

**ANNEXURE I**  
**MEMBERS OF THE ECO-REGIONAL WORKING GROUP FOR**  
**NORTH-EAST INDIA**

1. Prof. R.S.Tripathi, Coordinator EWG, Department of Botany, NEHU, Shillong  
(Chairman)
2. Prof. H.N. Pandey, Department of Botany, NEHU, Shillong
3. Dr. D.N. Borthakur, Former Vice Chancellor, Assam Agricultural University, Zoo  
Road, Guwahati
4. Dr. N.D. Verma, Director, ICAR Complex for N.E. Hill Region, Barapani, Shillong
5. Dr. V.T. Darlong, Ministry of Environment and Forests, Regional Office, Shillong
6. Dr. B. Kharbuli, Biodiversity Research Cell, NEHU, Shillong
7. Dr. K. Haridasan, State Forest Research Institute, Itanagar
8. Dr. S.K. Barik, Centre for Environmental Studies, NEHU, Shillong
9. Shri S.J.S. Hattar, Zoological Survey of India, Shillong
10. Mrs. Ruchi Pant, Ashoka Trust for Researches in Ecology and Environment, Eastern  
Himalayan Programme, Bagdogra
11. Prof. P.S. Ramakrishnan, School of Environmental Sciences, Jawaharlal Nehru  
University, New Delhi
12. Shri S.S. Patnaik, Principal Chief Conservator of Forests, Aizawl, Mizoram
13. Shri Balvinder Singh, Principal Chief Conservator of Forests, Meghalaya, Shillong
14. Shri P. Mohanta, Adviser (Fisheries), North-Eastern Council, Shillong
15. Dr. P.B. Gurung, Department of Botany, North-Eastern Hill University, Shillong
16. Dr. D.K. Hoore, In-Charge, NBPGR Regional station, Barapani, Meghalaya
17. Dr. R.K. Ranjan Singh, General secretary, Manipur Association for Science and  
Society (MASS), Mantripukhari, Imphal
18. Prof. N.S. Jamir, Head, Department of Botany, Nagaland University, Lumami,  
Nagaland
19. President, Central Young Mizo Association (YMA), Central YMA office, MG Road,  
Aizawl
20. Dr. A.K. Goswami, WWF-India, North-East Chapter, V.N. Bezbarua Road,  
Silpukhari, Guwahati

21. Dr. T.M. Hynniewta, Deputy Director, Botanical Survey of India, Shillong
22. Mrs. Anjali Daimari, Qr. No. 187-A, Jaya Nagar, East Gosala, Maligaon, Guwahati
23. Mr. Walter Fernandes, North-Eastern Social Science Centre, P.O. Box 2000, Uzan Bazar, Jahaz Ghat, Guwahati
24. Dr. Kapil Achan Francis, joint Director, ICAR, Lamphelpat, Imphal.

## ANNEXURE II

### List of Knowledgeable Persons Consulted

1. Mr. T. Dole
2. Mr. T. Goye
3. Dr. S.N. Hegde
4. Prof. Milton Sangma
5. Mr. Amenba
6. Ms. Imtiena Ao
7. Dr. Tawnenga
8. Dr. Ramlunga
9. Mr. R.C. Thanga
10. Mr. J.P. Yadav
11. Mr. S.K. Pandey
12. Mr. D. Riba
13. Mr. R. Kemp
14. Mr. Arun Namati
15. Mr. Achintya Sinha
16. Mr. Ibobi Singh
17. Mr. Priyobor Singh
18. Mr. Sarat Ch. Singh
19. Prof. C.K. Barua
20. Prof. P.C. Bhattacharjee
21. Dr. D.N. Borthakur
22. Dr. S.Trivedi
23. Mr. T. Johri
24. Mr. K. N. DevGoswami
25. Dr. S. Hazarika
26. Dr. J. Singh
27. Mr. M.L. Deori
28. Dr. V.T. Darlong
29. Mr. Roshiana
30. Dr. K. Haridasan
31. Mr. T. Johri
32. Dr. G. Pradhan
33. Mr. A. Mainra
34. Mr. H. Pradhan
35. Mr. Suchiang
36. Nokmas in Garo Hills
37. Dolois in Jaintia Hills
38. Headmen in Khasi Hills
39. Mr. Narendro Syiemiong
40. Mr. Bala Prasad

## **ANNEXURE III**

### **LIST OF EXPERTS CONSULTED**

1. Prof. P. S. Yadav
2. Dr. C.S. Rao
3. Dr. S.N. Hegde
4. Dr. K. Haridasan
5. Dr. S.J.S. Hattar
6. Dr. D.N. Borthakur
7. Dr. V.T. Darlong
8. Prof. H.N. Pandey
9. Prof. A.K. Misra
10. Dr. S. Ahlawat
11. Ms. Ruchi Pant
12. Dr. Ramlunga
13. Dr. Hoore
14. Prof. K.C. Malhotra
15. Prof. P.C. Bhattacharjee

## ANNEXURE IV

### IMPORTANT PLANT SPECIES OF NORTH-EAST INDIA

Botanical Name	Family
<b>A. TREE</b>	
<i>Abroma augusta</i>	Sterculiaceae
<i>Acacia farnessiana</i>	
<i>Acacia</i> sp.	Mimosaceae
<i>Acrocarpus fraxinifolius</i>	
<i>Adina cordifolia</i>	
<i>Aegle marmelos</i>	
<i>Ailanthus grandis</i>	Simarubaceae
<i>Albizia lebbek</i>	Mimosaceae
<i>Albizia lucida</i>	Mimosaceae
<i>Albizia procera</i>	Mimosaceae
<i>Albizia stipulata</i>	Mimosaceae
<i>Alnus nepalensis</i>	
<i>Alseodaphne petiolaris</i>	
<i>Altingia excelsa</i>	Hamamelidaceae
<i>Amoora rohitooka</i>	
<i>Amoora wallichii</i>	Meliaceae
<i>Anthecephalus chinensis</i>	Rubiaceae
<i>Aporosa roxburghii</i>	
<i>Aqularia agallocha</i>	
<i>Aralia armata</i>	Araliaceae
<i>Ardisia humilis</i>	
<i>Artocarpus chaplasha</i>	Moraceae
<i>Artocarpus integrifolia</i>	Moraceae
<i>Artocarpus lacoocha</i>	Moraceae
<i>Atalantia monophylla</i>	
<i>Averrhoa carambola</i>	
<i>Bauhinia purpurea</i>	
<i>Bauhinia varigata</i>	
<i>Bischofia javanica</i>	
<i>Bombax ceiba</i>	
<i>Bombax insigne</i>	
<i>Bombax malabaricum</i>	
<i>Bridelia retusa</i>	Euphorbiaceae
<i>Butea frondosa</i>	
<i>Callicarpa</i> sp.	Verbenaceae
<i>Calliandra umbrosa</i>	
<i>Callicarpa arborea</i>	Verbenaceae
<i>Canarium resiniferum</i>	Burseraceae

<i>Canarium strictum</i>	Burseraceae
<i>Cassia fistula</i>	
<i>Castanopsis hystrix</i>	
<i>Castanopsis indica</i>	Fagaceae
<i>Cedrela serrata</i>	
<i>Cedrela toona</i>	Meliaceae
<i>Chukrasia tabularis</i>	Meliaceae
<i>Cinnamomum cecicodaphne</i>	Lauraceae
<i>Cinnamomum glaucescens</i>	Lauraceae
<i>Cinnamomum tamala</i>	
<i>Citrus aurantium</i>	
<i>Clerodendron infortunatum</i>	
<i>Clerodendron nutans</i>	
<i>Cordia fragrantissima</i>	
<i>Crataeva lophosperma</i>	
<i>Croton jofra</i>	
<i>Cryptocarya amygdalina</i>	
<i>Cynometra polyandra</i>	
<i>Dalbergia assamica</i>	Fabaceae
<i>Dalbergia pinnata</i>	Fabaceae
<i>Derris robusta</i>	
<i>Dicus religiosa</i>	
<i>Dillenia indica</i>	
<i>Dillenia pentagyna</i>	
<i>Dipterocarpus turbinatus</i>	
<i>Dryples assamica</i>	
<i>Duabanga grandiflora</i>	Sonneratiaceae
<i>Duabanga sonneratioides</i>	
<i>Dysoxylum</i> sp.	Meliaceae
<i>Ehretia acuminata</i>	
<i>Elaeocarpus aristatus</i>	Elaeocarpaceae
<i>Elaeocarpus</i> sp.	Elaeocarpaceae
<i>Elaeocarpus sphaericus</i>	Elaeocarpaceae
<i>Emblica officinalis</i>	
<i>Entada scandens</i>	
<i>Erythrina stricta</i>	Fabaceae
<i>Erythrina suberosa</i>	
<i>Eucalyptus</i> spp.	
<i>Eugenia jambolana</i>	
<i>Eugenia praecox</i>	
<i>Euodia miliaefolia</i>	Rutaceae
<i>Ficus bengalensis</i>	
<i>Ficus cunia</i>	
<i>Ficus drupacea</i>	Moraceae
<i>Ficus elastica</i>	
<i>Ficus elmeri</i>	Moraceae

<i>Ficus hirta</i>	Moraceae
<i>Ficus hispida</i>	
<i>Ficus rhododendrifolia</i>	Moraceae
<i>Ficus roxburghii</i>	Moraceae
<i>Ficus rumphii</i>	
<i>Ficus</i> sp.	Moraceae
<i>Ficus squamata</i>	Moraceae
<i>Garcinia turgida</i>	
<i>Gardenia campanulata</i>	
<i>Glochidian</i> spp.	Euphorbiaceae
<i>Glochidion cowa</i>	
<i>Gmelina arborea</i>	
<i>Goniothalamus sesquipedalis</i>	
<i>Gracinia anomala</i>	
<i>Grevillea robusta</i>	
<i>Grewia disperma</i>	Tiliaceae
<i>Grewia elastica</i>	
<i>Grewia microcos</i>	
<i>Gynocardia odorata</i>	Flacourtiaceae
<i>Hardwickia binata</i>	
<i>Heritiera acuminata</i>	Sterculiaceae
<i>Hiptage madablota</i>	
<i>Holidrana longfolia</i>	
<i>Hovenia acerba</i>	Rhamnaceae
<i>Hydnocarpus kurzii</i>	
<i>Hymenodictyon excelsum</i>	
<i>Ichnocarpus frutescens</i>	
<i>Jatropha curcas</i>	
<i>Juglans regia</i>	
<i>Kadsura roxburghiana</i>	
<i>Kydia calycina</i>	
<i>Kydia glabrescence</i>	Malvaceae
<i>Lannea grandis</i>	
<i>Lantana camara</i>	
<i>Leea indica</i>	Leeaceae
<i>Legerstroemia flosreginea</i>	
<i>Lindera</i> sp.	Lauraceae
<i>Litsaea polyantha</i>	
<i>Litsea monopetala</i>	Lauraceae
<i>Litsea angustifolia</i>	
<i>Macaranga enticulate</i>	Euphorbiaceae
<i>Macaranga indica</i>	Euphorbiaceae
<i>Machilus villosa</i>	
<i>Magnolia pterocarpa</i>	
<i>Mallotus roxburghianus</i>	
<i>Mangifera indica</i>	

<i>Mangifera sylvatica</i>	Anacardiaceae
<i>Mansonia dipikae</i>	
<i>Melanorrhoea usitata</i>	
<i>Melia azadirachta</i>	
<i>Meliosma pinnata</i>	Sabiaceae
<i>Mellotus tetracoccus</i>	Euphorbiaceae
<i>Mengleitia insignis</i>	Magnoliaceae
<i>Mesua ferrea</i>	
<i>Michelia champaca</i>	
<i>Mimusops elengi</i>	
<i>Morus alba</i>	
<i>Morus laevigata</i>	Moraceae
<i>Murraya exotica</i>	
<i>Musa glauca</i>	Musaceae
<i>Musa sp.</i>	Musaceae
<i>Myristica linifolia</i>	
<i>Nephallium longana</i>	
<i>Nerium odorum</i>	
<i>Nyctanthus arbortristis</i>	
<i>Oreocnide integrifolia</i>	Urticaceae
<i>Oroxylum indicum</i>	Bignoniaceae
<i>Pandanus sp.</i>	Pandanaceae
<i>Parkia roxburghii</i>	
<i>Phoebe hainesiana</i>	
<i>Pinus kesiya</i>	
<i>Podocarpus neriifolia</i>	
<i>Premna bengalensis</i>	
<i>Premna spp.</i>	
<i>Psidium guava</i>	
<i>Pterospermum acerifolium</i>	Sterculiaceae
<i>Pyrus communis</i>	
<i>Pyrus laevigata</i>	
<i>Quercus griffithii</i>	
<i>Quercus spp.</i>	Fagaceae
<i>Rhus semialata</i>	
<i>Salix tetrasperma</i>	
<i>Sapindus mukorossi</i>	
<i>Sapium baccatum</i>	Euphorbiaceae
<i>Sarcochlamys pucherrima</i>	
<i>Saurauia roxburghii</i>	Saurauiaceae
<i>Schima wallichii</i>	
<i>Solanum torvum</i>	
<i>Spondias mangifera</i>	
<i>Stereospermum chelonoides</i>	
<i>Stereospermum chelonoides</i>	Bignoniaceae
<i>Syzygium cumini</i>	



<i>Syzygium</i> sp.	Myrtaceae
<i>Talauma phellocarpa</i>	
<i>Tamarindus indica</i>	
<i>Tectona grandis</i>	
<i>Terminalia chebula</i>	Combretaceae
<i>Terminalia citrina</i>	
<i>Terminalia myriocarpa</i>	Combretaceae
<i>Tetrameles nudiflora</i>	
<i>Thevetia nerifolia</i>	
<i>Thevetia pterocarpa</i>	
<i>Toona febrifuga</i>	Meliaceae
<i>Tournefortia viridiflora</i>	
<i>Trema orientalis</i>	Moraceae
<i>Trewai nudiflora</i>	
<i>Urena lobata</i>	
<i>Vangueria spinosa</i>	
<i>Vatica lanceaefolia</i>	
<i>Vitex peduncularis</i>	Verbenaceae
<i>Vitis pedata</i>	
<i>Wendlandia paniculata</i>	Rubiaceae
<i>Zanthoxylum alatum</i>	
<i>Zanthoxylum budranga</i>	
<i>Zizyphus jujuba</i>	

## B. SHRUB

<i>Callicarpa arborea</i>	Verbenaceae
<i>Capparis multiflora</i>	Capparaceae
<i>Casearia vareca</i>	Bixaceae
<i>Homonoia riparia</i>	Euphorbiaceae
<i>Ixora acuminata</i>	Rubiaceae
<i>Laportea crenulata</i>	Urticaceae
<i>Maesa chisia</i>	Myrsinaceae
<i>Mellastoma malabathricum</i>	Melastomataceae
<i>Morinda angustifolia</i>	Rubiaceae
<i>Mussaenda roxburghii</i>	Rubiaceae

## C. HERB

<i>Ageratum conyzoides</i>	Asteraceae
<i>Bidens biternata</i>	Asteraceae
<i>Commelina</i> sp.	Commelinaceae
<i>Crassocephalum crepidioides</i>	Asteraceae
<i>Cuphea salamona</i>	Lythraceae
<i>Elatostema</i> sp.	Urticaceae
<i>Eupatorium odoratum</i>	Asteraceae

<i>Hedychium</i> sp.	Zingiberaceae
<i>Phragmites karka</i>	Poaceae
<i>Phrynium pubinerve</i>	Marantaceae
<i>Piper</i> sp.	Piperaceae
<i>Polygonum chinensis</i>	Polygonaceae
<i>Sida acutifolia</i>	Malvaceae
<i>Sida rhomboidea</i>	Malvaceae
<i>Solanum torvum</i>	Solanaceae
<i>Spilanthus paniculata</i>	Asteraceae
<i>Thysanolaena maxima</i>	Poaceae
<i>Urena lobata</i>	Malvaceae

#### D. CANE (RATTAN)

<i>Calamus acanthospathus</i>	Palmae
<i>Calamus arunachalensis</i>	Palmae
<i>Calamus erectus</i>	Palmae
<i>Calamus flagellum</i>	Arecaceae
<i>Calamus floribundus</i>	Arecaceae
<i>Calamus gracilis</i>	Palmae
<i>Calamus khasianus</i>	Palmae
<i>Calamus leptospadix</i>	Palmae
<i>Calamus tenuis</i>	Arecaceae
<i>Plectocomia assamica</i>	Arecaceae
<i>Demonorops jenkinsianus</i>	

