

Identifying and Mapping the Distribution of Selected Medicinal Plants in Jaffna District

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Introduction

Medicinal plants have significant roles in human livelihood and are medically, culturally and economically important resources for the local people. According to the World Health Organization (WHO), 80 percent of the population in developing countries relies on traditional medicine, mostly in the form of plant drugs for their health care needs. Additionally, about 25 percent of plant derivatives are used in the modern medicines. As Sri Lanka's Northern part is very close to India, herbs which are found in India are found in Sri Lanka too (Sathiyaseelan, 2008). Large numbers of moderate to high value medicinal plants, herbs and vines naturally exist in Jaffna district. However of the existing medicinal plants only very small percentage is traded due to unawareness of medicinal plants distribution within the Jaffna peninsula. This study examined the current situation of selected important medicinal plants naturally grown in and mapped their distribution in Jaffna district in order to conserve and promote their cultivation.

Methodology

This study was conducted from April 2012 to August 2012 in Jaffna district. Important medicinal plant species were selected through a pilot survey with medicinal plant sellers and direct interview with Indigenous medical practitioners. Coordinates points of selected medicinal plants were taken by GPS receiver and mapping was carried out using GIS software. Plants were observed along the road sides, waste grounds, field area, near to the temple area and in cultivated lands. Photographs and specimens were taken from the field. Herbarium sheets were prepared for these selected species in standard formats.

Results and discussion

Based on the interviews with indigenous medical practitioners and the survey with medicinal plant sellers, sixteen medicinal plants were selected. Selected medicinal plants were *Adhatodavasica*, *Asteracanthalongifolia*, *Trianthemadecandra*, *Calotropisgigantea*, *Rauvolfiatetraphylla*, *Gymnemasylvestre*, *Hemidesmusindicus*, *Cassia auriculata*, *Terminaliachebula*, *Phyllanthusemblica*, *Enicostemmalittorale*, *Aloe vera*, *Tinosporacordifolia*, *Solanumxanthocarpum*, *Withaniasomnifera*, *Clerodendrumphlomidis*. Individual maps were developed on the distribution of each medicinal plant in Jaffna district.

Map 1 shows the distribution of selected medicinal plants in Jaffna district. *A.vasica* (a) was grown all over Jaffna in waste grounds and along the hedges. It was densely noticed at Vadamradchiregion. *A. longifolia* (b) was observed close to aquatic places in Valikamam and Vadamradchi regions. *T. decandra* (c) and *H. indicus* (i) were noticed growing densely all around the Jaffna district. *C. gigantea* (d) was commonly noticed at Hindu temples in all regions. *R. tetraphylla* (e) was only observed in Valikamam region as a weed in waste land.

G. sylvestre(f), *P. emblica*(j) were observed in home gardens and it was highly populated in Valikamam region. *C. auriculata* (g) was grown on waste grounds at Kaithady, Navali, Point-Pedro and Eluthumadduval areas. *T. chebula* (h) was found in few isolated areas. *E. littorale* (k) is scattered in Jaffna and reported growing in rainy season. *A. vera* (l) was observed throughout the greater part of Jaffna and it was found in coastal areas and home gardens. *T. cordifolia* (m) was noticed in shrub, forests and on live fences as climbers. *S. xanthocarpum* (n) was specific to sandy and naturally observed in waste ground sand fields. It was observed growing densely in Vadamaradchi, Islands and Kaithady areas. *W. somnifera* (o) was not evenly distributed in the district and observed only in Valikamam and Thenmaradchi at commercial cultivation places, few home garden and herbal gardens. *C. phlomidis* (p) was observed growing densely in the road sides and waste grounds in Valikamam region.



