic people due to their socio-ethical value in their particular area or locality. In present work from the study area an attempt has been made to observe and document the sustainable utilization of the locally available resources, especially the plant resources-their utilization and management during traditional agricultural practices like Jhum and terrace cultivation. It is an important aspect of the study that how these ethnic people have managed the plant resources as their age old tradition for their livelihood and better productivity from the crops cultivated. Many traditional agricultural and phyto-practices as well as ecosystem manipulation/management techniques exists in N.C.Hills. With this view many of the local knowledge on the plant resources during agricultural practices have been documented from the present study area under the following three sub headings-

I. Agricultural Land / Field and Soil Fertility Management:

a) Multifarious use of tree species:

Retaining of the multifarious tree species in the Jhum field during agriculture practices is the local field management. The selection of such species is the time tested product of a continuous selection process. Such plants, mainly the trees always have more than one uses besides being used as only shade plants that maximizes the output from the traditional agricultural practices within the time and space. The plants belong to both leguminous and non-leguminous depending on the utility. The non leguminous trees have an important role in soil fertility by releasing the litter content in the field from the pruned branches with leaves. Following are the some of the multifariously used tree species found in the field and their other important uses are given below-
Table: 17:  

<table>
<thead>
<tr>
<th>Coll. no.</th>
<th>Name of the multifarious use of tree species</th>
<th>Other important uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-849</td>
<td><em>Albizia procera</em> (Roxb.) Benth. (Mimosaceae)</td>
<td>Timber, Fish poison &amp; N₂ fixation</td>
</tr>
<tr>
<td>PM-850</td>
<td><em>Bambusa tulda</em> Roxb. (Bambusaceae)</td>
<td>Construction</td>
</tr>
<tr>
<td>PM-851</td>
<td><em>Careya arborea</em> Roxb. (Lecithydaceae)</td>
<td>Construction, base of stool, basket &amp; <em>Biri</em> making</td>
</tr>
<tr>
<td>PM-852</td>
<td><em>Dendrocalamus hamiltonii</em> Nees et Arn. ex Munro. (Bambusaceae)</td>
<td>Construction</td>
</tr>
<tr>
<td>PM-853</td>
<td><em>Emblica officinalis</em> Gaertn. (Euphorbiaceae)</td>
<td>Edible fruits &amp; Sacred plant for <em>Dimasas</em></td>
</tr>
<tr>
<td>PM-854</td>
<td><em>Gmelina arborea</em> L. (Verbenaceae)</td>
<td>Timber &amp; Leaf used for <em>Eri</em> silk rearing</td>
</tr>
<tr>
<td>PM-855</td>
<td><em>Melia composita</em> Willd. (Meliaceae)</td>
<td>Timber &amp; Plant pesticide</td>
</tr>
<tr>
<td>PM-856</td>
<td><em>Melocanna baccifera</em> (Roxb.) Kurz Syn.<em>Melocanna bambusoides</em> Trin. (Bambusaceae)</td>
<td>Wall of house</td>
</tr>
<tr>
<td>PM-857</td>
<td><em>Milletia pachycarpa</em> Benth. (Fabaceae)</td>
<td>Fiber &amp; Fish poison</td>
</tr>
<tr>
<td>PM-858</td>
<td><em>Percea lanceolata</em> Nees. (Lauraceae)</td>
<td>Timber &amp; Leaf used for <em>Eri</em> silk rearing</td>
</tr>
<tr>
<td>PM-859</td>
<td><em>Schima wallichi</em> (DC.) Korth. (Theaceae)</td>
<td>Timber &amp; Fish poison</td>
</tr>
<tr>
<td>PM-860</td>
<td><em>Sterculia villosa</em> Roxb. (Sterculiaceae)</td>
<td>Timber &amp; Fiber</td>
</tr>
</tbody>
</table>

b) Field management in response to sunlight:

*Jhum* field in the hill slopes are managed in a location specific way and shows the traditional knowledge in response to the sunlight. When the field is in the direction of south facing, then the keystone tree species are kept in large numbers. This technique helps to retain more moisture and shade in the soil that helps to maintain soil fertility and gives more crop yield. Again the north facing *Jhum* field contains very less numbers of the keystone tree species. This is because the field is usually remains shady and by having more moisture content in the soil. Without trees it is easy to make the field cultivable by maintaining the soil moisture at optimum level naturally. These two techniques of filed management by the plant resources are observed to be most commonly practiced in the hills of the district by all the ethnic groups.
c) Sustainable management strategies in agricultural practices:

Following are the some of the traditional techniques/methods adopted by the local ethnic people to check the maximum loss of the flora and fauna and as a whole the early regeneration of the plant species existing in the *Jhum* field.

i. For *Jhum* cultivation, a particular community distributes the land of their own locality in a better way for easy management of the land expecting maximum crop yield. This involves with local traditional rites and rituals.

ii. Marking of the *Jhum* area is done very carefully to avoid unnecessary destruction of forest, flora and other resources.

iii. Before burning to clear the *Jhum* area the multipurpose keystone trees are pruned at the height from 5 to 10 feet or according to the branching nature of the tree in such a way that it can regenerate easily and also helps for checking soil erosion. In the middle of the cultivation period the regenerated branches are pruned two to three times to reduce the above ground inter specific competition and that ensures maximum crop yield.

iv. A community of a village fixes a particular day for burning and clearing of the specific site, so that fire can be managed by the community participation. When more people involves is becomes easy to keep vigilance over the forest burning. All these process starts and ends with traditional rites and rituals.

v. Before starting the setting fire on the *Jhum* site usually the plants etc. in the surrounding are cleared in a systematic way of circular or quadrangular manner. The surroundings are cleared in such a manner that the fire cannot spread outside the *jhum* area into the forest.

vi. A very intelligent way in the field management has been recorded in Longma-III village inhabited by the *Dimasa* community. They left undisturbed an original part forest in the middle of the *Jhum* area. The science behind it reveals that the forest patch works as wind break to protect the crops grown; it retains moisture and checks soil erosion and also helps the regeneration of the plant resources in the forest area. In this technique the circular field either looks like a horseshoe or a cropping circle with forest in the middle. Quadrangular fields are also managed in the same way. In some other places like Dihangi, Mahur and Khuoluuong village area the same techniques are used but recorded to be without any definite circular or quadrangular manner. (Ph: 431)
vii. **Silviculture** practices after Jhum cultivation for restoration of ecology of the site were most commonly observed in almost all the villages. The plantation of *Gmelina arborea* L., *Tectona grandis* L. f., is widely done for the purpose. The fields are also converted to horticulture garden by planting *Citrus reticulata* Blanco., *Musa sp.*, *Ananas comosus* (L.) Merr., *Carica papaya* L., and other fruit crops like *Myrica nagi* Thunb., *Prunus persica* (L.) Batsch., *Pyrus pashia* Buch. Ham. ex D.Don. etc.

viii. Sometimes villages or the dwelling area are protected from forest fire as a barrier by moist forest from the Jhum side as observed in Longma-I village.

ix. When the cultivation sites are having maximum slope then for checking soil erosion the dam or ridges are constructed perpendicularly in the furrows of cultivated hill slopes. It also retains moisture content of the soil.

x. Crop rotation and mixed cropping: The multi-species agro-ecosystems are biodiversity-driven agricultural practiced by traditional societies. The **intercropping** is the practice whereby more than one crop is cultivated in the same land area, through time. A combination of cereals (*Oryza sativa* L., *Zea mays* L., *Eleusine coracana* Gaertn. f., *Setaria italica* (L.) Beauv. and *Sorghum bicolor* Willd. etc.), legumes (*Cajanus cajan* (L.) Hutch., *Canavalia ensiformis* DC., *Canavalia gladiator* (Jacq.) DC., *Glycine max* (L.), *Phaseolus radiatus* L., *Vigna mungo* (L.) Hepper, *Phaseolus lunatus* L., *Phaseolus vulgaris* L., *Pisum sativum* var. *arvense* L., *Psophocarpus tetragonolobus* DC., *Vigna sinensis* Endl., *Vigna unguiculata* (Thunb.) Ohwi & Ohashi, *Vigna umbellata* (Thunb.)Ohwi & H.Ohashi. and many variations of *Dolichos lablab* L.) and vegetables (cucurbits etc.) forms the "core" of such systems. Again the **crop rotation** is a practice where different crops are planted in the same ground in sequential cropping seasons. The crop rotation avoids the disease buildup, leguminous crops improves soil fertility. At the same time rotation checks soil erosion. These are the most common practice in N.C.hills.

xi. **House garden** is also prevalent almost in all the houses which is the oldest traditional ways in which humans in the humid tropics imitated nature in their agricultural practices still prevalent in N.C.Hills. A home garden mainly includes cultivated and semi-domesticated plants like fruit, vegetable and medicinal plants etc., located in the homestead area and fertilized with household wastes.