#### E. BANANA

<i>Musa bulbisiana</i>	Musaceae
<i>Musa rosea</i>	Musaceae

#### F. OTHER PALMS

<i>Wallichia</i> sp.	Palmae
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#### G. FERN

<i>Asplenium nidus</i>	Aspleniaceae
<i>Cyathia spinulosa</i>	Cyathiaceae
<i>Phagopteris auriculata</i>	Thlypteridaceae

#### H. EPIPHYTES

<i>Aeridis</i> sp.	Orchidaceae
<i>Aeschenanthus</i> sp.	Geraniaceae
<i>Asplenium</i> sp.	Fern
<i>Bulbophyllum</i> sp.	Orchidaceae
<i>Coelogyne</i> sp.	Orchidaceae

<i>Dendrobium</i> sp.	Orchidaceae
<i>Lipparis</i> sp.	Orchidaceae
<i>Lophogramma</i> sp.	Fern
<i>Luisia</i> sp.	Orchidaceae
<i>Lycopodium</i> sp.	Fern
<i>Microsorium</i> sp.	Fern
<i>Pholidota</i> sp.	Orchidaceae
<i>Rhynchostylis</i> sp.	Orchidaceae

## I. WILD ORNAMENTALS

<i>Aster</i> sp.	Asteraceae
<i>Begonia</i> sp.	Begoniaceae
<i>Chirita</i> sp.	Gesneriaceae
<i>Hedychium coronarium</i>	Zingiberaceae
<i>Hedychium gardenerii</i>	Zingiberaceae
<i>Hedychium greeni</i>	Zingiberaceae
<i>Hedychium spicatum</i>	Zingiberaceae
<i>Melastoma malabathricum</i>	Melastomataceae
<i>Musa velutina</i>	Musaceae
<i>Mussaenda roxburghii</i>	Rubiaceae
<i>Oxyspora cernua</i>	Melastomataceae
<i>Phlogacanthus curviflorus</i>	Acanthaceae
<i>Phlogacanthus guttanthus</i>	Acanthaceae
<i>Rhyncoglossum</i> sp.	Gesneriaceae
<i>Thunbergia coccinea</i>	Acanthaceae

## J. CLIMBERS

<i>Acacia pennata</i>	Mimosaceae
<i>Acacia</i> sp.	Mimosaceae
<i>Bauhinia khasiana</i>	Caesalpiniaceae
<i>Dalhousea bractiata</i>	Fabaceae
<i>Embelia ribes</i>	Myrsinaceae
<i>Entada purseatha</i>	Mimosaceae
<i>Gnetum scandens</i>	Gnetaceae
<i>Mezoneurum cucullatum</i>	Caesalpiniaceae
<i>Mikania micrantha</i>	Asteraceae
<i>Pegia nitida</i>	Rhamnaceae
<i>Piper</i> sp.	Piperaceae
<i>Roydsia suaveolens</i>	Rubiaceae

## K. BAMBOO

*Arundinaria callosa* Munro.  
*A. clarkei*

*A. debilis* Thwaites  
*A. falconeri* Benth. & Hook.  
*A. kurzii*  
*A. prainii* Gamble  
*A. racemosa* Munro  
*A. rolloana* Gamble  
*Bambusa auriculata* Kurz.  
*B. balcoona* Roxb.  
*B. binghami* Gamble  
*B. burmanica* Gamble  
*B. khasiana* Munro.  
*B. kingiana* Gamble  
*B. longispiculata*  
*B. mastersii*  
*B. nana* Roxb.  
*B. natans* Wall.  
*B. oliveriana* Gamble  
*B. pallida* Munro  
*B. polymorpha*  
*B. schzostachyoides* Kurz.  
*B. tulda* Roxb.  
*B. vulgaris* Schrad.  
*Cephalostachyum capitatum* Munro  
*C.fuschisnum*  
*C. latifolium* Munro  
*C. pallidum* Munro  
*C. pergracile* Munro  
*Dendrocalamus brandisii* Kurz.  
*D. flagellifer* Munro  
*D. giganteus* Munro  
*D. hamiltonii* Nees & Arn.  
*D. longifimbriatus* Bamble  
*D. hookerii*  
*D. longispathus* Kurz.  
*D. membranaceus* Munro  
*D. sericeus* Munro  
*D. strictus* Nees  
*Gigantoclaos macrostachya*  
*Melocalamus indicus* Majumdar.R.  
*Melocanna bambusoides* Trins.  
*Neohouzea helperii*  
*Oxytenanthera abaciliata*  
*Phylloatachys bambusoides*  
*Pseudostachyum polymorphum* Munro  
*Schizostachyum arunachalensis*  
*S. polymorphum*

*Teinostachyum dullooa* Gamble  
*Teinostachyum* sp.  
*T. wightii* Beddome  
*Thyrsostachys oliveri* Gamble

#### L. DYE YIELDING PLANTS

Colour	Scientific name of the plant	Common name of the plant	Plant parts used
<b>Black</b>	<i>Pasania dealbata</i> Chatt. <i>Strobilanthes cusia</i> (Nees.) Imlay	Assam indigo	Bark Leaves and young twig
<b>Dark brown</b>	<i>Pasania pachyphylla</i> Kurz.		Bark
<b>Dark-tan</b>	<i>Prunus domestica</i> Linn. syn. <i>P. communis</i> Huds.		
<b>Green</b>	<i>Clerodendron indicum</i>		
<b>Indian red</b>	<i>Solanum indicum</i> Linn.		Leaves
<b>Indigo</b>	<i>Strobilanthes cusia</i> (Nees.) Imlay. Syn. <i>S. flaccidifolius</i> Nees.	Assam indigo	Leaves and young twig
<b>Light brown</b>	<i>Pasania dealbata</i> Chatt. and <i>Parkia javanica</i> Merr. Syn. <i>P. roxburghii</i> G.Donn.	Tree Bean	Bark
<b>Pale rose</b>	<i>Bixa orellana</i> Linn.		Fruit
<b>Pink</b>	<i>Carthamus tinctorius</i> Linn.	Safflower	Flower

#### M. OTHER INGREDIENT PLANT SPECIES

*Acacia farnesiana*  
*Albizzia stipulata*  
*Albizzia lebbek*  
*Cajanus cajan*  
*Emblica officinalis*  
*Fibraurea trotterii*  
*Gravillea robusta*

*Mangifera indica*  
*Parkia javanica*  
*Strobilanthes cusia* (Nees.) Imlay  
*Trachardia lacca*

#### N. SOME ENDEMIC PLANT SPECIES

*Bambusa mastersii*  
*Lilium mackliniae*  
*Lilium debidii*  
*Lilium longifolium*  
*Nepanthes khasiana*  
*Calamus khasianus*

#### O. THREATENED (RARE/ENDANGERED/VULNERABLE) SPECIES

*Aconitum ferox*  
*Aegle marmelos*  
*Aphyllorhis parviflora*  
*Arundina bambusifolia*  
*Arundo donax*  
*Bambusa mastersii*  
*Bombax ceiba*  
*Bulbophyllum Wallichii*  
*Bulleya yunnanensis*  
*Calanthe alpina*  
*Calotropis procera*  
*Clitoria timatea*  
*Cyathia spinulosa*  
*Cymbidium riginum*  
*Gossypium herbaceum*  
*Habenaria geniculata*  
*Habenaria susannae*  
*Heritiera acuminata*  
*Microstegium ciliatum*  
*Piper betle*  
*Scurrula atropurpurea*  
*Sida rhomboidea*  
*Spathoglottis pubescens*

#### P. ORCHIDS

Scientific name	Flowering time/ habitat
<i>Acampe longifolia</i> Lindl.	July-August/ Epiphyte
<i>Acanthephippium sylhetense</i> Lindl	May-June/ Terrestrial
<i>Aerides multiflorum</i> Lindl.	June-May/ Epiphyte

<i>Aerides odoratum</i> Lour.	May-June / Epiphyte
<i>Aerides odoratum</i> Var.alba (Lour) Kaamamoto&Sgarik	May-June/ Epiphyte
<i>Aerides vandarum</i> Rchb.F.	March-April/ Epiphyte
<i>Anthogonium gradile</i> Lindl.	August to October/ Terrestrial
<i>Arundina graminifolia</i> (D.Don) Hochr.	April to December/ Terrestrial
<i>Ascocetru ampullaceum</i> Var.	April-May/ Epiphyte
<i>Bulbophyllum affine</i> Lindl.	March-April/Epiphyte
<i>Bulbophyllum griffithii</i> Rchb. F.	August/Epiphyte
<i>Bulbophyllum odoratissimum</i> Lindl.	June/Epiphyte
<i>Bulbophyllum pectinatum</i> Finst.	April-May/Epiphyte
<i>Bulbophyllum guttulatum</i> Wall ex Hook.F.	March-April/ Epiphyte
<i>Bulbophyllum secundum</i> Hook.F.	June-July/Epiphyte
<i>Bulbophyllum wallichii</i> Lindl.	March-April/Epiphyte
<i>Calanthe angusta</i> Lindl.	May-June/Terrestrial
<i>Calanthe mannii</i> Hook.F.	April-May/Terrestrial
<i>Calanthe triplicata</i> Ames.	May-June/Terrestrial
<i>Chiloschista lunifera</i> (Rchb.F) J.J. SM.	March-April/Epiphyte
<i>Coelogyne barbarta</i> Griff.	September-December/ Epiphyte or lithophyte
<i>Coelogyne corymbosa</i> Lindl.	March-April/Epiphyte or lithophyte
<i>Coelogyne elata</i> Lindl.	May-June/Epiphyte or Lithophyte
<i>Coelogyne fimbriata</i> Lindl.	October-December/ Epiphyte
<i>Coelogyne flaccida</i> Wall ex Lindl.	March-April/ Epiphyte
<i>Coelogyne fuscescens</i> Lindl.	October-December/Epiphyte or Lithophyte
<i>Coelogyne graminifolia</i> Lindl.	January-February/epiphyte or lithophyte
<i>Coelogyne longipes</i> Lindl.	May-June/Epiphyte or lithophyte
<i>Coelogyne nitida</i> (Wall ex. Don) Lindl.	April-May/Epiphyte
<i>Coelogyne prolifera</i> Lindl.	June/ Epiphyte or lithophyte
<i>Cymbidium aloifolium</i> (L) Sw.	April-May/Epiphyte
<i>Cymbidium cyperifolium</i> Lindl.	November-December/ Terrestrial or saprophyte
<i>Cymbidium devonianum</i> Paxt.	May-June/Epiphyte
<i>Cymbidium eburneum</i> Lindl.	March/Saprophyte or Terrestrial
<i>Cymbidium elegans</i> Lindl.	October-November/Epiphyte
<i>Cymbidium ensifolium</i> Sw.	May/Terrestrial
<i>Cymbidium giganteum</i> Wall.	October-November/ Terrestrial
<i>Cymbidium lancifolium</i> Hook.F.	June/Terrestrial
<i>Cymbidium longifolium</i> D.Don.	September-October/ epiphyte
<i>Cymbidium munronianum</i> King and Pautl.	May/Terrestrial
<i>Cymbidium tigrinum</i> Hook.F.	May-June/Epiphyte
<i>Dendrobium aduncum</i> Wall.	June-July/Epiphyte
<i>Dendrobium aggregatum</i> Roxb.	March-April/Epiphyte
<i>Dendrobium aphyllum</i> (Roxb) C.E.C. Fischer.	April/ epiphyte
<i>Dendrobium arachnites</i> Rchb.F.	April-May/Epiphyte

<i>Dendrobium bellatulum</i> Rolfe.	April-May/Epiphyte
<i>Dendrobium bensoniae</i> Rchb.F.	May-June/Epiphyte
<i>Dendrobium boxalli</i> Rchb.F.	February-April/Epiphyte
<i>Dendrobium capillipes</i> Rchb. F.	April/Epiphyte
<i>Dendrobium clavatum</i> Lindl.	May-June/Epiphyte
<i>Dendrobium crepidatum</i> Lindl.	April-May/ epiphyte
<i>Dendrobium chrysotoxum</i> Lindl.	March-April/Epiphyte
<i>Dendrobium chrysanthum</i> Lindl.	September/October/Epiphyte
<i>Dendrobium dalhousieanum</i> Paxt.	April-May/epiphyte
<i>Dendrobium densiflorum</i> Wall.	March-April/Epiphyte
<i>Dendrobium devonianum</i> Paxt.	May-June/Epiphyte
<i>Dendrobium draconis</i> Rchb.F.	April-May/Epiphyte
<i>Dendrobium falconeri</i> Hook.	March-April/Epiphyte
<i>Dendrobium fimbriatum</i> Hook.F.	June/Epiphyte
<i>Dendrobium fimbriatum</i> Var. <i>Oculatum</i> Hook.F.	March-April/Epiphyte
<i>Dendrobium formosum</i> Roxb.	April-May/Epiphyte
<i>Dendrobium gibsonii</i> Paxt.	July/Epiphyte
<i>Dendrobium gratiotissimum</i> Rchb.F.	April-May/Epiphyte
<i>Dendrobium heterocarpus</i> Lindl.	April-June/Epiphyte
<i>Dendrobium infundibulum</i> Lindl.	April-May/Epiphyte
<i>Dendrobium Jamesianum</i> Rchb.F.	April-May/Epiphyte
<i>Dendrobium jenkinsii</i> Wall ex Lindl.	March-April/Epiphyte
<i>Dendrobium litiflorum</i> Lindl.	March-April/ Epiphyte
<i>Dendrobium macraei</i> Lindl.	April-May/ Epiphyte
<i>Dendrobium moschantum</i> SW.	May-June/Epiphyte
<i>Dendrobium nobile</i> Lindl.	April-May/Epiphyte
<i>Dendrobium ochreatum</i> indl.	April-May/Epiphyte
<i>Dendrobium parishii</i> Rchb.F.	May-June/Epiphyte
<i>Dendrobium pendulum</i> Robx. (Syn. <i>Den.crasinode</i> )	April-May/Epiphyte
<i>Dendrobium peirardii</i> Roxb.	April-May/Epiphyte
<i>Dendrobium primulinum</i> indl.	April-May/Epiphyte
<i>Dendrobium ramosum</i> Lindl.	February/March/Epiphyte
<i>Dendrobium terminale</i> Par and Rchb.F.	September-October/Epiphyte
<i>Dendrobium thyrsiflorum</i> Rchb.F.	April/epiphyte
<i>Dendrobium transparens</i> Wall	May/Epiphyte
<i>Dendrobium wardianum</i> Warner.	April-May/Epiphyte
<i>Dendrobium williamsonii</i> Day and Rchb.F.	March-April/Epiphte
<i>Eria acrevata</i> Lindl.	June-July/Epiphyte
<i>Eria bambusifolia</i> Lindl.	October-December/Epiphyte
<i>Eria carinata</i> Gibs.	November-January/Epiphyte
<i>Ria coronaria</i> Rchb.F.	November/Epiphyte
<i>Eria pannea</i> Lindl.	May-Epiphyte
<i>Eulophia nuda</i> Lindl.	April-May/Epiphyte



