

CHAPTER 6

APPENDICES

Appendices

Appendix -1

Performa for Field work in Biodiversity

Floristic Diversity of-----

Recent studies indicate that-----has a total of approximately-----
-----vascular plant species: ca. -----of which are introduced or cultivated and
about----- considered as indigenous.

The distribution of nature species among the major plant groups is indicated below:

Diversity of the----- flora.

| Plant group | Species | Genera | Families |
|---------------|---------|--------|----------|
| Bryophytes | | | |
| Pteridophytes | | | |
| Gymnosperms | | | |
| Angiosperms | | | |
| Total | | | |

Appendices

Appendix -3

Questionnaire for Ethno botanical Survey (General)

Date:

Name:

Age:

Gender:

Education:

Locality:

Information about Potential Plant Species used in the Area

Local name of the species:

Locality:

Uses in the Area:

Quantities harvested each year:

Who collected the plant? (Women/ Men/Children)

Why collected?

Which part is collected?

How the plant is collected:

Is it sold?

To whom it is sold:

Whether the plant material is stored:

Why?

For how long it is stored and why?

Local price per Kg. (Rs.)

Quantity sold each year:

Availability status of the plant in last 10 years: (Increased/Decreased)

Any conservation effort on the part of locals:

Others Observations:

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Appendix -4

Performa for Field work in Ethnobotany

Place: ----- Date: -----Informer's name: ----- Age: -----

| Plant used for | Local Name | Botanical Name | Quantity consumed | How and when consumed | How preserved | Source | Cost | Extent of availability |
|---|------------|----------------|-------------------|-----------------------|---------------|--------|------|------------------------|
| Food | | | | | | | | |
| Cooking's utensils | | | | | | | | |
| Medicinal plant | | | | | | | | |
| House construction and forming implements | | | | | | | | |
| Economic plants with economic utility | | | | | | | | |
| Plant used for clothing and others miscellaneous uses | | | | | | | | |

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Appendix -5

Questionnaire for Medicinal Plants Used by the Practionners (Hakims)

Date: Name of Informant: Experience:

Q.1. How many patients have investigated by you so far?

Q.2. What type of ailments you have observed in the local population?

Q.3. Name the ailments you have dealt with?

Q.4. What was the result of your treatment?

Q.5. Description of the medicinal plant:

Local name:

Botanical Name:

Time of harvesting:

Why plant is medicinal?

Q.6. How the plant is converted into drug?

Q.7. How the plant is stored?

Q.8. What is the dosage and forms used?

Q.9. Methods of external use?

Q.10. Methods of internal use?

Q.11. Therapeutic indications if any?

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Appendix -6

Questionnaire for Market Survey of Medicinal Plants

Date:

Locality: ----- Name of Vender: -----

Address: -----

Age: ----- Type of Vender: Permanent/Temporary/Ambulatory stall.

Village of Vender: -----

Total No. of Species traded: ----- No. of suppliers: -----

No. of employees: ----- Qualification: -----

Information on Medicinal Drug Plants

Local Name: -----Life form: -----

Part Used: -----Price per Kg. (Rs.) -----

Locality of collection -----

Availability: Increased/ decreased Demand: Increased/ decreased

Who is the buyer: (locals or outsiders) -----.

Exported to: Provinces/foreign please mention the place: -----

Cultivation Status: Cultivated/wild/managed from: -----

No. of species in collection: mixture/single

Condition of plants: fresh/dried/preserved in:

Brought to market: daily/weekly/occasionally:

Month of availability: -----

How much sold in comparison to past: more/less/same.

Reason: -----

Who sell it to you: middle men/direct collectors:

In case of direct collectors, either they are: Men/women/children:

The material sold to you is either in crude form or refined: -----

How much material is wasted during refinement (estimated):-----

Other Observations: -----

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Appendix -7

Questionnaire for Seed Collection of Threatened Medicinal Plants of Poonch

Date: _____

Genus: _____ Species: _____ Local Name: _____

Collector's Number: _____ Name of Collector: _____

Date of Collection: _____ Locality: _____

Location of Collection Site

Near Town/village: _____ Distance (Km.): _____

Direction: _____

Source of collection: Wild/Farmland/backyard/village hop/commercial

Market/institute/other (specify)

Status of sample: Wild/weedy/cultivated/other (specify)

Number of plants sampled: _____ Photograph y/n Photograph No. _____

Type of Sample: Vegetative/Seed/Both Herbarium sample: y/n

No. of seeds: _____ or quantity: _____ gm. Sowing Month of Area: _____

Harvest Month of Area: _____ Uses: _____

Associated wild and weedy species and crops: _____

Topography: Swamp/floodplains/plainlevel/undulating/hilly/mountainous/

Other (specify).