xii. The **Agri-silviculture** cropping type is observed mainly in the low to medium elevated areas of the district where cultivation of crops with multipurpose trees,
including shrubs or vines on the same land is done. Trees are used as windbreaks, contour barriers or boundary markers.

xiii. The *Alley cropping* system is observed in the high elevated areas like Jatinga, Khuongluong etc. of the district where the fruit trees (i.e. *Citrus reticulata* Blanco., *Myrica nagi* Thunb., *Prunus persica* (L.)Batsch. and *Pyrus pashia* Buch. Ham. ex D.Don. etc.) are planted closely in rows and the crops like Zinger (*Zingiber officinale* Rose.), Turmeric (*Curcuma domestica* Valet.) and other vegetables including legumes are grown in the *alleys* between them. It is thus similar to the intercropping system, except that trees are regularly pruned (both planted and naturally grown trees) that provides firewood and fodder. Thus the other functions of alley cropping are-

a. Tree litter increases soil fertility  
b. Trees act as wind breaks  
c. Reduces soil erosion  
d. Tree helps birds to catch insects in the field etc.

xiv. Maintenance of canopy cover of the fruit trees etc. in the form of rows/columns to avoid soil erosion and at the collection of mist/fog is also done in highly elevated sloping areas (Ph: 438). For e.g. orange (*Citrus reticulata* Blanco.) cultivation in the Borail hill slopes (approx 55°) shows various ways in the agricultural crop management. The rows of the orange plant in the slopes are arranged in such a way that acts as physical barrier to harvest water from mists and the rain cannot hit the soil directly due to the tree canopy.

xv. The *Dimasas* of N. C. Hills inhabited mainly along the bank of rivers and streams. They determine rice varieties for rice cultivation according to nutrient status and water availability at a given location. For e.g. the landraces of rice (*Oryza sativa* L.) varieties like Mai-nagaland (PM-37/IC no.560795), Maiju-hadi(PM-40/ IC no.560798) and Dimri maisa(PM-46/ IC no.560804) etc. are cultivated both as upland (*Jhum*) and Lowland (Terrace) cultivar depending on the nutrient and water availability of the sites to be cultivated.

xvi. It is also interesting point to be noted that during *Jhum* clearing the *Melocanna baccifera* (Roxb.) Kurz Syn. *Melocanna bambusoides* Trin. (Wathi-DI) population is regulated and managed locally. Otherwise, it is the most dominant grass species in the forests of the district which can possibly dominate all other plant resources in the forests inhibiting growth of other herbs, shrubs and trees etc.
d) Some specific *Jhum* techniques of *Dimasas*:

Following are the some of the location specific *Jhum* techniques recorded to be practiced by the *Dimasas* of the present study area. These techniques are mainly based on the maintenance of the soil fertility, moisture content and/or as a whole the nutrient cycling in the field.

i. When low rainfall occurs, then previously used *Jhum* plots are prepared for cultivation without burning. Simply clearing hand ploughing is done and the herbs and other small plants are allowed to decompose in the site that releases water and enhances to the soil fertility.

ii. In bamboo forest the burning is done 3 months before *Jhum*. Bamboo tillers are allowed to grow with crops but to reduce dominance and inter-specific above ground competition 3 times cleaning of the bamboo tillers is done during cropping period. At the same time bamboo tillers check the soil erosion and acts as also wind brake.

iii. In the forest dominated by trees burning and clearing of the plot is immediately followed by sowing of crops. Then the amount of water in the soil retains at optimum level and provides required environment for sprouting and growing environment to the crops sown.

iv. In the furrows of two hillocks all the trees are retained that acts as wind brake and canopy is maintained for retaining moisture in the field.

v. Generally in the mixed forest after burning and clearing a total of total 3 times weeding is done throughout the cultivation period is over. That helps to manage the moisture content in the soil and reduces competition with the crops.

vi. In semi permanent *Jhum* plots *i.e.* after 2-3 times cultivation, the pruning of the trees are done which provides leaf litter for soil fertility and helps nutrient cycling in the field and also fodder at the same cost of labour.

e) Recycling of organic matter and soil fertility management:

The weeds after weeding and other garbage produced during agricultural practices are dumped inside a bamboo made basket like structure near the *Jhum* rest house at the top of the slope. This reduces the multiplication rate of the weeds and also cycles nutrients that enhance soil fertility in the field. This is the most common practice recorded to be used by the *Dimasas* of the area. (Ph: 436)

The pruned branches with leaves in the *Jhum* field are recorded to be kept in the branches above ground in the same pruned tree. During rainy summer season in the
cultivation period the branches with leaves decomposes and releases leaf litter from the pruned multipurpose keystone tree species. In this way also the soil fertility is enhanced at the same time the trees are managed to reduce above ground competition with crops. (Ph: 435)

Along with the leguminous crops (includes herbs, shrubs and vines etc.) and multipurpose keystone tree like *Albizia procera* (Roxb.) Benth. also enhances the soil fertility by fixing nitrogen in the *Jhum* field.