<i>Eulophia sanguinea</i> Hook.F.	May-June/Epiphyte
<i>Gastrochilus bellinus</i> (Rchb.F) Kuntze.	February-March/Epiphyte
<i>Gastrochilus calceolaris</i> D.don.	March-April/Epiphyte
<i>Geodorum densiflorum</i> (Lam) Schltr.	April-May/Epiphyte
<i>Geodorum purpureum</i> R.BR.	April-May/Terrestrial
<i>Goodyera hispida</i> Lindl.	April-May/Epiphyte
<i>Goodyera procera</i> (Ken) Hook.F.	May/Terrestrial
<i>Habenaria constricta</i> Wall.	July/terrestrial
<i>Habenaria goodyeroides</i> Dos.	May-June/Terrestrial
<i>Habenaria khasianum</i> Hook.F.	June-August/Terrestrial
<i>Kalimpongia narajitti</i> Pradhan.	March-April/Epiphyte
<i>Liparis acauminata</i> Hook.F.	June-July/Lithophyte or epiphyte
<i>Liparis longopes</i> Lindl.	June-July/Epiphyte
<i>Liparis nervosa</i> (Thumb) Lindl.	March-April/Terrestrial
<i>Liparis viridiflora</i> (BL) Lindl.	November/Epiphyte
<i>Lusia antennifera</i> BL.	May-June/epiphyte
<i>Lusia jonesii</i> J.J.S.	May-June/Epiphyte
<i>Malaxis acuminata</i> D.Don.	August-September/terrestrial
<i>Oberonia iridifolia</i> Lindl.	September-October/Epiphyte
<i>Ornithochilus fuscus</i> Wall.	February-April/Epiphyte
<i>Otochilus alba</i> Lindl.	June/Epiphyte
<i>Otochilus fusca</i> Lindl.	December/Epiphyte
<i>Paphiopedium hirsutissimum</i> Lindl. Stein.	April/Terrestrial
<i>Paphiopedium spicerianum</i> (Rchb.F) Pfitz.	November-December/Terrestrial
<i>Pecteilis susannae</i> (L) Rafin.	September-October/Terrestrial
<i>Phaius flavus</i> (Bl) Lindl.	April-May/Terrestrial
<i>Phaius tankervilleae</i> Bl.	September/October/Terrestrial
<i>Phreatia elegans</i> Lindl.	August/Terrestrial
<i>Phalaenopsis cornu-cervi</i> Rchb.F.	April-May/Epiphyte
<i>Phalaenopsis manni</i> Rchb.F.	April-May/Epiphyte
<i>Phalaenopsis parishii</i> Rchb.F.	March-April/Epiphyte
<i>Pholidota articulata</i> Lindl.	August/Epiphyte or lithophyte
<i>Pholidota imbricata</i> (Roxb) Lindl.	August/Terrestrial
<i>Pholidota recurva</i> Lindl.	August/September/Epiphyte
<i>Pleione humilis</i> D.Don.	September-November/Epiphyte
<i>Pleione maculata</i> Lindl.	October-November/Epiphyte
<i>Pleione praecox</i> D.Don.	November-December/Epiphyte
<i>Podochillus falcatus</i> Lindl.	June-July/Epiphyte
<i>Pogonia macroglossa</i> Hook.f.	March-April/terrestrial
<i>Renanthera imschootiana</i> Rolfe.	April-May/Epiphyte
<i>Phynchosstylis retusa</i> (Linn) Blume.	May-June/Epiphyte
<i>Sarcanthus appendiculatus</i> Hook.F.	August/Epiphyte
<i>Sarcanthus filiformis</i> Lindl.	August-September/Epiphyte
<i>Sarcanthus insectifer</i> Rchb.F.	September/Epiphyte
<i>Schoenorchis manipurensis</i> (U.C. Pradhan)	June-July/Epiphyte

<i>Spathoglothis ixiodes</i> (D.Don) Lindl.	August-September/Terrestrial
<i>Spathoglothis pubescens</i> Lindl.	September/Terrestrial
<i>Tainia hookeriana</i> King & Pantl.	March-April/Terrestrial
<i>Thunia alba</i> (Lindl.) Rchb.F.	May-June/Lithophyte or rarely epiphyte
<i>Vanda amesiana</i> Rchb.F.	February-March/Epiphyte
<i>Vanda alpina</i> Lindl.	July-August/Epiphyte
<i>Vanda coerulea</i> Griffex Lindl.	September-October/epiphyte
<i>Vanda coerulescence</i> Griff.	February-March/Epiphyte
<i>Vanda cristata</i> Lindl.	June-July/epiphyte
<i>Vanda parviflora</i> Lindl.	April-May/Epiphyte
<i>Vanda teres</i> (Roxb) Schltr.	May-June/Epiphyte
<i>Vandopsis parishii</i> (Schltr)	April-May/epiphyte
<i>Vanilla pilifera</i> Holtt.	April-May/Terrestrial, Lithophyte or epiphyte

#### Q. PLANTS USED AS FOOD FOR SILKWORMS

*Ricinus communis*  
*Heteropanax fragrans*  
*Alianthus glandulosa*  
*Alianthus excelsa*  
*Manihot utilissima* (Tapioca)  
*Evoadia flesinofola*  
*Carica papaya*  
*Plumeria acutifolia*  
*Quercus serrata*  
*Quercus dealbata*  
*Morus alba*  
*Morus serrata*  
*Morus indica*  
*Morus migra*  
*Terminalia tomentosa*  
*Terminalia arjuna*  
*Shorea robusta*  
*Zizyphus* sp.  
*Machilus bombycina*  
*Litsaei polyantha*  
*Litsaea citrata*.

#### R. NTFP AND MEDICINAL PLANT SPECIES

Botanical Name	Plants Parts Used	Cultivation/ Propagation methods	Other uses	Medicinal use
<i>Abelmoschus moschatus</i>	Seeds	By seeds		Powdered seeds mixed with water taken orally for headache, carminative & as stomachic
<i>Abutilon indicum</i>	Roots, leaves, seeds		Fibres	Anthelmintic, laxative,

				aphrodisiac, gonorrhoea, inflammation of bladder,
<i>Acacia auriculiformis</i>	Wood			
<i>Acacia concinna</i>	Pods		Soap for all skin diseases	Constipation, renal and vesical calculi, haemorrhoids, leucoderma, leprosy and eczema
<i>Acacia catechu</i>	Bark			Leucoderma
<i>Acalypha indica</i>	Whole plant	By bulb		Laxative, jaundice, worm cases
<i>Achyranthes aspera</i>	Whole plant, stem	By seeds & roots	Dyes	Diuretic, appetite, asthma, skin diseases and cardiac disorder
<i>Aconitum hethophyllum</i>	Roots			As tonic, hysteria, throat infection, dyspepsia and vomiting, diarrhoea, abdominal pain and diabetes
<i>Acorus calamus</i>	Rhizomes	By rhizomes/roots		Dyspepsia colic, pain, calanis remittent fever, bronchitis, asthma and dysentery
<i>Actephila excelsa</i>	Leaves	By seeds		Juice of bruised leaves applied externally for tonsillitis, throat-pain
<i>Adhatoda vasica</i>	Leaves			Cough, expectorant, bronchitis, asthma
<i>Aegele marmelos</i>	Roots, leaves, fruits	By seeds		Diarrhoea, dysentery, fever, ophthalmia, inflammations, laxative and tonic
<i>Aeschymanthus sikimmensis</i>	Stem, flower, root	-		Fever, pain, tonsillities, cureinguinal lymphodeupathy & breast cancer
<i>Ageratum conyzoides</i>	Leaves, roots	By seeds/roots		Crushed juice applied externally for cuts, haemostatics, antilithic
<i>Aginata indica</i>	Rhizome, root, stem	By bulb		Crushed juice applied externally on mumps, inflammatory
<i>Albizzia chinensis</i>	Stem-bark	By seeds		Juice applied externally as lotion for cuts, scabies, skin diseases
<i>Albizzia odoratissima</i>	Stem-bark	By seeds		Juice applied externally for ulcers, leprosy
<i>Albizzia procera</i>	Leaves	By seeds		Poultice applied externally on ulcers
<i>Albizzia lebbeck</i>	Bark, flowers, seeds	-	Tannins, gums	Cough, skin eruption, leprosy, ophthalmopathy and poisoning
<i>Aleurite fordii</i>	Fruits	-	Essential oils	
<i>Alocasia fornicata</i>	Juice	-	Vegetables	Snake bite
<i>Aloe barbadensis</i>	Leaf-juice, elio	-		Dyspepsia, skin diseases, constipation, tumours, dropsy, chronic ulcers, ophthalmia
<i>Alnus nepalensis</i>	Wood, leaves	-	fodder	
<i>Alpinia brateata</i>	Rhizome	-		Colic, cough
<i>Alpinia galanga</i>	Rhizomes	By rhizomes		Cough, asthma, obesity, diabetes, fever
<i>Alstonia scholaris</i>	Bark, leaves, milky exudate	By seeds		Hypertension, fever, diarrhoea and ulcer

<i>Aluerites fordii</i>	Fruits	-	Essential oils	
<i>Ambroma augusta</i>	Roots	-		Tonsilitis, sore throat, gastric, fever, rheumatism
<i>Amorphophallus paeoniifolius</i>	Corms	By bulb	Vegetables	Tumour, cough, elephantiasis, dyspepsia, anorexia and constipation
<i>Anacardium occidentale</i>	Root, bark, leaves, fruits	--	Kernels highly nutritious and concentrated food	Snake bite, leprosy, skin diseases, dysentery
<i>Anacolosia crassipes</i>	Leaves	-		Small-pox
<i>Androgaphis paniculata</i>	Whole plant	-		Decoction taken for anti-spasmodic, diarrhoea, fever, dyspepsia, jaundice
<i>Angiopteris evecta</i>	Root	-		Paste on fracture
<i>Anogeisus acuminata</i>	Bark	-		Cuts & wounds
<i>Anthocephalus chinensis</i>	Stem-bark	-		Decoction taken orally for febrifuge, uterine complaints
<i>Aporosa octandra</i>	Bark	-		Colic & stomach-ach
<i>Arenga saccharifera</i>	Root, flower, fruit	By seeds/suckers		Decoction for bronchitis, & stomachic fibre string for fiddle string & trap crushed juice for fish poison
<i>Aquilaria agallocha</i>	Wood	-	Essential oils	
<i>Ardisia paniculata</i>	Root	-		Stop bleeding at child birth
<i>Ardisia polycephala</i>	Root	-		Stop bleeding at child birth
<i>Arisalma tortusum</i>	Tuber	-		Pounded poultice applied externally on inflammation, skin eruptions
<i>Artemisia vulgaris</i>	Whole plant	By seeds/roots	Essential oils	Anthelmintic, skin disease
<i>Artocarpus lakoocha</i>	Stem-bark	By seeds/suckers		Juice of crushed bark applied externally on pimples, pustules on face, acne, crack skin,
<i>Arundinaria callosa</i>	Whole plant	-	Constructions & vegetables	
<i>Asparagus racemosus</i>	Root	-	Vegetables	Diarrhoea, dysentery, aphrodisiac
<i>Aluerites Montana</i>	Fruits	-	oils	
<i>Averrhoa carambola</i>	Fruits, leaves	By seeds	Fruits edible	Eaten raw against bleeding piles & decoction taken for liver ailment
<i>Baccaurea ramniflora</i>	Stem-bark	-		Juice/infusion taken orally for stomache, purgative, food allergy
<i>Baccaurea sapida</i>		-	Dyes	
<i>Bambusa arundinacea</i>	Whole plant	By rhizomes	Constructions & vegetables	
<i>Bambusa khasiana</i>	Whole plant	By rhizomes	Constructions & vegetables	

<i>Bambusa longispachus</i>	Whole plant	By rhizomes	Constructions & vegetables	
<i>Bambusa oliveriana</i>	Whole plant	By rhizomes	Constructions & vegetables	
<i>Bambusa vulgaris</i>	Whole plant	By rhizomes	Constructions & vegetables	
<i>Bauhinia purpurea</i>		-	Fibres, tannins, dyes, gums	
<i>Bauhinia variegata</i>	Stem-bark	-		Decoction taken orally
<i>Begonia inflata</i>	Whole plant			Straunguary
<i>Bergenja ciliata</i>	Root	By stem cutting		Crushed juice applied externally on boils and decoction taken orally for dysentery, colic
<i>Bidens biternata</i>	Leaves	By seeds		Juice of leaves applied externally on swollen glands & as eye drop
<i>Bischofia javanica</i>		By seeds	Tannins, dyes	
<i>Bixa orellana</i>	Roots, bark, seeds	-	Dyes	Fever, gonorrhoea
<i>Blumea laciniata</i>	Root	-		Cardiac problems
<i>Blumea lanceolaria</i>	Leaves	-		Cancer & animal worms
<i>Boehmeria malabarica</i>	Stem	By seeds/roots		Peeled off stem contained slimy juice applied externally on swellings, pain, sciatica
<i>Boletus edulis</i>	Fruiting body	-	Vegetable	
<i>Bombax ceiba</i>	Capsules	By seeds	Flosses	Aphrodisiac
<i>Bombax insigne</i>	Bark	-		Tonsillitis
<i>Buddleja asiatica</i>	Flower	By seeds/stem cutting		Powdered flower made into paste applied externally on skin diseases
<i>Bursera serrata</i>	Fruits, wood	-	Edible, construction	
<i>Butea monosperma</i>	Juice from wood, flowers	-	Tannins, gums	
<i>Butea superba</i>	Root	By tuber		Juice of root in combination with <i>Sonchus arvensis</i> , <i>Vitis bifurcata</i> applied externally for snake bites, verrucose
<i>Byttneria aspera</i>	Sap	By seeds/root		Sap of cut-stem retained in the mouth against stomatitis for children
<i>Callicarpa arborae</i>	Leaves, bark	-	Packing	Cuts, wounds
<i>Calotropis giganteus</i>	Whole plant	By seeds		Tonic, cough, intestinal worms, paralysis, fever, asthma & tumours
<i>Camellia kissi</i>	Bark	By seeds		Decoction taken orally against kidney trouble, sciatica
<i>Canarium strictum</i>	Bark	-		Rashes & wounds
<i>Caraga glauca</i>	Root, leaves, bark	-	Tanning	Pneumonia, snake bite, headache,

				cholera
<i>Caryota urens</i>	Nut	By seeds/suckers		Paste of crushed nut applied externally on headache, hemicrania
<i>Cassia alata</i>	Leaves	By seeds		Crushed juice applied externally on ringworms
<i>Cassia fistula</i>	Bark	By seeds	Tannins	
<i>Cassia hirsuta</i>	Root	By seeds		Infusion of root taken internally for snake-bite
<i>Cassia renigera</i>	Flowers	-	Ornamental	
<i>Cassia tora</i>	Leaves & seeds	-		Decoction applied externally on cutaneous, ringworms, itches
<i>Catharanthus roseus</i>	Leaves & flowers	-		decoction taken orally for hypertension, cancer
<i>Caulokaempferia linearis</i>	Whole plant	-		Headache
<i>Cautleya gracilis</i>	Rhizome	-		Cough & cold
<i>Ceiba pentandra</i>	Root, gum, bark	-		Diabetes, stomach ailments, migraine
<i>Centella asiatica</i>	Whole plant	By stem cutting		infusion taken orally for gastroenteritis hypertension, fever, stomachache and crushed juice applied externally on eye-ache, skin diseases
<i>Cephalostachyum capitatum</i>	Whole plant	-	Gums, vegetables & construction	
<i>Cephalostachyum fuschianum</i>	Whole plant	-	Vegetables & construction	
<i>Chenopodium embrosioides</i>	Leaves	By seeds/roots		Crushed leaves applied externally on itches, skin diseases and infusion of leaves taken orally for intestinal worms
<i>Chikrassia tubularis</i>	Stem	By seeds		Diarrhoea, dysentery
<i>Chonemorpha fragrans</i>	Roots	-		Gynaecological problems
<i>Chromaalena odorata</i>	leaves	By seeds		crushed juice applied externally on cuts and wounds heasmostatics
<i>Cinnamomum glaucascens</i>	Stem, bark	By seeds		Juice of bark taken orally for bronchitis, pneumonia, cough
<i>Cinnamomum obtusifolia</i>	Stem, bark	By seeds		Infusion taken orally against liver complaints, dyspepsia
<i>Cinnamon tamala</i>	Leaves	By seeds	Spices	
<i>Cissampelos pareira</i>	Whole plant	-		Urinary trouble, diarrhoea, dysentery
<i>Claoxylon khasianum</i>	Root & bark	-		Tumor
<i>Clerodendron glandulosum</i>		-	Vegetables	
<i>Clerodendrum</i>	Leaves & roots	By seeds/suckers		Intestinal worms, fever

<i>colebrookianum</i>				
<i>Colysis hemionitides</i>	Rhizome	-		Bone fracture
<i>Cordia dichotoma</i>	stem-bark	-		decoction taken internally for the removal of retained placenta in the womb, cholera
<i>Costus speciosus</i>	Rhizome	-		Kidney trouble, birth control
<i>Crotolaria juncea</i>	leaves	By seeds		boiled leaves and water taken orally for purgative, enumenagogue, enutic, vegetable
<i>Curculigo capitulata</i>	tubers	By rootstock		juice of tuber taken orally for stomachache
<i>Curcuma aromatica</i>	Dry rhizomes	-		Wounds, allergic and cough
<i>Curcumorpha longiflora</i>	Rhizome	By rhizomes		Diarrhoea, dysentery, gastro intestinal
<i>Curcumorpha minor</i>	Rhizome	-		Diarrhoea, dysentery
<i>Dalbergia pinnata</i>	Root & bark	By seeds		Stomatitis, hepatitis
<i>Datura metel</i>	Flower, stem, seeds	By seeds/stem		Asthma, dandruff, hair falling and rheumatism swellings
<i>Dendrobium ariaeflorum</i>	Stem	-		Stimulate hallucinogenic
<i>Dendrobium denudans</i>	Stem	-		Stimulate hallucinogenic
<i>Dendrocalamus giganteus</i>	Whole plant	-	Vegetables & constructions	
<i>Dendrocalamus longispathus</i>	Whole plant	By rhizomes	Vegetables & constructions	
<i>Dendrocalamus sikkimensis</i>	Whole plant	By rhizomes	Vegetables & constructions	
<i>Dendrocalamus helmithonii</i>	Whole plant	By rhizomes	Vegetables & constructions	
<i>Dendrocalamus strictus</i>	Whole plant	By rhizomes	Vegetables & constructions	
<i>Dendrocnide sinuate</i>	Roots, leaves	-		For swelling and blind abscesses
<i>Desmos chinensis</i>	Root	By seeds		Dysuria
<i>Desmos dumosus</i>	Root	-		Dysuria
<i>Desmos longiflorus</i>	Leaves	-		Ulcer
<i>Dillenia indica</i>	stem-bark	By seeds/suckers		decoction taken internally for diarrhoea and powdered bark applied externally on ulcers
<i>Dillenia pentagyna</i>	stem-bark	By seeds		decoction of dried bark taken internally for stomach- ulcer
<i>Dioscoria bulbifera</i>	Tuber	-	Vegetables	
<i>Dioscorea floribunda</i>	Tuber	-	Vegetables	Steroidal alkaloid Diosgenin used by pharmaceutical industry
<i>Dioscoria alata</i>	Tuber	-		Diabetes, leprosy, gonorrhoea