Site: Level/slope/summit/depression.

Soil Texture: Sand/loam/clay/silt/highly organic.

Soil Colour: Black/ brown/red/orange/yellow/ other (specify).

Stoniness: None/low/medium/rocky

Drainage: Poor/moderate/good/excessive.

Other observations: _____

Appendices

Appendix -8

| Chi.Kot | Frequency | pi | ln pi | pi ln pi | ni ² |
|----------------------------------|-----------|----------|----------|----------|-----------------|
| <i>Acer acuminatum</i> | 5 | 0.002312 | -6.06981 | -0.01403 | 25 |
| <i>Achillea asperifolia</i> | 75 | 0.034674 | -3.36176 | -0.11657 | 5625 |
| <i>Adiantum venustum</i> | 197 | 0.091077 | -2.39605 | -0.21823 | 38809 |
| <i>Aesculus hippocastinatis</i> | 8 | 0.003699 | -5.59981 | -0.02071 | 64 |
| <i>Andrachae cordifolia</i> | 56 | 0.02589 | -3.6539 | -0.0946 | 3136 |
| <i>Bereris aristata</i> | 64 | 0.029589 | -3.52037 | -0.10416 | 4096 |
| <i>Clematis barbellata</i> | 12 | 0.005548 | -5.19434 | -0.02882 | 144 |
| <i>Digitaria ciliatacil</i> | 211 | 0.09755 | -2.32739 | -0.22704 | 44521 |
| <i>Dryopteris shrioumensis</i> | 132 | 0.061026 | -2.79645 | -0.17066 | 17424 |
| <i>Fragaria nubicaula</i> | 201 | 0.092926 | -2.37595 | -0.22079 | 40401 |
| <i>Gallium asperifolium</i> | 163 | 0.075358 | -2.5855 | -0.19484 | 26569 |
| <i>Gen tiana ornata</i> | 23 | 0.010633 | -4.54376 | -0.04832 | 529 |
| <i>Impatiens balsamina</i> | 19 | 0.008784 | -4.73481 | -0.04159 | 361 |
| <i>Lonicera quinquelocularis</i> | 12 | 0.005548 | -5.19434 | -0.02882 | 144 |
| <i>Onoclea sensibilis</i> | 203 | 0.093851 | -2.36605 | -0.22206 | 41209 |
| <i>Oplismenus burmannii</i> | 140 | 0.064725 | -2.73761 | -0.17719 | 19600 |
| <i>Persia dutheii</i> | 57 | 0.026352 | -3.6362 | -0.09582 | 3249 |
| <i>Pinus wallichiana</i> | 66 | 0.030513 | -3.4896 | -0.10648 | 4356 |
| <i>Plectranthus coetsa</i> | 65 | 0.030051 | -3.50486 | -0.10532 | 4225 |
| <i>Quercus floribunda</i> | 12 | 0.005548 | -5.19434 | -0.02882 | 144 |
| <i>Quercus incana</i> | 25 | 0.011558 | -4.46038 | -0.05155 | 625 |
| <i>Rosa laevigata</i> | 30 | 0.01387 | -4.27805 | -0.05934 | 900 |
| <i>Salvia hians</i> | 20 | 0.009246 | -4.68352 | -0.04331 | 400 |
| <i>Sarcococca saligna</i> | 68 | 0.031438 | -3.45974 | -0.10877 | 4624 |
| <i>Saxifraga Jacquemontiana</i> | 6 | 0.002774 | -5.88749 | -0.01633 | 36 |
| <i>Trifolium repens</i> | 176 | 0.081368 | -2.50877 | -0.20413 | 30976 |
| <i>Urtica dioca</i> | 12 | 0.005548 | -5.19434 | -0.02882 | 144 |
| <i>Valeriana pyrolifolia</i> | 9 | 0.004161 | -5.48203 | -0.02281 | 81 |
| <i>Viburnum foetens</i> | 96 | 0.044383 | -3.1149 | -0.13825 | 9216 |
| | 2163 | | | -2.93815 | 301633 |