Another interesting example of TEK based eco-technology as a triggering agent is related to soil fertility management. Earthworms in the wet rice cultivation and termites in the *Jhum* cultivation are encouraged by traditional farmers in the rural environment for bio-residue management. In Jhum the termites generally observed to recycle the organic residue, especially plant materials like cut trees etc. are encouraged as recorded in *Jhum* plots of Longma-I village area. Thus in the sugarcane fields of Hadingma and Chotowaphu areas the same have been observed to be encouraged for organic residue recycling and management in the field. Again in wet rice cultivation fields in Maibang and Harangajao areas the earthworms are recorded to be encouraged for the same purpose *i.e.* nutrient cycling and soil fertility management. These techniques are highly cost effective, with significant savings on energy subsidy through inorganic fertilizers.

The bamboo species *e.g.* *Dendrocalamus hamiltonii* Nees et Arn. ex Munro., *Bambusa tulda* Roxb. and *Melocanna baccifera* (Roxb.) Kurz Syn. *Melocanna bambusoides* Trin. etc.) have the ability to conserve NPK in the early successional *Jhum* agricultural fallows, that ensures sustainability of low input agro-ecosystems and low soil fertility.

II. Plant Resources and Watershed Management:

Water resource and its management in N.C.Hills district is the most important aspect and pre-requisite for hill agricultural practices. This is because of the hilly terrains and hillocks in the area *i.e.* geographical setup. The different traditional location specific technologies/techniques observed and recorded during hill agricultural practices in the present study area and also the local plant resources utilized for the purpose are summarized as in the following-

i. Irrigation at the source from the seepage ground water in the wet rice cultivation field directly by making canal or by bamboo drips recorded in North Bagettar village area.
ii. Canal system from the natural perennial streams to the terrace/wet rice cultivation field or by bamboo drips recorded in North Bagettar and Longma village-II area.

iii. Water storage tank systems with pisciculture by harvesting rainwater, run-off water of the hill slopes and by bamboo drips from streams etc. recorded in Longma-I and Hojai village area. (Ph: 443)

iv. Canal and storage tank integrated systems for irrigation in different places at different time interval by regulating release of water from the source i.e. perennial stream to the tanks according to the requirement during crop cultivation was recorded in North Bagettar and Natun basti village area. It is noteworthy that this system is most effective and location specific. Local administrative authority has modified the technique by constructing the concrete storage tanks.

v. Traditional bandh & canal diversion system is used to divert the hilly perennial streams has also been recorded Longma village-I area. The materials used for such construction of bandh are the earth, boulders, wood and bamboo etc. These materials are generally available and taken from the Jhum cultivation sites and become easier to carry to the construction site. (Ph: 441 & 442)

vi. Only bamboo drip irrigation system is done to irrigate nearby Jhum sites of streams where canal system is not feasible by using bamboos.

vii. Uplifting of water by canal or bamboo drip system of irrigation against force of gravity (up to 3-10 meters recorded) which is integrated with water harvesting tank at different elevation/position based on the cultivation site. This traditional technology of stream diversion technique takes the advantage of the force of gravity for irrigation and household use was recorded in some places of the district like Hojai village area. (Ph: 437)

viii. Nearby Haflong town in the village Dibarai a natural lake is on the top of the village. From that lake seepage water comes out through soils which are used for drinking, household as well as for cultivation in the lower sites of the village. People are observed to use the seepage water by bamboo drip technique.

The plant resources used for the traditional irrigation and water resource management in the present study area are mainly the multipurpose keystone plant species available in the Jhum sites. Thus the traditional eco-technologies become extreme significant from the point of resource and landscape management in the area. By using these local technologies accelerates the soil biological process for nutrient buildup in all the locations. That triggers agro-ecosystem development, rehabilitation of degraded
systems and natural regeneration of forested ecosystem through forest successional process.

So, the Traditional Ecological Knowledge of shifting and terrace cultivation, soil fertility management, biodiversity conservation as well as sacred concept etc. to be studied scientifically to mitigate the emerging issues on sustainable agriculture, food security and tropical forest management for endogenous development in the present study area.