<i>Diospyros variegata</i>	Root, bark	-		Diarrhoea, dysentery, ulcer
<i>Diplazium esculentum</i>	Stem	-	Vegetables	
<i>Diplazium maximum</i>	Root-stock	-		Bone setting
<i>Dipterocarpus turbinatus</i>	Wood oil	-	Resins	
<i>Dracaena spicata</i>	Root	By seeds/roots		root chewed and juice taken for stomachache
<i>Dysoxylum gobara</i>	Leaves	By seeds/suckers		Diarrhoea and as vegetable
<i>Elaeagnus cordata</i>	root	By seeds		infusion taken internally for the removal of retained placenta in the womb
<i>Elsholtzia blanda</i>	leaves	By seeds/roots/		juice of aromatic leaves applied externally on inflammation and eruption of skin in children
<i>Elsholtzia crista</i>	flower	By seeds		powdered flower mixed with water taken internally as antipyretic
<i>Embelia nutans</i>	leaves	By seeds/roots		crushed leaves applied externally on cuts and wounds
<i>Embelia ribes</i>	fruit	By seeds		cooked fruit taken internally as anthelmintic, stomachic
<i>Emblia officinalis</i>	Flowers	By seeds	Tannins, fruits	Laxative, cooling, diuretic
<i>Engelhardtia spicata</i>		By seeds	Tannins, fruits	
<i>Entada pursaetha</i>	seed	By seeds		powdered seed applied externally on inflammation, ulcer
<i>Eryngium foetidum</i>	whole plant	By seeds/roots	Condiment	crushed plant taken orally for stomachic
<i>Erythrina stricta</i>	bark	By seeds/suckers		decoction of stem bark taken internally for stomach ulcer
<i>Eupatorium nudiflorum</i>	leaves	By seeds		juice of leaves applied externally as haemostatics
<i>Eurya japonica</i>	Fruits	-	Edible	
<i>Ficus glomerata</i>		-	Tannins, dyes, fruits	
<i>Ficus religiosa</i>		-	Dyes	
<i>Ficus semicordata</i>	Bark & leaves	By seeds		Liver ailments
<i>Fritillaria cirrhosa</i>	Tubers	-		Tuberculosis, asthma and bronchitis
<i>Garcinia pedunculata</i>	Fruits	-		Diarrhoea
<i>Garcinia lancaefolia</i>	Leaves & fruits	-		Stomachache
<i>Garcinia sopsopia</i>	Branches & bark	By seeds		Snake bite
<i>Garuga pinnata</i>	Bark	-	Tannins, dyes, gums	



<i>Gelsemium elegans</i>	Roots	-		Picks sickness & mange
<i>Girardinia diversifolia</i>	leaves	-		decoction taken internally for anaemia, arthritis, internal bleeding
<i>Gmelina arborea</i>	Roots, flowers, fruits	-		Cooling diuretic astringent fever, and urinary discharge
<i>Gnetum montanum</i>	Fruits	-	Edible	
<i>Goniothalamus sesquipedalis</i>	leaves	-		burnt smoke inhaled against asthma
<i>Gynocardia odorata</i>	Seed oil	-		Skin diseases and leprosy
<i>Haldia cordifolia</i>	stem, bark	-		decoction of stem bark with that of <i>Vitex peduncularis</i> taken internally against fever, as febrifuge
<i>Hedyotis scandens</i>	Decoction of leaves	-		To pulverize kidney stones
<i>Helicia excelsa</i>	Stem & bark	-		Colic
<i>Hibiscus rosachinensis</i>	flower	By stem/cutting		flower dipped in water taken internally for fever, febrifuge in children
<i>Hodgsonia heteroclita</i>		By seeds	Vegetables	
<i>Holarrhena antidysenterica</i>	Bark	By seeds		Dysentertry
<i>Holarrhena pubescens</i>	Bark, fruits, seeds	-		Diarrhoea, dysentery and piles
<i>Homalomena aromatica</i>		By rootstock		
<i>Ilex umbellulata</i>	Decoction of bark	-		Tonsilitis, diarrhoea
<i>Imperata cylindrical</i>	Whole plant	-	Roofing and thatching Vegetables material	
<i>Jasminium nervosum</i>	Leaves	-		Stomach ache and fever
<i>Jasminium dispernum</i>	Leaves	-		Diarrhoea & dysentery
<i>Jatropha curcus</i>	stem bark	-		juice of bark applied externally on skin diseases, eczema, ringworms
<i>Juglans regia</i>	Fruits	-	Edible	
<i>Lagera crispata</i>	Leaves	-		Ulcer & sores
<i>Lasianthus hirsutus</i>	Leaves	By seeds		Wound
<i>Lasianthus wallichii</i>	Leaves	-		Hallucinogens
<i>Lepidagathis incurva</i>	Leaves	By roots		Haemostatics
<i>Lepidagathis rigida</i>	Leaves	-		Remove tooth worms

<i>Lepionurus silvestris</i>	Leaves	By seeds		Diphtheria
<i>Leucas sp.</i>	Whole plant, leaves	-		Skin diseases and fever
<i>Lindernia ruelloides</i>	Whole plant	-		Cramp, sprains & spasms
<i>Lonicera macrantha</i>	Leaves & root	By seeds		Diarrhoea & cancer
<i>Macaranga peltata</i>	Wood, leaves	-	fodder	
<i>Mallotus lueocarpus</i>	Root	-		Colic
<i>Mallotus roxburghianus</i>	Leaves & barks	-		Diabetes, hepatitis & hypertension
<i>Melocanna baccifera</i>	Whole plant	-	Vegetables & construction	
<i>Melastoma malabathricum</i>	Fruits	By seeds	Edible	Leaves used to stop bleeding
<i>Melocamus compactiflorus</i>	Whole plant	By rizomes	Vegetables & construction	
<i>Mesua ferrae</i>	Flowers	By seeds	Ornamentals	
<i>Michelia champaca</i>	Whole plants	By seeds		Dyspepsia, nausea, skin diseases, fever, cough
<i>Milletia piscidia</i>	Root	-		Infertility, fish poison
<i>Milletia pachycarpa</i>	Root	-		Infertility, fish poison
<i>Mimosa invisa</i>	Root	-		Dissolve calculus
<i>Morinda angustifolia</i>	Leaves,root	-		Snake bite, cough
<i>Musaendra roxburghii</i>	Root, bark	By seeds		Mouth ulcer
<i>Musa gluaca</i>	Seed	By suckers		Convulsion
<i>Myrica negi</i>	Fruits	By seeds	Edible	
<i>Neohouzeaua dullooa</i>	Whole plant	-	Vegetables & construction	
<i>Ocimum sanctum</i>	Leaves	-		Catarrh, pulmonary affection
<i>Ocimum basilicum</i>	Seeds, leaves and branch	-		Gonorrhoea, aphrodisiac, chronic diarrhoea, dysentery, cold, cough, ring worm and nasal disorder
<i>Oroxylum indicum</i>	Barks, roots, fruits	By seeds		Purgative, rheumatism, leucoderma, diarrhoea and tonic
<i>Osbeckia rostrata</i>	Root	By seeds		Renal & genito-urinal disorder
<i>Pajanela longifolia</i>	Leaves & shoot	-		Fracture of bone
<i>Panax bipinnatifida</i>	Rhizomes	-		Adaptogen, depression, fatigue and for mental alertness
<i>Panax pседoginseng</i>	Rhizomes	-		Adaptogen, depression, fatigue and for mental alertness
<i>Panax sikkimensis</i>	Rhizomes	-		Adaptogen, depression, fatigue and for mental alertness
<i>Parabarium</i>	Bark & latex, root	-		Juandice & wounds, placental

<i>hookerii</i>				disorder
<i>Parkia roxburghii</i>	Pods	By seeds	Vegetables	
<i>Pentapetes phoenicea</i>	Roots, fruits	-		Fever, diarrhoea, gastric problem
<i>Phlogacanthus thyrstformis</i>	Roots	-		Tumors
<i>Phyllanthus airy-shawii</i>	Leaf juice	By seeds		Measles
<i>Phyllanthus acidus</i>	Fruits, roots, bark, leaves	By seeds		Cough, asthma, hyper acidity, skin diseases, leprosy, diabetes
<i>Phyllanthus fraternus</i>	Whole plant, roots, leaves	By seeds		Jaundice, urogenital infections, ulcers, swellings and sores
<i>Picrasma javanica</i>	Bark	By seeds		Used as febrifuge
<i>Pinus kesia</i>	Wood	-	Timber, resin	
<i>Piper diffusum</i>	Leaves	-		Stomachache
<i>Pithecelobium monadelphum</i>	Leaves	By seeds		Crushed leaves retained in mouth for toothache, gum-boil.
<i>Podocarpus neriifolius</i>	Wood	By seeds	Timber	
<i>Podophyllum hexandrum</i>	Rhizomes	-		Purgative, vermifuge and cancer
<i>Polygonum cirrhifolium</i>	Root stock	-		Burning sensation, ulcer, tuberculosis, bronchitis
<i>Pongamia pinnata</i>	Roots, bark, leaves, flowers, seeds, oils	-		Ulcer, haemorrhoids, diarrhoea, diabetes, anaemia, leprosy
<i>Pramenthes scandens</i>	Leaves	-		Urinary tract infection
<i>Prunus cerasioides</i>	Heart wood	By seeds		Burning sensation, sprain, dyspepsia, diarrhoea, asthma, fever
<i>Pseudodrynaria coronans</i>	Rhizome	By rhizomes/stem		Herpes
<i>Pseudostechyum polymorphum</i>	Whole plant	-	Vegetables & construction	
<i>Psidium guajava</i>	Roots and leaves	By seeds		Abdominal pain, diarrhoea, malaria, vomiting and intestinal haemorrhage
<i>Quercus fenestrata</i>	Wood	-	For agricultural implements	
<i>Quercus semi-serata</i>	Wood	-	Construction, implements	
<i>Romaria formosa</i>	Fruiting bodies	-	Vegetables	
<i>Romaria holrubella</i>	Fruiting bodies	-	Vegetables	
<i>Rauwolfia serpentina</i>	Roots	-		Blood pressure anxiety, mental troubles, sedative, tranquilizer and uterine contraction
<i>Rauwolfia tetrapylla</i>	Roots, bark, leaves fruits	-		Adulterant of <i>Rauwolfia serpentina</i>
<i>Rhaphidophora hookerii</i>	Stem	-		Child birth

<i>Rhus semi-alata</i>	Fruits	By seeds		Remedy for colic
<i>Rhus javanica</i>	Fruits	By seeds	Edible	
<i>Rubia cordifolia</i>	Roots and old stem	-		Tonic astringent, anti-dysenteric, anti-septic, ulcers, skin rashes and inflammation
<i>Sacharum spontaneum</i>	Roots	-		Burning sensation, dysentery, haemorrhoids, dyspepsia
<i>Sapindus mukorossi</i>	Nut	By seeds		Soapnut used as local soap and as biocides
<i>Saraca asoca</i>	Bark	By seeds		Gynaecological problem
<i>Saraca indica</i>	Bark, leaves, flowers, seeds	By seeds		Stomachalgia, treating bone fractures, burning sensation
<i>Sarcococca saligna</i>	Leaves	By seeds/roots		Boiled leaves of juice applied on sprains, swellings, sciatica, paralysis, rheumatism
<i>Schima walichii</i>	Sap, leaves	By seeds		Sap applied on cuts, wounds & snake bite and leaves for intestinal tape-worms
<i>Scleroderma verucosum</i>	Fruiting body	-	Vegetable	
<i>Securinega virosa</i>	Fruits	By seeds		Stomach ache, digestive disorder
<i>Sida cordata</i>	Whole plant	-		Fever, arthritis, burning sensation
<i>Sida rhombifolia</i>	Roots, stem	-		Burning sensation, diarrhoea, tuberculosis
<i>Smilax china</i>	Rhizomes	-		Leprosy, epilepsy, constipation, fever, seminal weakness
<i>Smilax glabra</i>	Rhizome, tuber	-		Decoction of rhizome taken internally for gynaecological problems, rheumatism, as stomachic
<i>Solanum khasianum</i>	Fruits	By seeds		Steroidal and source of alkaloid solasodine, mouth wash
<i>Solena heterophylla</i>	Leaves	By seeds/roots		Juice of leaves applied externally on inflammation
<i>Spondias pinnata</i>	Leaves	By seeds		Diarrhoea, dysentery, vomiting, rheumatism, appetizer
<i>Stemona tuberosa</i>	Tuber	By tubers		Decoction of bitter root taken internally for fever, tuberculosis
<i>Stephania hernandifolia</i>	Roots, leaves	-		Boils, septic inflammation
<i>Stereospermum colais</i>	Roots, leaves, seeds, flowers, fruits	By seeds		Dyspepsia, diarrhoea, wound, tonic, fever, anthelmintic
<i>Stereospermum neuranthum</i>	Wood vinegar	By seeds		Chronic-ulcer
<i>Sterculia villosa</i>	Root, bark	By seeds		Dysentery, applied locally for hydrosol
<i>Strobilanthes flaccidifolios</i>	Flowers	-	Dyes	
<i>Swertia angustifolia</i>	Whole plant	By seeds		Skin diseases and fever
<i>Sygygium cuminii</i>	Fruit, seed, stem-	By seeds		Infusion of root for diuretic,

	bark			carminative, stomachic & decoction of stem-bark for diabetes & diarrhoea
<i>Tabemaemontana diversicata</i>	Roots, flowers, latex	By seeds		Burning sensation, paralysis, inflammation
<i>Taractogenos kurzii</i>	Seed-oil	By seeds		Seed-oil applied externally on leprosy
<i>Tarena odorata</i>	Root	-		Snake bite
<i>Terminalia arjuna</i>	Stem-bark	By seeds		Blood pressure and heart ailments & cleaning ulcerated sores
<i>Terminalia bellerica</i>	Stem & flower	By seeds		Dyspepsia, dropsy, piles, diarrhoea, liver diseases, heart problems & purgative
<i>Terminalia chebula</i>	Bark, fruits	By seeds		Diarrhoea, Ulcer, Tonic, astringent, laxative, Expectorant & piles
<i>Terminalia tomentosa</i>	Bark	By seeds		Diarrhoea, ulcer
<i>Tetracera sarmentosa</i>	Bark	-		Stomachache
<i>Tetrameles nudiflora</i>	Sap, bark & leaves	-		Cuts & wounds, otoreia
<i>Thunbergia grandiflora</i>	Sap, root, leaves	By seeds/stem		Sap of cut stem drop on eyes for eye-ache & juice of roots, leaves applied on wounds, sprains, burns & fracture
<i>Tinospora cordifolia</i>	Stem	By roots/stem		Dyspepsia, skin diseases, jaundice
<i>Tinospora sinensis</i>	Stem	By roots/stem		Infusion of taken internally for urinary tract infection, fever
<i>Toona ciliata</i>	Bark, flowers	By seeds		Chronic dysentery, cough, bronchitis, leprosy
<i>Trapa natans</i>	Fruits	-		Burning sensation, dyspepsia, leprosy, haemorrhages
<i>Trema orientalis</i>	Bark, leaves	By seeds	Fibre, fodder	
<i>Trevelia palmate</i>	Roots & leaves	-		Colic & stomachache
<i>Tricholoma imbricatum</i>	Fruiting bodies	-	Vegetables	
<i>Tricholoma terrum</i>	Fruiting bodies	-	Vegetables	
<i>Uncaria sessilifructus</i>	Leaves	By seeds		Leaves boiled taken for diphtheria, tonsillitis
<i>Valerina wallichii</i>	Roots	-		Fever, hepatitis, skin diseases, cough, asthma, constipation, jaundice
<i>Vinca rosea</i>	Leaves	-		Anti-cancer
<i>Vitex peduncularis</i>	Leaves	By seeds		Rheumatism, swelling pain, headache
<i>Vitis bifurcata</i>	Root	By roots		Swelling & sciatica
<i>Withania somnifera</i>	Roots, leaves	-		Aphrodisiac, vitality, hiccup, dropsy, rheumatism,

				febrifuge, lesion, and painful swelling
<i>Woodfordia fruticosa</i>	Bark and flower	By seeds		Malaria, fever, dysentery, skin diseases
<i>Zanonia indica</i>	Leaves, fruits	-		Inflammations, spasmodic affections, cough, asthma, cuts, wounds, ulcers
<i>Zanthoxylum alatum</i>	Bark, fruits	-		Tumour, dyspepsia, diarrhoea, fever, skin diseases, cough
<i>Zanthoxylum budrunga</i>	Leaves	-	Edible	
<i>Zingiber officinale</i>	Rhizome	-		Crushed roasted rhizome mixed with water & salt as gargle against diphtheria, cough/flatulence