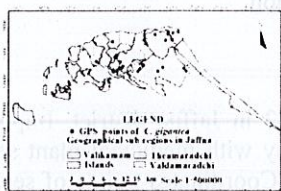
(a)



(b)



(c)



(d)



(e)



(f)



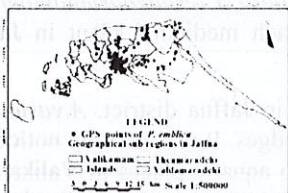
(g)



(h)



(i)



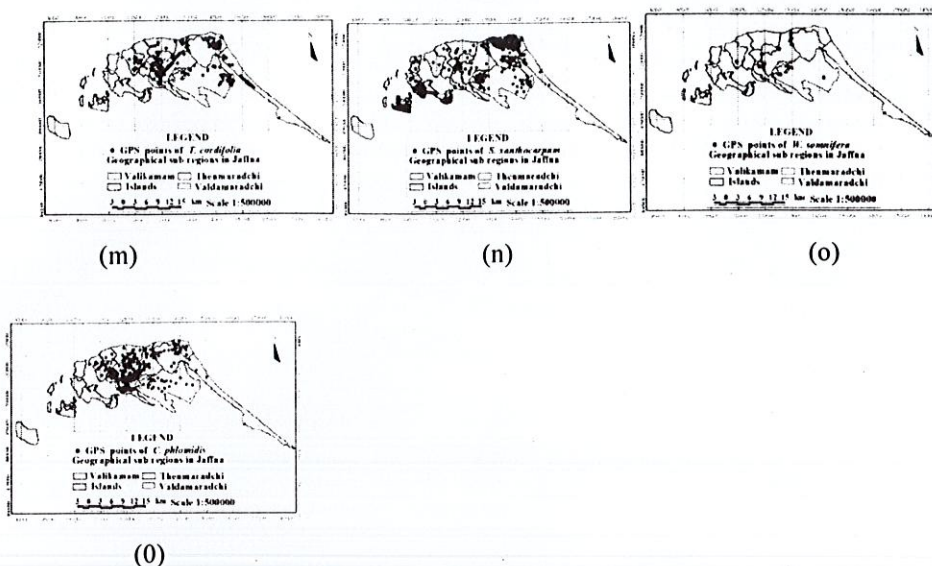
(j)



(k)



(l)



Map 1: Distribution of selected medicinal plants in Jaffna district.

(a) *Adhatodavasicca*, (b) *Asteracanthalongifolia*, (c) *Trianthemadecandra*, (d) *Calotropisgigantea*, (e) *Rauvolfiatetraphylla*, (f) *Gymnemasylvestre*, (g) *Cassia auriculata*, (h) *Hemidesmusindicus*, (i) *Terminaliachebula*, (j) *Phyllanthusemblica*, (k) *Enicostemmalittorale*, (l) *Aloe vera*, (m) *Tinosporacordifolia*, (n) *Solanumxanthocarpum*, (o) *Withaniasomnifera*, (p) *Clerodendrumphlomidis*

Conclusion

Medicinal plants are widely distributed in Jaffna district. Plants distribution varies species to species and region to region. Among the 16 selected medicinal plants, ten (*A. vasica*, *C. phlomidis*, *P. emblica*, *G. sylvestre*, *E. littorale*, *T. cordifolia*, *S. xanthocarpum*, *H. indicus*, *C. auriculata*, and *T. decandra*) were evenly distributed in Jaffna district. *A. longifolia*, *R. tetraphylla* and *A. vera* are available as in some patches over Jaffna district. *W. somnifera*, *C. gigantea*, and *T. chebula* are found at isolated spots. Out of 16 medicinal plants selected, ten medicinal plants grow densely in Vadamaradchi and Valikamam regions. Valikamam region consist all 16 selected plants, Vadamaradchi and thenmaradchi region consists 14 plants and Islands region consists only seven plants. Valikamam and Vadamaradchi regions which are in Dry zone Low country (DL3) agro ecological zone have great potential to grow and collect the selected medicinal plant species. These information help to identify the medicinal plants growing hotspots to draw a plan to conserve and to promote their cultivation as the soil and other environmental conditions are favourable for them at those locations. Herbarium sheets have been developed and available for all 16 medicinal plants for identification purposes.

Reference

Sathiyaseelan, V. 2008. *Materiamedica 2*: Introduction, Jaffna: Thiruvalluvarachchakam.