| | | |
|--------------------|-------------------------------------|-----------------------------------|
| S=29 | \sqrt{N} | McIntosh's diversity index |
| | 46.50806 | $U = \sqrt{\sum ni^2}$ |
| $d = s/\sqrt{N}$ | | $\sqrt{301633}$ |
| 0.623547832 | Shannon diversity index (H') | 549.2113 |
| | $H' = -2.93815035$ | $N - \sqrt{N}$ |
| | $S = 29$ | $N - \sqrt{N}$ |
| | $e = H' / \log S$ | 2116.492 |
| | -2.009 | $D = N - U / N - \sqrt{N}$ |
| | | 0.762483 |
| | | $N - N\sqrt{s}$ |
| | | -9485.11 |
| | | $E = N - U / N - N\sqrt{S}$ |
| | | -0.17014 |

Appendices

Appendix -9

Conservation Status Scale

Name of species *Elsholtzia fruticosa*

Field observation = Rare

Information from local people = Used for curing chest diseases (exploited vigorously)

Report from earlier collectors = Nil

CSS of species at different localities = $0 + 4 + 0 + 0 + 4 + 0 + 0 + 0 + 4 + 3 + 0 + 0 + 0 + 0 + 5 + 4 + 0 + 4 + 0 + 0 + 3 + 0 + 0 + 0 + 0$
= 31

Total number of localities visited = 25

C.S.S = $\frac{\text{Total conservation of a species at different localities}}{\text{Total number of localities visited}}$

C.S.S = $31/25 = 1.24$

The C.S.S. value for *Elsholtzia fruticosa* falls in the range 1 to 2.

Therefore, *Elsholtzia fruticosa* was an endangered species.

Appendices

Appendix 10 Index of Similarity

| Name of Species | Community 1 | Community 2 |
|----------------------------------|-------------|-------------|
| <i>Abies pindrow</i> | 1.286733 | 0 |
| <i>Acacia modesta</i> | 0.340738 | 0 |
| <i>Acantholimon diapensoides</i> | 0 | 0 |
| <i>Acanthocalyx nepalensis</i> | 0.338869 | 0 |
| <i>Acer acuminatum</i> | 0.094126 | 2.709229 |
| <i>Acer caesium</i> | 0.253995 | 0 |
| <i>Achyranthus aspera</i> | 0 | 10.00654 |
| <i>Achillea millefolium</i> | 0 | 0 |
| <i>Aconitum heterophyllum</i> | 6.164155 | 0 |
| <i>Aconitum melifolia</i> | 6.154718 | 0 |
| <i>Adhatoda vesica</i> | 0.159275 | 0 |
| <i>Adiantum venustum</i> | 2.132199 | 16.64549 |
| <i>Aesculus hippocastinatis</i> | 0.670946 | 46.01002 |
| | / | / |
| | / | / |
| <i>Viburnum foetens</i> | 1.229258 | 4.676292 |
| <i>Vicia hirsuta</i> | 1.266232 | 0 |
| <i>Vicia sativa</i> | 0.280715 | 0 |
| <i>Viola biflora</i> | 1.800229 | 0 |
| <i>Vitis trifolia</i> | 0 | 0 |
| <i>Woodfordia fruticosa</i> | 0.119128 | 0 |
| <i>Wulfenia amherstiana</i> | 0.303272 | 0 |
| <i>Xanthium strumarium</i> | 0 | 0 |
| <i>Youngia japonica</i> | 0 | 0 |
| <i>Zanthoxylum alatum</i> | 0 | 0 |
| <i>Ziziphus mauritiana</i> | 0 | 0 |
| <i>Ziziphus nummularia</i> | 0.512327 | 0 |
| <i>Ziziphus oxyphylla</i> | 0 | 0 |
| Total I.V. | a= 300 | b= 299.6 |

Total I.V. for all the number of species common in two communities C=29.34579

$$\begin{aligned}
 I.S &= \frac{2C}{a+b} \times 100 \\
 &= \frac{2 \times 29.34579}{600} \times 100 = 9.46 \\
 I.D. &= 100 - 9.46 = 90.56
 \end{aligned}$$