### S. EDIBLE WILD PLANTS

Name	Family	Use
<i>Alisama plantago</i>	Alismaceae	Cooked or fresh rhizome is eaten.
<i>Allium hookerri</i>	Liliaceae	The whole plant used as vegetable and spices.
<i>Allium odorum</i>	Liliaceae	The leaves are used as vegetable and as spices.
<i>Alocasia cullata</i>	Araceae	The tuber is used as raw in salad and cooked petiole is used as vegetable.
<i>Alocasia indica</i>	Araceae	Whole plant is used for curry.
<i>Alocasia macrorrhiza</i>	Araceae	The petioles are crushed along with dry small fishes and the paste is dried and eaten after cooked & the dry slices of the rhizome is used as chips.
<i>Alpinia allugha</i> Rose.	Zingiberaceae	The shoots with tender leaves are cooked.
<i>Asternanthera sessilis</i>	Amaranthaceae	The leaves with tender stems are used specially in chagempomba curry.
<i>Amaranthus</i> sp.	Amaranthaceae	The cooked, tender plant is used for curry.
<i>Bambusa nutans &amp; Bambusa tuida</i>	Poaceae	Young shoots from fresh plant are cooked or fermented shoots are used.

<i>Benincasa hispida</i>	Cucurbitaceae	Fruits are used as fresh or cooked.
<i>Brassica campestris</i>	Brassicaceae	Leaves are eaten as fresh or cooked, seeds are used for oil production
<i>Centella asiatica</i>	Apiaceae	He whole plant is cooked and used as curry
<i>Chenopodium album</i>	Chenopodiaceae	The leaves are used as vegetable
<i>Cissus adnata</i>	Vitaceae	The leaves are used as vegetable
<i>Colotasia giganatea</i>	Araceae	The whole plant is generally used for vegetable.
<i>Crolalaria Juncea</i>	Papilionaceae	The stem with young tender leaves are used in salad.
<i>Curcuma aromatica</i>	Zingiberaceae	The whole inflorescence head with flowers is used as vegetable.
<i>Cycas pectinata</i>	Cycadaceae	The young tender leaves and male cone are used as vegetable.
<i>Dendrocalamus gigantanus</i>	Poaceae	Young shoots & fermented young shoots are used as vegetable.
<i>Dioscorea glabra</i>	Dioscoreaceae	The cooked or roasted root tubers are eaten.
<i>Euryale ferox</i>	Nymphaeaceae	The young thorny leaves and petioles are used as fresh or cooked. Seeds with pulp are used as raw or cooked.
<i>Hibiscus cannabinus</i>	Malvaceae	The boiled leaves are used as curry.
<i>Houttuynia cordata</i>	Saururaceae	The fresh whole plant is used as spices for curry and salad.
<i>Ipomoea aquatica</i>	Convolvulaceae	The whole plant is used in salads and cooked in curry.
<i>Isoetes debii</i>	Cucurbitaceae	The fruits are edible as vegetable
<i>Lagenaria siceraria</i>	Cucurbitaceae	The fruits are edible as vegetable.

<i>Lathyrus sativus</i>	Pailionaceae	The young tender stems with leaves are used in salad by the people in rural areas.
<i>Lamanaea australis</i>	Algae	The sun dried plant is fried and eaten in salted condition.
<i>Lentinellus cochleatus</i>	Fungi	The fruiting body is cooked and eaten.
<i>Leucaena glauca</i>	Mimosaceae	Tender laves, young fruits and seeds are used as raw or fry as vegetable.
<i>Momordica charantia</i>	Cucurbitaceae	The cooked or fry fruits is eaten as curry.
<i>Musa paradisica</i>	Musaceae	The stem, inflorescence and fruits are used as vegetable.
<i>Nelumbo nucifeceae</i>	Nymphaceae	The young stems and leaves& Rhizomes are used as vegetable. Fruits is also edible.
<i>Neptunia oleracea</i>	Mimosaceae	The young stems and leaves are eaten raw in salad and cooked.
<i>Nymphaea sp.</i>	Nymphaceae	Tubers are boiled and eaten. The fruits petioles and flowers are used as vegetable.
<i>Ocimum canum</i>	Lamiaceae	The leaves and whole inflorescence are used as spices for salad and curry.
<i>Oenanthe javanica</i>	Araceae	The plant is used in salad and cooked as curry.
<i>Pistia stratiotes</i>	Araceae	The young leaves are served as cooked vegetable.
<i>Parkia javanica</i>	Mimosaceae	The flower is used in salad. The fruits are also used as vegetable as raw or cooked.
<i>Pisum sativum</i>	Papilionaceae	The young twigs and leaves are used in salad, young fruits and dried seeds are used as vegetable.



<i>Plumbago zeylanica</i>	Plumbaginaceae	The plant is used as vegetable by the local people.
<i>Polygonum barbatum</i>	Polygonaceae	The young shoot and tender leaves are used as vegetable.
<i>Sagittaria sagittifolia</i>	Alismaceae	The petioles are coked and eaten. The tubers also eaten as cooked or raw.
<i>Sesbania sesban</i>	Papilionaceae	The young leaves and fruits are used as vegetable.
<i>Spinacia oleraceae</i>	Chenopodiaceae	The leaves are used a vegetable.
<i>Stellaria media</i>	Caryophylliaceae	The young leaves and shoots are used as vegetable.
<i>Trapa natas</i>	Trapaceae	The leaves, stem, roots and fruits are eaten as vegetable by the people.
<i>Vulvariella esculenta</i>	Fungi	The plant or fruiting body is used as vegetable.
<i>Zizania latifolia</i>	Poaceae	The young stem with lender leaves are used as vegetable.

## T. ECONOMICALLY IMPORTANT AND WILD CROP RELATIVES

Species	Economic importance
<i>Begonia</i> sp.	Edible leaves
<i>Calamus flagellum</i>	Furniture, tender shoots edible
<i>Calamus tenuis</i>	Furniture
<i>Canarium strictum</i>	Dhona
<i>Castanopsis indica</i>	Wood for charcoal, nuts edible
<i>Clerodendrum colebrookianum</i>	Leaves used as vegetable
<i>Dendrocalamus hamiltonii</i>	Bamboo, shoots used as vegetables
<i>Dillenia indica</i>	Edible fruits
<i>Diplazium esculentum</i>	Young fronds used as vegetables
<i>Laportea crenulata</i>	Young leaves and shoots used as vegetables
<i>Laportea crenulata</i>	Edible leaves
<i>Litsea citrata</i>	Aromatic
<i>Livistona jenkinsiana</i>	Toko leaf used as roofing material
<i>Musa</i> sp.	Leaves as roofing material and flower spadix as vegetables
<i>Oroxylum indicum</i>	Bark medicinal and flowers edible

<i>Pandanus</i> sp.	Leaves used for mat making
<i>Phlogacanthus thyrsiflorus</i>	Flowers used as vegetables and leaves medicinal
<i>Phrynium pubinerve</i>	Packaging leaf
<i>Piper</i> sp.	Leaves used as vegetable and fruit medicinal
<i>Pouzolzia bennetiana</i>	Edible leaves
<i>Sarchochlamys pulcherrima</i>	Edible leaves
<i>Solanum nigrum</i>	Tender shoots used as vegetable
<i>Solanum torvum</i>	Fruits used as vegetable
<i>Spilanthes paniculatus</i>	Leaves used as vegetable, flower head medicine for tooth pain
<i>Spondias axillaris</i>	Edible fruits
<i>Spondias pinnata</i>	Edible fruits
<i>Sterculia hamiltonii</i>	Fibre yielding
<i>Sterculia villosa</i>	Fibre yielding
<i>Terminalia chebula</i>	Fruits medicinal
<i>Thunbergia coccinea</i>	Ornamental
<i>Thysanolaena maxima</i>	Broom grass
<i>Trema orientalis</i>	Fibre yielding
<i>Wallichia</i> sp.	Leaves as roofing material , fibre for broom and handicrafts

#### U. PLANT SPECIES USED AS SPICES AND CONDIMENTS

<b>Botanical Name</b>	<b>Family</b>
<i>Acacia catechu</i> (L.) Willd.	Leguminosae
<i>Allium ascalonicum</i> Linn.	Liliaceae
<i>Allium cepa</i> Linn.	-do-
<i>A. hookeri</i> Taw.	-do-
<i>A. odorum</i> Linn.	-do-
<i>A. fistulosum</i> Linn.	-do-
<i>A. porrum</i> Linn.	-do-
<i>A. sativum</i> Linn.	-do-
<i>A. tuberosum</i> Roxb.	-do-
<i>Alpinia nigra</i> (Gaertn.) Burtt.	Zingiberaceae
<i>Alpinia</i> sps.	-do-
<i>A. galanga</i> (L.) Willd.	-do-
<i>Alternanthera sessilis</i> DC.	Amaranthaceae
<i>Anisochilus carnosus</i> Wall.	Lamiaceae
<i>Anisomeles indica</i> (L.) O.Kuntze.	-do-

<i>Apium graveoleps</i> Linn.	Apiaceae
<i>Areca catechu</i> Linn	Aracaceae
<i>Artabotrys spinosus</i> Kurt.	Annonaceae
<i>Brassica capestris</i> Linn.	Brassicaceae
<i>Capsella bursa-pastoris</i> (L.)Moench.	Brassicaceae
<i>Capsicum annum</i> L. var. <i>Abbrevita fingarh</i>	Solanaceae
<i>C. frutescens</i> Linn.	-do-
<i>C. maxima</i> Linn.	-do-
<i>C. minima</i> Roxb.	-do-
<i>Cardamine debilis</i> D.Don	Brassicaceae
<i>Chinamomum camphora</i> Nees.	Lauraceae
<i>C. tamala</i> Nees.	-do-
<i>C. zeylanicum</i> Breyn.	-do-
<i>Citrus aurantifolia</i> (Christm.) Swingle	Rutaceae
<i>C. hystrix</i> DC.	-do-
<i>C. lemon</i> (L.) Burm. f.	-do-
<i>C. maxima</i> (Burm.) Merrill.	-do-
<i>C. sinensis</i> (Linn.) Osbeck.	-do-
<i>Cocos nucifera</i> Linn.	Arecaceae
<i>Coriandrum sativum</i> Linn.	Apiaceae
<i>Curcuma aromatica</i> Salisb.	Zingiberaceae
<i>C. amada</i> Roxb.	-do-
<i>C. angustifolia</i> Roxb.	-do-
<i>C. caesia</i> Linn.	-do-
<i>C. longa</i> Linn.	-do-
<i>C. zedoaria</i> Rosc.	-do-
<i>Curcuminum cyminum</i> Linn.	Apiaceae
<i>Elsholtzia blanda</i> Benth.	Lamiaceae
<i>Eryngium foetidum</i> Linn.	Apiaceae
<i>Etellaria cardamomum</i> Maton.	Zingiberaceae
<i>Eugenia caryophylla</i> Willd.	Myrtaceae
<i>Ferula asafoetida</i> Boiss.	Apiaceae
<i>Foeniculum vulgre</i> Gaertn.	-do-

<i>Foeniculum</i> sps.	-do-	
<i>Hedychium coronarium</i> Koeing. Ssyn. <i>H. flavum</i> Roxb.	Zingiberaceae	
<i>H. spicatum</i> Buch.	-do-	
<i>Hibiscus cannabinus</i> Linn.	Malvaceae	
<i>Houttuynia cordata</i> Thunb.	Saururaceae	
<i>Iringonella foenum-graceum</i> L.	Leguminosae	
<i>Knoxia sumatrensis</i> DC.	Lamiaceae	
<i>Lemania australis</i> Akins.	Rhodophyceae	
<i>Leucas aspera</i> Spreng.	Lamiaceae	
<i>Litsaea citrata</i> Bl.	Lauraceae	
<i>Mentha arvensis</i> Linn.	Lamiaceae	
<i>Meriandra bengalensis</i> Benth.		
<i>M. strobilifera</i> Benth.	-do-	
<i>Murraya koenicii</i> Linn.	Rutaceae	
<i>Oenanthe javanica</i> (Blume) DC.		
<i>O. linearis</i> Wall. Ex. DC.	Apiaceae	
<i>Ocimum canum</i> Sims.	Lamiaceae	
<i>Ocimum</i> sps.	-do-	
<i>Pinus insularis</i> Endl.		
<i>P. khasya</i> Royle.	Pinaceae	
<i>Piper nigrum</i> Linn.	Pipreaceae	
<i>Polygonum</i> sps.	Polygonaceae	
<i>Sesamum indicum</i> L. Syn. <i>S. orientale</i> Linn.		Pedaliaceae
<i>Zanthoxylum acanthopodium</i> DC.	Rutaceae	
<i>Z. alatum</i> Roxb.	-do-	
<i>Z. limonella</i> (Dennst.) Alston. Syn. <i>Z. budrunga</i> Wall. Ex. DC.	- do-	
<i>Zingiber officinale</i> Rosc.	Zingiberaceae	
<i>Z. zerumbet</i> Smith. Syn. <i>Amomum zerumbet</i> L.	Zingiberaceae	

## V. MUSHROOM

## Paddy Straw Mushroom

*Volvariella volvacea*

## Oyster Mushroom

*Pleurotus flabellatus*

*Pleurotus cornucopiae*

*Pleurotus sapidus.*

*Pleurotus citrinopileatus.*

*Pleurotus sajor-caju.*

*Pleurotus ostreatus.*

*Pleurotus erengii.*

*Pleurotus eous.*

## Button Mushroom

*Agaricus bisporus.*

*Agaricus bitorquis.*

## W. CULTIVATED CROPS

Botanical Name	Family	Common English Name
<i>Avena sativa</i> L.	Poaceae	Oat
<i>Fagopyrum esculentum</i> Moench	Polygonaceae	Buckwheat
<i>Oryza sativa</i> . L.	Poaceae	Rice, Paddy
<i>Zea mays</i> L.	Poaceae	Maize, Corn
<i>Sorghum vulgare</i> Pers.	Poaceae	Sorghum
<i>Coix lacryma-jobi</i> L.	Poaceae	Job's tear
<i>Echinochloa crus-galli</i> Beauv.	Poaceae	Barnyard millet
<i>Echinochloa frumentacea</i> Link	Poaceae	Barnyard or Japanese millet
<i>Panicum miliaceum</i> L.	Poaceae	Common, Hog, Proso, Broom corn or French millet
<i>Paspalum scrobiculatum</i> L.	Poaceae	Kodo millet
<i>Cajanus cajan</i> (L.) Millsp.	Papilionaceae	Pigeon pea
<i>Cicer arietinum</i> L.	Papilionaceae	Chick pea, Bengal gram
<i>Cyamopsis tetragonoloba</i> (L.) taub.	Papilionaceae	Cluster bean
<i>Dolichos lablab</i> L.	Papilionaceae	Hyacinth bean
<i>Glycine max</i> Merrill	Papilionaceae	Soybean
<i>Lathyrus sativus</i> L.	Papilionaceae	Grass pea
<i>Lens culinaris</i> Medic.	Papilionaceae	Lentil
<i>Mucuna utilis</i> Wall ex Wight	Papilionaceae	Velvet Bean
<i>Psophocarpus tetragonolobus</i> DC	Papilionaceae	Goa bean
<i>Vicia faba</i> L.	Papilionaceae	Broad bean
<i>Vigna mungo</i> (L) Hepper	Papilionaceae	Black gram

<i>Vigna radiata</i> (L.) Wilczek	Papilionaceae	Green gram
<i>Vigna umbellate</i> (Thunb.) Ohwi & Ohashi	Papilionaceae	Rice bean
<i>Vigna unguiculata</i> (L.) Walp.	Papilionaceae	Cowpea
<i>Arachis hypogaea</i> L.	Papilionaceae	Groundnut or Peanut
<i>Brassica napus</i> L. var. <i>glauca</i> (Roxb.) Schulz.	Brassicaceae	Sarson
<i>Brassica campestris</i> var. <i>toria</i> dutch.	Brassicaceae	Indian rape
<i>Brassica juncea</i> (L.) Czen. & Coss.	Brassicaceae	Indian mustard
<i>Brassica nigra</i> (L.) Koch	Brassicaceae	Black mustard
<i>Carthamus tinctorius</i> L.	Asteraceae	Safflower
<i>Cocos nucifera</i> L.	Asteraceae	Coconut
<i>Guizotia abyssinica</i> Cass.	Asteraceae	Niger
<i>Hellanthus annuus</i> L.	Asteraceae	Sunflower
<i>Linum usitatissimum</i> L.	Linaceae	Linseed
<i>Pongamia pinnata</i> Pierre	Papilionaceae	Pongam oil tree

<i>Ricinus communis</i> L.	Euphorbiaceae	Castor
<i>Sesamum indicum</i> L.	Pedaliaceae	Sesame
<i>Abelmoschus esculentus</i> (L.) Moench	Malvaceae	Okra
<i>Allium cepa</i> (L.) var.	Alliaceae	Multiplier onion
<i>Allium cepa</i> L.	Alliaceae	Onion
<i>Allium fistulosum</i> L.	Alliaceae	Welsh onion, Japanese bunching onion
<i>Allium sativum</i> L.	Alliaceae	Garlic
<i>Alocasia indica</i> (roxb.) Schott	Araceae	Taro
<i>Alocasia macrorrhiza</i> Schott	Araceae	Giant taro
<i>Amaranthus viridis</i> L.	Amaranthaceae	Amaranth green
<i>Amorphophallus campanulatus</i> Bl. ex Decne	Araceae	Elephant foot yam
<i>Apium graveolens</i> L.	Apiaceae	Celery
<i>Benincasa hispida</i> (Thunb.) Cong.	Cucurbitaceae	Ash gourd
<i>Beta vulgaris</i> L.	Chenopodiaceae	Sugarbeet
<i>Brassica caulorapa</i> Pasq.	Brassicaceae	Knolkhol
<i>Brassica chinensis</i> Juslen	Brassicaceae	Chineses cabbage
<i>Brassica rapa</i> L.	Brassicaceae	Turnip
<i>Brassica napus</i> L. var. <i>napobrassica</i> (L.) Reichb.	Brassicaceae	Swedish tumip
<i>Brassica oleracea</i> L. var. <i>gemmifera</i> Zenker.	Brasicaceace	Brussels sprout

<i>Brassica oleracea</i> L. var. <i>botrytis</i> Prain	Brassicaceae	Cauliflower
<i>Brassica oleracea</i> L. convar. <i>capitata</i> (L.) var. <i>capitata</i> L.	Brassicaceae	Cabbage
<i>Canavalia gladiata</i> (Jacq.) DC.	Papilionaceae	Sword bean
<i>Capsicum annuum</i> (L.) var. <i>fasciculatum</i> (sturt.) Irish	Solanaceae	Cluster pepper
<i>Capsicum annuum</i> (L.) var. <i>longum</i> (DC.) Sendt.	Solanaceae	Long pepper
<i>Capsicum annuum</i> var. <i>grossum</i> (L.) Sendt.	Solanaceae	Bell pepper
<i>Chenopodium album</i> L.	Chenopodiaceae	Pig weed
<i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	Cucurbitaceae	Water melon
<i>Coccinia cordifolia</i> Cong.	Cucurbitaceae	Ivy gourd
<i>Colocasia esculenta</i> (L.) Schott	Araceae	Elephant ear yam
<i>Cucumis melo</i> L.	Cucurbitaceae	Muskmelon
<i>Cucumis melo</i> L. var. <i>momordica</i> Duthie & Fuller	Cucurbitaceae	
<i>Cucumis sativus</i> L.	Cucurbitaceae	Cucumber
<i>Cucurbita ficifolia</i> Bouche	Cucurbitaceae	Fig leaf gourd
<i>Cucurbita maxima</i> Duch.	Cucurbitaceae	Winter squash
<i>Cucurbita moschata</i> Duch. Ex Poir.	Cucurbitaceae	Pumpkin
<i>Cucurbita pepo</i> L.	Cucurbitaceae	Summer squash, Vegetable marrow
<i>Cyamopsis tetragonoloba</i> (L.) Taub.	Papilionaceae	Culster bean
<i>Daucus carota</i> L.	Apiaceae	Carrot
<i>Dioscorea alata</i> L.	Dioscoriaceae	Greater Yam
<i>Dioscorea esculenta</i> Burkill	Dioscoriaceae	Lesser yam

<i>Helianthus tuberosus</i> L.	Asteraceae	Jerusalem Artichoke
<i>Ipomoea aquatica</i> Forsk.	Convolvulaceae	Water convolvulus
<i>Ipomoea batatas</i> (L.) Lam.	Convolvulaceae	Sweet potato
<i>Lablab purpureus</i> (L.) Sweet	Papilionaceae	Dolichos bean
<i>Lactuca sativa</i> L.	Asteraceae	Lettuce
<i>Lagenaria siceraria</i> (Mol.) Standl.	Cucurbitaceae	Bottle gourd
<i>Luffa acutangula</i> (L.) Roxb.	Cucurbitaceae	Ridge gourd
<i>Luffa cylindrica</i> (L.) M.J. Reem.	Cucurbitaceae	Sponge gourd
<i>Lycopersicon esculentum</i> Mill.	Solanaceae	Tomato
<i>Manihot esculenta</i> Crantz	Euphorbiaceae	Tapioca
<i>Momordica charantia</i> L.	Cucurbitaceae	Bitter gourd
<i>Momordica dioica</i> Roxb. ex Willd.	Cucurbitaceae	Kakora

<i>Moringa oleifera</i> Lam.	Moringaceae	Drumstick
<i>Mucuna utilis</i> Wall ex Wight	Papilionaceae	Velvet bean
<i>Nasturtium officinale</i> R. Br.	Brassicaceae	Water cress
<i>Nelumbo nucifera</i> Gaertn.	Nymphaeaceae	Lotus
<i>Pachyrrhizus erosus</i> (L.) Urban	Papilionaceae	Yam bean
<i>Parkia roxburghii</i> G. Don	Mimosaceae	Tree bean
<i>Phaseolus lunatus</i> L.	Papilionaceae	Lima bean
<i>Phaseolus vulgaris</i> L.	Papilionaceae	French bean
<i>Pisum sativum</i> L.	Papilionaceae	Peas
<i>Portulaca oleracea</i> L.	Portulacaceae	Purslane
<i>Raphanus sativus</i> L.	Brassicaceae	Radish
<i>Raphanus caudatus</i> L.	Brassicaceae	Rat-tail radishes
<i>Rumex vesicarius</i> L.	Polygonaceae	Bladder dock
<i>Sechium edule</i> Sw.	Cucurbitaceae	Chayote
<i>Solanum melongena</i> L.	Solanaceae	Brinjal (Egg plant)
<i>Solanum tuberosum</i> L.	Solanaceae	Potato
<i>Spinacia oleracea</i> L.	Chenopodiaceae	Spinach
<i>Trichosanthes anguina</i> L.	Cucurbitaceae	Snake gourd
<i>Trichosanthes dioica</i> Roxb.	Cucurbitaceae	Pointed gourd
<i>Trigonella foenumgraecum</i> L.	Papilionaceae	Fenugreek
<i>Vigna unguiculata</i> (L.) Walp	Papilionaceae	Cowpea
<i>Zea mays</i> var. <i>rugosa</i>	Poaceae	Sweet corn
<i>Aegle marmelos</i> Correa ex Roxb.	Rutaceae	Bengal Quince
<i>Anacardium occidentale</i> L.	Anacardiaceae	Cashewnut
<i>Ananas comosus</i> (L.) Merrill	Bromeliaceae	Pineapple
<i>Annona atemoya</i> Hort.	Annonaceae	Lakshman phal
<i>Annona squamosa</i> L.	Annonaceae	Custard apple
<i>Areca catechu</i> L.	Arecceae	Arecanut
<i>Artocarpus altilis</i> (Park.) forsberg	Moraceae	Bread fruit
<i>Artocarpus heterophyllus</i> Lam	Moraceae	Jack fruit
<i>Artocarpus lakoocha</i> Roxb.	Moraceae	MonkeyJack fruit
<i>Averrhoa carambola</i> L.	Averrhaceae	Star fruit, Carambola
<i>Averrhoa bilimbi</i> L.	Averrhaceae	Tree sorrel
<i>Carica papaya</i> L.	Caricaceae	Papaya
<i>Carissa grandiflora</i> A.DC.	Apocynaceae	Netal plum
<i>Castanea sativa</i> Mill.	Fagaceae	Chestnut
<i>Citrus aurantifolia</i> (Christm.) Swingle	Rutaceae	Key lime
<i>Citrus grandis</i> (L.)Osbeck	Rutaceae	Pummelo
<i>Citrus limettioides</i> Tanaka (Normal)	Rutaceae	Indian sweet lime
<i>Citrus limon</i> (L.) Burm.f.	Rutaceae	Lemon
<i>Citrus limonia</i> Osbeck	Rutaceae	CantoLemon



<i>Citrus medica</i> L.	Rutaceae	Citron
<i>Citrus paradisi</i> Macf.	Rutaceae	Grape fruit
<i>Citrus reticulata</i> Blanco	Rutaceae	Mandarin
<i>Citrus sinensis</i> (L.) Osbeck	Rutaceae	Sweet orange
<i>Citrus deliciosa</i> Tenore	Rutaceae	Kinnow mandarin
<i>Embilica officinalis</i> Gaertn.	Euphorbiaceae	Emblie myroblan
<i>Eriobotrya japonica</i> Lindl.	Rosaceae	Japan plum
<i>Euryale ferox</i> Salisb.	Nymphaeaceae	Fox nut
<i>Feronia limonia</i> (L.) Swingle	Rutaceae	Wood apple
<i>Ficus carica</i> L.	Moraceae	Fig.
<i>Flacourtia indica</i> (Burm.f) Merr.	Flacourtiaceae	Governor's plum
<i>Litchi chinensis</i> (Gaertn.) Sonn.	Sapindaceae	Litchi
<i>Madhuca indica</i> J.F. Gmel	Sapotaceae	Butter Tree
<i>Mangifera indica</i> L.	Anacardiaceae	Mango
<i>Manilkara hexandra</i> (Roxb.) Dubard	Sapotaceae	Khirmi
<i>Morus alba</i> L.	Moraceae	White mulberry
<i>Morus nigra</i> L.	Moraceae	Black mulberry
<i>Musa paradisiaca</i> L.	Musaceae	Banana
<i>Musa sapientum</i> L.	Musaceae	Plantain
<i>Nephelium lappaceum</i> L.	Sapindaceae	Rambutan
<i>Passiflora edulis</i> Sims	Passifloraceae	Passion fruit
<i>Phoenix dactylifera</i> L.	Arecaceae	Date
<i>Phoenix sylvestris</i> Roxb.	Arecaceae	Date sugar plam
<i>Phyllanthus acidus</i> Skeels	Euphorbiaceae	Star goosberry
<i>Prunus armeniaca</i> L.	Rosaceae	Black apricot
<i>Prunus domestica</i> L.	Rosaceae	European plum
<i>Prunus persica</i> Batsch	Rosaceae	Peach
<i>Psidium guajava</i> L.	Myrtaceae	Guava
<i>Punica granatum</i> L.	Punicaceae	Pomegranate
<i>Rubus fruticosus</i> L. va. <i>discolor</i>	Rosaceae	Blackberry
<i>Spondias cytherea</i> Sonn.	Anacardiaceae	Hog plum
<i>Spondias pinnata</i> (L.f.) Kurz	Anacardiaceae	Indian Hogplum
<i>Syzygium cuminii</i> (L.) Skeels	Myrtaceae	Java plum
<i>Tamarindus indica</i> L.	Caesalpiniaceae	Tamarind
<i>Trapa natans</i> (L.) var. <i>bispinosa</i> (Roxb.) Makino	Trapaceae	Water Chestnut
<i>Vitis nifera</i> L.	Vitaceae	Grapes
<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	Chinese date

<i>Gossypium herbaceum</i> L.	Malvaceae	Broach cotton
<i>Gossypium hirsutum</i> L.	Malvaceae	Upland cotton
<i>Hibiscus cannabinus</i> L.	Malvaceae	Deccan or Madras hemp
<i>Hibiscus sabdariffa</i> L.	Malvaceae	Jamaica sorrel or Rozelle

<i>Acacia nilotica</i> (L.) Delile subsp. <i>Indica</i> (Benth. ) Brenan	Mimosaceae	Indian acacia
<i>Calopogonium mucunoides</i> Desv.	Papilionaceae	Calopo grass
<i>Cenchrus ciliaris</i> L.	Poaceae	Bunch grass
<i>Cynodon dactylon</i> Pers.	Poaceae	Bermuda grass
<i>Dichanthium annulatum</i> Stapf	Poaceae	Marvel grass
<i>Medicago sativa</i> L.	Papilionaceae	Lucerne or Alfalfa
<i>Melilotus alba</i> Desr.	Papilionaceae	White sweet clover
<i>Brachiaria mutica</i> (Forssk.) Stapf	Poaceae	Para grass
<i>Pennisetum purpureum</i> Schum.	Poaceae	Napier or Elephant grass
<i>Phalaris minor</i> Retz.	Poaceae	Phalaris
<i>Sorghum halepense</i> (L.) Pers.	Poaceae	Johnson grass
<i>Vicia sativa</i> L.	Papilionaceae	Common vetch, Tare
<i>Curcuma angustifolia</i> Roxb.	Zingiberaceae	Indian Arrowroot
<i>Sapindus laurifolius</i> Vahl.	Sapindaceae	Sopnut tree
<i>Carum carvi</i> L.	Apiaceae	Caraway
<i>Cinnamomum camphora</i> (L.) Nees & Eberm.	Lauraceae	Camphor tree
<i>Cymbopogon citratus</i> Stapf	Poaceae	Lemon grass
<i>Cymbopogon nardus</i> (L.) Rendle	Poaceae	Citronella grass
<i>Humulus lupulus</i> L.	Cannabinaceae	Hops
<i>Mentha arvensis</i> L.	Lamiaceae	Japanese mint
<i>Ocimum basilicum</i> L.	Lamiaceae	Mint or basil
<i>Ocimum canum</i> Sims	Lamiaceae	Camphor basil
<i>Ocimum gratissimum</i> L.	Lamiaceae	Camphor basil
<i>Ocimum sanctum</i> L.	Lamiaceae	Sacred basil
<i>Pandanus odoratissimus</i> L.f.	Pandanaceae	Fragrant screwpine
<i>Santalum aleum</i> L.	Santalaceae	Sandal Tree
<i>Saussurea lappa</i> C.B. Clarke	Asteraceae	Costus
<i>Shorea robusta</i> Gaertn. F.	Dipterocarpaceae	Sal Tree

**ANNEXURE V**  
**ANIMAL SPECIES OF NORTH-EAST INDIA**  
**(The list is not exhaustive, only indicative)**

**A. FISH**

*Acanthocobitis aonalternans* (Blyth)  
*Acanthocobitis botia* (Hamilton).  
*Akysis* sp.  
*Amblypharyngodon mola* (Hamilton- Buchanan)  
*Amylyceps mangois* (Hamilton-Buchanan)  
*Aorichthys aor* (Hamilton-Buchanan)  
*Aplocheilus panchax* (Hamilton-Buchanan)  
*Aspidoparia morar* (Hamilton-Buchanan)  
*Aspidoparia ukhrulsensis* Vishwanath & Selim  
*Bagarius bagarius* (Hamilton (Buchanan)  
*Bagarius yarrelli* Sykes.  
*Balitora brucei* Gray  
*Bangana dero* (Hamilton-Buchanan)  
*Barilius barna* (Hamilton-Buchanan)  
*Barilius bendelisis* (Hamilton -Buchanan)  
*Barilius chatriensis* Vishwanath & Salim  
*Barilius Ngawa* Vishwanath & Salim  
*Barilius tileo* (Hamilton-Buchanan)  
*Batasio Tengana* (Hamilton- Buchanan)  
*Batasio tengana* (Hamilton-Buchanan)  
*Bodis bodis* (Hamilton-Buchanan)  
*C. nudus* Blach (Leather Carp)  
*C. specularis* Lacepede (Mirro carp)  
*Chaca chaca* (Hamilton- Buchanan)  
*Chagunius chagunio* Hamilton- Buchanan  
*Chagunius micholsi* (Myers).  
*Chana striatus* (Bloch)  
*Chanda nama* Hamilton - Buchanan.  
*Channa punctatus* (Bloch)  
*Channa Stewartii* (playtair )  
*Chela laubuca* (Hamilton)  
*Cirrihinus mrigala* (Mahilton-Buchanan)  
*Colisa fasciatus* (Schneider )  
*Colisa sota* (Hmilton-Buchanan).  
*Crossocheilus latius* Hamilton-Buchanan  
*Ctenopharyngodon idellud* (Valenciennes)  
*Cyprinus capio* Linnaeus  
*Danio aequipinnatus* (Mc Clelland)  
*Danio devario* (Hamilton-Buchanan)

*Danio yuensis* (Arunkumar & Tombi)  
*Erethistes pussilus* Muller & Troschel  
*Esomus danricus* (Hamilton-Buchanan)  
*Eutropichthys vacha* (Hamilton- Buchanan)  
*Exostoma stuarti* (Hora)  
*Exostoma vinciguerrae* Rega  
*Gadusia chapra* (Hamilton - Buchanan)  
*Gagata cenia* (Hamilton-Buchanan )  
*Garra compressus* kosygin and Vishwanath  
*Garra elongata* Vishwanath & Kosygin  
*Garra gravelyi* (Annandale)  
*Garra nasuta* (Mc Clelland)  
*Glossogobius giuris* (Hamilton-Buchanan).  
*Glyptothorax cavia* (hamilton-Buchanam)  
*Glyptothorax manipurensis* Menon  
*Glyptothorax platypogonoides* (Bleeker)  
*Glyptothorax sinense* (Regan)  
*Glyptothorax trilineatus* Blyth  
*Hara har* (Hamilton-Buchana)  
*Heteropneustes fossilis* (Bloch)  
*Homaloptera modesta* (Vinciguerra)  
*Homaloptera rupicula* (prasa and Mukherji)  
*Hypophthalmichthys molitrix* (Valenciennes)  
*Johnius coitor* (Hamilton-Buchanan)  
*Labei gonius* (Hamilton-Buchana)  
*Labeio pangusia* (Hamilton- Buchanan)  
*Labeo bata* (Hamilton- Buchanan)  
*Labeo calbasu* (Hamilton - Buchanan)  
*Labeo fimbriatus* (Blotch)  
*Labeo rohita* (Hamilton-Buchanan)  
*Macropgnathus aral* (Bloch & Schneider )  
*Mastacembelus alboguttatus* Boulenger  
*Mastacembelus armatus* (Lacepede)  
*Mastecembelus armatus* (Lacepede)  
*Monopterus cuchia* (Hamilton-Buchana)  
*Monopterus albus* (Zuiew).  
*Muyersglanis jayarami* Vishwanath & Kosygin  
*Mystus cavasius* (Hamilton-buchanan)  
*Mystus pulcher* (Chaudhuri)  
*Nandus nandus* (Hamiton-Buchanan).  
*Nangra viridiscens* (Hamilton- Buchanan)  
*Neolissochilus stracheyi* (Day).  
*Neonoemacheilus assamensis* (Menon)  
*Neonoemacheilus peguensis* (Hora)  
*Notopterus notopterus* (pallas)  
*Orreochromis mossambica* (peters).

*Osteobrama cotio* (Hamilton)  
*Parmbassis ranga* (Hamilton-Buchanan)  
*Poropuntius burtoni* (Mukerji)  
*Poropuntius clavatus* (Mc Clelland)  
*Pseudecheneis sulcatus* (Mc Clelland)  
*Punatius sophore* (Hamilton-Buchanan)  
*Puntius favanicus* (Bleeker ).  
*Puntius manipurensis* Menon, Rema & Vishwanath  
*Puntius stoliczkanus* (Day)  
*Puntius ticto ticto* (Hamilton-Buchanan)  
*Rasbora rasbora* (Hamilton-Bachanan)  
*Salmostoma sladoni* (Day)  
*Schistura chindwiniucus* (Bleeker )  
*Semiplotus manipurensisi* Vishwanath and Kosygin  
*Silurus morehensis* Arunkumar & Tombi  
*Sisor rhabdohorus* Hamilton-Buchanan.  
*Somileptus gongota* (Hamilton-buchanan)  
*Tetraodon Cutcutia* (Hamilton- Buchanan)  
*Wallago attu* (Bloch & Schneider)  
*Xenentodon cancilla* (Hamilton-Buchanan)

### **Threatened**

*Acantophthalmus longipinnis* (Menon)  
*Acantophthalmus pangia* (Hamilton-Buchaman).  
*Anabas testudineus* (Bloch).  
*Anguilla bengalensis* Gray  
*Bagarius bagarius* (Hamilton-Buchanan)  
*Barilius barila* (Hamilton-Buchanan)  
*Barilius dogarshinghi* Hora  
*Botia berdmorei* (Blyth)  
*Botia dario* (Hamilton-Buchanan)  
*Botia histrionica* Blyth L.N.-Sareng Khoibi  
*Brachydanio acuticephala* (Hora)  
*Catla catla* (Hamilton- Buchanan)  
*Channa orientalis* Bloch & Schneider  
*Chitala chitala* (Hamilton-Buchanan)  
*Cirrhinus reba* (Hamilton-Buchanan).  
*Clarias batrachus* (Linngeus ).  
*Crossocheilus burmanicus* Hora  
*Danio naganensis* Chaudhuri  
*Garra gotyla* Gray  
*Garra Lissorhynchus* (Mc Clelland)  
*Garra litanensis* Vishwanath)  
*Garra manipurensis* Vishwanath & Sarojnalini.  
*Garra naganensis* Hora

*Garra rupecula* (Mc clelland)  
*Gorra Kempfi* Hora  
*Heteropneustes fossilis* (Bloch)  
*Hilsa ilisha* (Hamilton-Buchanan)  
*Labeo dero* (Hamilton-Buchanan)  
*Lepidocephalus berdmorei* (Blyth)  
*Lepidocephalus irrorata* (Hora)  
*Mystus bleekeri* (Day)  
*Mystus microphthalmus* (Day)  
*Ompok bimaculatus* (Bloch)  
*Osteobrama cunma* (Day).  
*Ostobrama belangeri* (Valenciennes)  
*Psilorhynchoides homaloptera* Hora & Mukerji  
*Psilorhynchus balitora* Hamilton-Buchanan  
*Psilorhynchus microphthoalmus* Vishwanath & Manojkumar  
*Puntius chola* (Hamilton - buchanan)  
*Puntius jayarami* Vishwanath & Tombi  
*Puntius sarana* (Hamilton- Buchanan)  
*Raiamas guttatus* (Day)  
*Raianmas bola* (Hamilton-Buchanan)  
*Schistura kangjupkhulensis* (Hora)  
*Schistura manipurensis* (Chaudhuri)  
*Schistura nagaensis* (Menon)  
*Schistura parashadi* (Hora)  
*Schistura scaturigina* (Mc. Clelland)  
*Schistura Sikmaiensis* (Hora)  
*Schistura vinciguerrae* (Hora)  
*Schizothorax richardsonii* (Gray)  
*Tor putitora* (Hamilton- Buchanan)  
*Tor tor* (Hamilton-Buchanan).  
*Valenciennes*, P.S. Sarana (Hamilton-Buchanan)

## **B. MOLLUSCS**

*Paludomus*  
*Brtia costula*  
*Lymnaea acuminata*  
*Lymnaea andersoniana*  
*Lymnaea stagnalis*  
*Ferrissia ceylanica*  
*Ferrissia viola*  
*Camptoceras lineatum*  
*Segmentina*  
*Sphaerium*  
*Pisidium*

*Unio manginalis*  
*Bellamya bengalensis*  
*Bellamya crassispiralis*  
*Bellamya micron*  
*Cipangopaludina lecythias*  
*Angulyagra osytropis*  
*Pila globosa*  
*Tricula horae*  
*Digoniosstoma textum*  
*Hippeutis*  
*Parreysia*  
*Trapezoideus exolescens exolescens*

### **C. AMPHIBIANS**

*Ichthyophis sp.*  
*Tylototriton varrucosus* Anderson  
*Bufo melanostictus* Schneider  
*Rana tigrina.*  
*Rana timnocy aris* Boic.  
*Rana breviceps* schneider.  
*Kaloula pulchra* Gray.*Microhyla ornat* "Dumeril & Bibron"  
*Micrixalus borealis* Annandale.  
*Kaloula pulchra* Gray  
*Microhyla ornata* "Dumeril & Biboron"  
*Polypadates leucomystax* Gravenhorst  
*Rhacophorous reinwardhii* Schiegl.  
*Hyla annectens* Jerdon.

#### **Threatened**

*Hyla annectens*  
*Ichthyophis sp.*  
*Tylototriton varrucosus*  
*Polypadates leucomystax*  
*Rhacophorous reinwardhii*

#### **Endemic**

*Hyla annectens*  
*Ichthyophis sp.*  
*Tylototriton varrucosus*

### **D. SNAKE**

*Ahaetula prasina* Boie  
*Ahaetulla subocularis* Boulenger  
*Amphiesma stolata* Linn  
*Blythia raticulata* Blyth.

*Boiga multimaculata* Boie.  
*Boiga ochracea* Gunther.  
*Boiga tigonata* Schneider  
*Bungarus caeruleus* Schneider.  
*Bungarus fasciatus* Schneider.  
*Claphe radiata* Schlegel.  
*Cylindrophis rufus burmanus* Smith  
*Elaphae taeniura*  
*Elaphes radiata*  
*Liopeltis frenatus* Gunther.  
*Lycodon jara* Shaw.  
*Naja naja*  
*Naja najakaouathia* Linn.  
*Oligodon arnensis* Shaw  
*Oligodon dorsalis* Gray  
*Opheodrys albocinctus* Cantor  
*Opheodrys doriae* Boulenger  
*Ophiophagus hannah* Candor.  
*Pryas muscosus* Linn  
*Psammodynastes pulverulentus* Boie  
*Ptyas korrs* Schlegel.  
*Python molurus molurus* Linn.  
*Python molurus*  
*Rhabdophis himalayanus* Gunther.  
*Rhabdophis subminiata* Schlegel  
*Sibynophis collaris* Gray.  
*Trimeresurus albolabris* Gray.  
*Trimeresurus monticola* Gunther.  
*Trimeresurus gramineus* Shaw  
*Typhlops diardi diardi* Schlegel  
*Vipera russeli* Shaw  
*Xenochrophis piscator* Schneider  
*Xenochrophis punctulatus* Gunther.  
*Zaocys nigromarginatus* Blyth

### **Threatened**

*Oligodon albocinctus*  
*Opheodrys doriae*  
*Opheodrys albocinctus*  
*Oligodon arnensis*  
*Oligodon dorsalis*

### **Endemic**

*Sibynophis collaris*



*Zaocys nigromarginatus*  
*Amphiesma stolata*

### **E. LIZARD**

*Gekho gecko* Linnaeus  
*Hemidactylus bowringi* Gray  
*Hemidactylus garnoti* Dumeril & Bibron  
*Cosymbotus platyurus* Schneider  
*Calates versicolor* Doudin  
*Calotes mystaceus* Dumeril & Bibron  
*Calotes jerdoni* Gray  
*Calotes microlepis* Boulenger  
*Draco norvilli* Aeock.  
*Mabuya carinata* Schneider  
*Mabuya multifaciata* Kuhl  
*Mabuya macularius* Blyth  
*Mabuya quadricarinata* Boulenger  
*Dasia olivacea* Gray  
*Lygosoma maculatum* Blyth.  
*Ophisaurus gracilis* Gray  
*Varanus bengalensis* Doudin  
*Varanus salvator* Laurenti

#### **Threatened**

*Calotes jerdoni*  
*Draco norvilli*  
*Ophisaurus gracilis*  
*Varanus bengalensis*  
*Varanus salvator*

#### **Endemic**

*Calotes jerdoni*  
*Draco norvilli*  
*Ophisaurus gracilis*

### **F. Bird**

*Accipiter trivirgatus*  
*Actitis hypoleucos*  
*Alcedo atthis.*  
*Alcippe nipalensis*  
*Amaurornis phoenicurus.*  
*Anas crecca*  
*Anas falcata*  
*Anas Puccinatorrhyncha*

*Anastomus oscitans*  
*Anser anser*  
*Anthracoceros alburostris*  
*Anthracoceros malabaricus.*  
*Arachnothera longirastra*  
*Arborophila torgueola*  
*Arcidotheres tristis.*  
*Ardea bacchus*  
*Ardeola grayii*  
*Argya caudate.*  
*Athene blweithi.*  
*Aviceda jernoni*  
*Bambusicola fytchii.*  
*Brachypternus bengalensis.*  
*Bubulcus ibis*  
*Buceros bicronis.*  
*Cairina scutulata.*  
*Calandrella raytal*  
*Caterus wallichii.*  
*Centropus bengalensis*  
*Ceryle ructis*  
*Chlamydotis undulata.*  
*Chloropsis sonnerati*  
*Choriotis nigriceps.*  
*Ciconia sp.*  
*Cinnyris asiaticus.*  
*Collocalia brevirostris*  
*Columba livia.*  
*Copsychus saularis*  
*Coracias bengalensis*  
*Coracina melanoptera*  
*Corvus macrorhynchus*  
*Cuculus varius*  
*Cursorius bitroquatus.*  
*Cyornis banyumas*  
*Cyornis rubeculoides*  
*Dendrocitta formosae*  
*Dendrocitta vagabunda.*  
*Dendrocygna javanica*  
*Dendronanthus indicus*  
*Dicrurus aeneus*  
*Dicrurus macrocercus*  
*Dissemurus paradiseus.*  
*Egretta garzetta.*  
*Enicurus maculatus*  
*Erithacus prunneus*

*Eudynamys* sp.  
*Eupodotis bengalensis*.  
*Falco* sp.  
*Felco peregrinus*.  
*Gallicrex cinerea*  
*Gallinago gallinago*  
*Gallinago stenura*  
*Gallus gallus*  
*Garrulax leucolophus*  
*Garrulax monileger*  
*Grus lencogeranus*.  
*Grus monacha*  
*Grus nigricollis*.  
*Gypaetus barbatus*.  
*Halcyon coromanda*  
*Harpactes erythrocephalus*  
*Heterophasia picaoides*  
*Hirundo rustica*.  
*Icthyophaga nana*  
*Irena puella*  
*Klittacinela malabarica*.  
*Leiothrix argentaurea*  
*Lophothorus impayanus*.  
*Losterops palpebrosa*.  
*Macropygia unchall*  
*Manticola solitarius*  
*Megalaima asiatica*  
*Megapodius freycinet*.  
*Mergus mergaues*  
*Merops visidis*  
*Metopidius indicus*  
*Micropus affinis*.  
*Microscelis psaroides*.  
*Milvus migrans*  
*Minla ignotincta*  
*Motacilla alba*  
*Motacilla cinerea*.  
*Mydrophasianus chirurgus*  
*Myophonus caeruleus*  
*Netta rufina*  
*Nettapus coromandelianus*  
*Niltava grandis*  
*Ophrysia superciliosa*.  
*Orthotomus sutorius*  
*Otus spilocephalus*  
*Pandion haliaetetus*.

*Pasrisoruuus dalhousiae*  
*Passer domensticus*  
*Pavo cristatus.*  
*Phalacrocorax sp.*  
*Phodonessa caryophyllacea*  
*Phoenicurus aureus*  
*Picus flavinucha*  
*Pitta nepalensis*  
*Ploceus philippinus.*  
*Polyplectron bicalcaratum*  
*Porphyrio poliocephalus*  
*Ptilolaemus tickelli austeni.*  
*Pycnonotus abiceps*  
*Pycnonotus cafer*  
*Rallina fasciata*  
*Rhipidura sp.*  
*Rhyacornis tuliginosus*  
*Rhyticeras undulatus*  
*Riparia paludicola*  
*Sarcoyps calvus.*  
*Saria abnormis*  
*Sarkidiornis melanotus*  
*Saxicola torquata*  
*Spilornis cheela*  
*Streptopelia chinensis*  
*Sypheotides indido.*  
*Syramaticus humiae.*  
*Tadonrna ferruignea*  
*Tadorna tadorna*  
*Tephrodornis pondicerianus*  
*Tetropgellus tibetanus.*  
*Thamnolaea leucocephala*  
*Threskiornis althiopica melanocephala*  
*Treron apicauda*  
*Trigna tetanus*  
*Tyto alba.*  
*Upupa epops*  
*Urocissa erythrorhyncha*  
*Vanellus indicus*  
*Venelhis vanellus*  
*Venellus spinosus*  
*Yuhenia castaniceps*

### **Endemic**

*Tragopan blithii.*

## G. WILD MAMMALS

*Aonyx cinerea* Clawless otter  
*Arctonyx caltaris* F. Cuvier, Hog Badger  
*Axis porcinus* Zimmemann, Hog Deert  
*Bos gaurus* H. Smith, Indian Bison or Gaur  
*Bubalus bubalis* Linnaeus, wild buffalo  
*Capricornis umatraensis* Bechsterin Serow.  
*Caprolagus hispidus* Pearson, Hispid Hare.  
*Cervus duvanceli* G. Curir, Swamp Deer.  
*Cervus eldi eldi* Brow antlered deer  
*Cervus unicolor* Kerr Sambar  
*Elephas indicus* Indian Elephant  
*Felis bengalensis* Kerr, Leopard Cat  
*Felis chaus* Jungle cat  
*Felis marmorata* Gray, Marbled cat  
*Felis temmincki* Vigors and Horsfield, Golden Cat  
*Felis viverrina* Bennet, Fishing Cat.  
*Funambulus* sp. Squirrel  
*Helarctos malayanus* Malayan Sun Bear.  
*Helarctos malyanus* Raffles, Malayan Sun Bear.  
*Hylobates hoolock* Barlan Hoolock Gibbon.  
*Juntiacus muntjak* Barking Deer  
*Manish fentadactyla* Hodgson, Chinese Pangolin  
*Martes flavigula* Boddaert, Yellow Throated Martes.  
*Melursus ursinus* Sloth bear  
*Nemorhaedus goral* Hardwicke Goral L.N.  
*Neofelis nebulosa* Griffith, Clouded leopard  
*Nycticebus coucang* Boddaert Slow Loris  
*Panthera pardus* Linnaeus, leopard.  
*Paradoxurus hermaphroditus* Toddy cat  
*Petaurista petaurista* Pallas, Red Flying Squirrel.  
*Presbytis phayrei* Blyth, Phayre's leaf Monkey  
*Presbytisegei* Khajuria, Golden langur.  
*Prionodon pardicolor* Hodgson, Spotted Linsang.  
*Prisbytis pileatus*, Blyth, Capped Langur  
*Rhinoceros unicornis* Linnaeus, Great one homed rhinoceros.  
*Selenarctos tibeltanus* – Himalyan Black Bear.  
*Sus corfa* Linnaeus, Wild boar  
*Sus savanius* Hodgson, pygmy Hog  
*Viverricula India* Dermarest, Small Indian Civet  
*Viverra zibetha* Large Indian Civet

### Threatened

All the species listed

## H. SILKWORM SPECIES

Chinese Tasar silkworm - *Antheraea pernyi*.

Eri Silk worm- *Samia Cynthia ricini* Boiduval (earlier *Philosamia ricini*)

Indian Temperate Tasar Silkworm (Oak Tasar silkworm ) - *Antheraea proylei*.

Indian tropical Tasar silkworm - *Antheraea mylitta*.

Japanese Tasar silkworm - *Antheraea yamamai*

Muga silkworm - *Antheraea assama*.

Mulberry silkworm - *Bombyx mori*.

Wild eri silkworm - *Philosamia cynthia*.

# EXECUTIVE SUMMARY

## 1. Introduction to the North-East Ecoregion

This North-Eastern Ecoregional Strategy and Action Plan (NEEBSAP) is prepared as a part of the National Biodiversity Strategy and Action Plan (NBSAP) being prepared by the Ministry of Environment and Forests, Govt. of India, New Delhi with support from the Global Environment Facility (GEF). At the national level, the execution of NBSAP Process is being done by a Technical and Policy Core Group (TPCG), comprising of experts from various fields and is headed by ‘Kalpavriksh’, a Pune based NGO. The administrative part of the NBSAP process is being co-ordinated by the Biotech Consortium India Ltd. (BCIL), New Delhi.

The North-East Ecoregion covers eight states viz., Arunachal pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and Sikkim.

## 2. Objectives

The NEEBSAP aims to suggest certain strategies and action plans required for halting and mitigating the ongoing loss of biodiversity in the north-eastern region and promoting its conservation at regional level. While addressing the biodiversity conservation at all the three levels i.e. ecosystem, species and genetic levels, the NEEBSAP also emphasizes the conservation issues pertaining to the cultural diversity of north-east. The NEEBSAP covers wide range of natural as well as man-made terrestrial and aquatic ecosystems, wild plant and animal diversity, and domesticated biodiversity. The strategies have been formulated and actions are prioritized which are required to be taken up in the next 5 to 15 years in a phased manner in order to conserve the rich biological diversity of the region. The specific objectives of NEEBSAP are:

1. To collate and compile information on various aspects of biodiversity in north-east India.
2. To analyse the steps and initiatives taken for conservation of biodiversity in the region.
3. To assess the gaps in information and initiatives/actions.
4. To outline various strategies required for conserving the rich biological diversity of the region.
5. To present an action plan prioritizing the actions in a phased manner to achieve the broader goal of biodiversity conservation.
6. To involve various stakeholders in the biodiversity conservation planning process.

## 3. Range of biodiversity

The North-East India is rich in biological diversity and contains more than one-third of the country's total biodiversity. In view of its importance from biodiversity conservation point of view, the region is one of the 18 hot-spots of the world. The region has at least 7,500 flowering plants, 700 orchids, 58 bamboos, 64 citrus, 28 conifers, 500 mosses, 700 ferns and 728 lichen species. The region is equally rich in faunal diversity. An estimated

3,624 species of insects, 50 molluscs, 236 fishes, 64 amphibians, 137 reptiles, 541 birds (excluding the migratory birds) and 160 mammalian species have been so far described (Anonymous 1998b). The region is also rich in terms of genetic and ecosystem diversity. Some of the important gene pools of citrus, banana and rice have been reported to be originated from this region (Anonymous 1996). The ecosystem diversity of the region ranges from tropical ecosystems to alpine ecosystems in the Himalayan ranges and also includes diverse types of wetland, flood plain, riverine and aquatic ecosystems along the Brahmaputra-Barak river systems. Mountain Peaks and Glaciers in high Himalayan ranges of Arunachal Pradesh and Sikkim constitute another group of unique ecosystems. Besides, a variety of man-modified ecosystems such as jhum agro-ecosystem, wet rice agroecosystem and alder-based agroecosystem contribute towards rich ecosystem diversity. All these ecosystems are home to a large variety of indigenous wild as well as cultivated crops, plants and animals. An estimated 33% of the total biological diversity of the region is endemic.

#### 4. Threats to species and ecosystem diversity

Although the factors threatening the species and ecosystem diversity of north-east (Box 1 and 2) are more or less similar to those operating elsewhere such as habitat fragmentation, poaching and trade in wild flora and fauna, introduction of exotics etc. (Box 3), certain crucial factors causing problems in biodiversity conservation specific to north-eastern region have been described.

<b>Box 1. Components of species diversity under threat</b>
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- |   |
|---|
| <ul style="list-style-type: none"> <li>• Forest flora and fauna</li> <li>• Agricultural crops</li> <li>• Horticultural crops</li> <li>• Domesticated livestock</li> <li>• Biodiversity in aquatic ecosystems (e.g. Fish, aquatic flora and fauna)</li> <li>• Insect diversity (e.g. butterfly)</li> </ul> |
|---|

<b>Box 2. Ecosystems under threat</b>
---------------------------------------

- |  |
|--|
| <ul style="list-style-type: none"> <li>• Forest (Sacred forests, RFs, PAs, CFs)</li> <li>• Aquatic (River, Lake, Bheels, Ponds, wetlands)</li> <li>• River island</li> <li>• Agroecosystems (Intensive cultivation)</li> <li>• Grassland ecosystems</li> <li>• Alpine meadows</li> </ul> |
|--|



### **Box 3. Factors causing threat to Biodiversity**

- Shifting cultivation
- Deforestation and habitat destruction
- Invasive species
- Introduction of exotics
- Popularisation of hybrid varieties
- Poaching
- Trade in wildlife including wildplants and insects
- Over exploitation of biodiversity beyond sustainable limit
- Change in food habit due to subsidized food grain distribution
- Developmental activities

## **5. Issues relating to biodiversity conservation**

- ❖ Land tenure issues
- ❖ Dichotomy in Forest Administration
- ❖ Gender and Equity issues in natural resources and biodiversity management
- ❖ Lack of inter-departmental coordination
- ❖ Effective management of private and community forests
- ❖ Smuggling of Timber across the international border
- ❖ Shifting cultivation
- ❖ Inter-state border dispute
- ❖ Insurgency
- ❖ Gregarious flowering of bamboo

## **6. Key gaps**

- ❖ **Gap in knowledge**
  - Information on urban biodiversity is scanty
  - Works on aquatic ecosystems of north-east are too meager
  - Species inventory in inaccessible areas of Arunachal Pradesh, Nagaland, Karbi Anglong and North Cachar hills of Assam, and parts of Mizoram and Manipur is yet to be made.
  - Poor information on Biosphere Reserves
  - Information on genetic diversity is extremely poor
  - Very little information on microbial diversity

- Unique ecosystems such as River Islands e.g. Majuli need to be studied.
- A large portion of insect, fish, mammalian and avian diversity remains underexplored.
- Cultural diversity of more than 250 tribes of north-east is yet to be adequately described
- Information on wild ornamentals and aromatic plants is scanty
- ❖ Gaps in vision
  - Gaps in policies and legal structure
- ❖ Gaps in institutional and human capacity
- ❖ Gaps in biodiversity related research and development
- ❖ Sharing mechanism of the existing information and knowledge
- ❖ Gaps in actions

## **7. Some project proposals prioritized for implementation under NBSAP**

### **Project 1. Identifying threatened and endemic taxa and economically valuable wild species for *in situ* conservation**

#### **Proposed objectives and actions:**

- ❖ Identification of threatened, endemic and economically important taxa in each of the 8 states of north-east eco-region.
- ❖ Mapping the areas of occurrence of each of these species
- ❖ Estimating the population size of each species

### **Project 2. Arresting the destruction of biodiversity and habitats caused due to inter-state border dispute**

#### **Proposed objectives and actions:**

- ❖ Identification of vulnerable biodiversity rich areas falling in the disputed inter-state border areas.
- ❖ Mapping these areas and declaring such areas as protected areas by the Govt. of India.
- ❖ Preparation of Management plan by the respective state governments and their implementation (status quo on ownership to be maintained for such areas)

### **Project 3. Control of poaching, illegal timber trade, theft of rare medicinal plants near international boundaries**

#### **Proposed objectives and actions:**

- ❖ Identification of vulnerable points for such activities along the international borders.
- ❖ Mapping these areas and working out strategies for control
- ❖ Support to strengthen the guard along the international borders to prevent such activities

- ❖ Educating the personnel of BSF and Assam Rifles posted in border areas regarding the importance of biodiversity and their role in controlling the illegal trade in biodiversity

**Project 4. Eviction of encroachment by illegal immigrants/ refugees causing destruction to natural habitats in Assam, Tripura, Mizoram and Arunachal Pradesh**

**Proposed objectives and actions:**

- ❖ Framing and adoption of appropriate legislation for eviction of encroachments in reserved forest areas and PAs.
- ❖ Eviction of encroachment by illegal immigrants/ refugees causing destruction to natural habitats in Assam, Tripura, Mizoram and Arunachal Pradesh
- ❖ Mapping these areas and working out strategies for rehabilitation
- ❖ Preparation and implementation of rehabilitation plans in post-eviction period.

**Project 5. *Ex situ* conservation of NTFPs, medicinal plants and important tree species**

**Proposed objectives and actions:**

- ❖ Establishment of germplasm banks, botanical gardens, bambusetum, canetum, arboretum and herbal/medicinal plant gardens in different agro-climatic zones of north-east India.
- ❖ Establishment of demonstration cultivation farms for medicinal plants and NTFP species for popularizing their cultivation.
- ❖ Introducing the native tree, bamboo and cane species in the plantation programmes of the state forest departments.

**Project 6. Conservation of sacred forests**

**Proposed objectives and actions:**

- ❖ Preparation of a complete inventory of Sacred groves in the region – Meghalaya and Manipur
- ❖ Establishment of sacred grove regeneration models using the native species in an attempt to regenerate the degraded sacred forests of the region.
- ❖ Awareness campaign about the importance of sacred groves and effort to preserve the religious faith and beliefs wherever it is still strong
- ❖ Involving the traditional institutions in all these activities

**Project 7. Conservation of village/community forests**

**Proposed objectives and actions:**

- ❖ Preparation of a complete inventory of all types of community forests in all the 8 states.
- ❖ Regeneration of selected Village supply and safety forests of Mizoram

- ❖ Establishment of community forest regeneration models using the native species in an attempt to regenerate the degraded community forests of the region.
- ❖ Awareness campaign about the importance of community forests and capacity building among the village communities for effective management of community forests
- ❖ Involving the traditional institutions in all these activities

**Project 8. Eco restoration of river islands**

**Proposed objectives and actions:**

- ❖ Preparation of a complete inventory of all river islands in the region needing conservation measures.
- ❖ Model eco restoration works in Majouli river island for demonstration and replication.

**Project 9. Eco restoration of vanishing wetlands**

**Proposed objectives and actions:**

- ❖ Preparation of a complete inventory of all wetlands in the region needing conservation measures.
- ❖ Model eco restoration works for restoration of beels in north bank of Brahmaputra in upper Assam.

**Project 10. Eco restoration of mining sites**

**Proposed objectives and actions:**

- ❖ Preparation of a complete inventory of all mined areas in the region needing rehabilitation and conservation measures.
- ❖ Model eco restoration works for restoration of coal mined sites in Meghalaya and Assam.

**Project 11. Identification of biodiversity rich areas outside the government protected areas such as sacred forests and other community conserved areas**

**Proposed objectives and actions:**

- ❖ Identification of biodiversity rich areas outside the government protected areas such as sacred forests and other community conserved areas in all the 8 states of the region

**Project 12. Studies on ethnomedicine, ethnobotany and ethnozoology , and documentation of traditional healers**

**Proposed objectives and actions:**

- ❖ Studies on ethnomedicine, ethnobotany and ethnozoology
- ❖ Documentation of traditional healers
- ❖ Identification of areas from where these useful plants and animals are collected
- ❖ Conservation measures for these biodiversity rich areas

**Project 13. Identification of critical and fragile areas**

**Proposed objectives and actions:**

- ❖ Identification of critical and fragile areas

**Project 14. Identification of ecosystem types, their mapping and status**

- ❖ Identification of ecosystem types, their mapping and status

**Project 15. Inventory and documentation of biodiversity in many unexplored/ underexplored areas**

- ❖ Inventory and documentation of biodiversity in many unexplored/ underexplored areas of Arunachal Pradesh, Assam, Manipur, Mizoram, Nagaland, Meghalaya, Sikkim and Tripura

**Project 16. Regulation for achieving sustainable use of biodiversity**

**Project 17. Value addition and promoting alternate sustainable livelihood options such as floriculture, pisciculture, apiculture, sericulture, mushroom cultivation, cultivation of medicinal plants, spices and aromatic plants**

**Project 18. Analysing existing laws and policies from biodiversity point of view and identifying points of amendments**

**Project 19. Revising the EIA guidelines for north-east and prescribing stringent EIA procedure for assessing the impact of developmental projects on biodiversity and more compensatory activities to mitigate the loss of biodiversity**

**Project 20. Capacity building of traditional institutions for conservation and equitable use of biodiversity**

**Project 21. Compilation and publication /registration of IKS for the purpose of IPR**

**Project 22. Creating database on biodiversity and related issues at regional level**

**Project 23. Training programmes on uses and value addition for communities**

**Project 24. Capacity building in taxonomy**

**Project 25. Awareness camps on importance, uses and conservation of biodiversity**

**Project 26. Creation of a Department of Biodiversity Conservation within NEC to address biodiversity conservation issues in all the sectors of development and to fund biodiversity conservation projects in north-eastern states.**