Applied Aspect of Medicinal Plants for Commercial Uses of Shekhawati Region, Rajasthan

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I. INTRODUCTION

Rainy season is the best period of growth of medicinal plants and the collection is made in spring. This is done mostly by the forest-dwellers and tribals, particularly the in the tribal areas who sell them to the local contractors. Through them it reaches the local 'Mandis' (village markets) from where the big crude drug dealers procure them by auction. Earlier the ancestors of these Herbal vendors used to function as the local contractors and even today some of them do so. In the cities they mostly obtain the medicinal herbs from the Crude Drug dealers, and also utilise the locally available herbs.

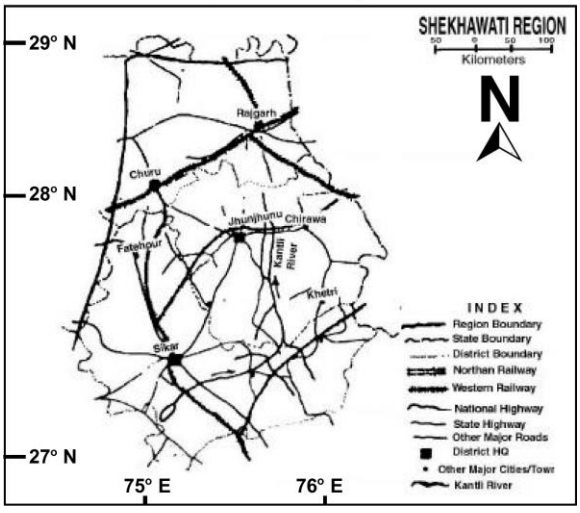
They are also particular about locality. Same medicinal herb growing in different climatic and soil conditions have different efficacy. For example the Asvagandha (Withania somnifera) growing in Nagaur district of Rajasthan has better medicinal value than any other plants of the some species growing in other localities of India.

Thirty eight (38) dry specimens of crude medicinal plant parts were collected from the different stalls and hutments of the Herbal vendors during the course of study. While most kept common herbal drugs, some possessed specific ones which were costly.

II. INTRODUCTION OF THE RESEARCH AREA

The area under study i.e. Shekhawati Region is located in the north-eastern part of Rajasthan state. The Region has geographical extension from 27°7' to 28°53' N latitude and 75° 41' to 76°05'E longitude on the map of Rajasthan**.** The area under study covers three districts, namely Churu, Jhujhunu and Sikar. Churu districtcovered 7 tehsils fall under Shekhawati Region (Churu, Rajgarh and Taranagar) whereas Jhunjhunu district as a whole with its six tehsils (Buhana, Chirawa, Khetri, Jhunjhunu, Nawalgarh and Udaipurwati) in which Buhana tehsil emerged out as a new tehsil on the map of Jhunjhunu district (2001), it was no existence in the year of 1991. Sikar district also covered fully with it's six tehsils (Data Ramgarh, Fatehpur, Laxmangarh, Neem ka Thana, Sikar and Sri Madhopur). The Region has 23 Panchayat Samitis in all. Thus, the Region under study has 19 tehsils in total with it's total 15343 sq. km. geographical area which makes 5.6% of the state's total. At the part of district-wise contribution by area point of view in Shekhawati Region it is observed that part and portion of Churu district contributes 29%, Jhunjhunun district contributes 31% and Sikar by 40%, respectively.

Location Map



Among these tehsils area point of view, the tehsil of Churu is largest one and Buhana smallest, respectively. District-wise area point of view Sikar stands at first position which is followed by Jhunjhunu and lowest contribution is made by Churu i.e. 1683 sq. km. only.

At the part of population, Shekhawati Region contributes 8.7 percent of the state's total in which sex-ratio is 948 females per thousand males in Total Population whereas it is very low i.e. 887 in Child Population for the area under study. The Region obtains high Literacy rate which is about 10% more than that of the state's total. Among tehsils, Buhana ranks at first position while as Neem ka Thana contributes lowest in this aspect. The Region obtains high density (244) i.e. 50 percent more than that of state's average which is 165 persons per sq. area. The Region has also Slum population but it is very low or to say negligible i.e. 2.5 only of the urban area's total, respectively.

The state of Rajasthan has been divided by Prof. V.C. Mishra into seven geographical Regions in which semi-arid Region is one of them and our study area i.e. Shekhawati Region is situated in the northern part of this Region, respectively. After that Prof. R.L.Singh in 1976 divided the state of Rajasthan into four Geographical Regions in which the area under study i.e. Sekhawati Region which falls in the Region of Rajasthan bangar pradesh by covering partly or fully three 'sub-division' i.e. B- I NE Churu Region which includes nearly 20% portion of Churu district. B-2 the Western Sikar-Jhunjhunu plains covers about 70 percent of both districts, and C-1 the Sambhar-Didwana Region which contributes about 10% of the area under study.

It is very interesting and surprising to mention here on behalf of author's observations regarding the area and districts coverage under the Regional boundary of Shekhawati Region that recently researches are done at the name of Shekhawati Region but researchers excluded the part of Churu district, which makes about 30% area of Shekhawati Region's total.

As far as the type of climate of the Region under study is concerned, the observations revealed that according Koppens climatic classification the Region falls under 'arid type of climate' (BWhw - the upper part of Shekhawati Region which includes three-fourth portion of Churu district) and 'semi and type of climate'. BShw - it covers fully both of districts i.e. Jhunjhunu and Sikar. According Thornthwait's climatic classification point of view, the Region under study is distinctly divided into two parts - upper i.e. DBW climatic Region of arid climate and lower- climatic Region obtains DAW semi-arid climate.

III. MEDICINAL PLANTS OF COMMERCIAL VALUES

The author made his best efforts to analyse the medicinal plants of Shekhawati Region i.e. for those medicinal plant species which have commercial values from economic applied aspect at least at 'Local Market Status'. The author on the basis of analytic aspect traced out the medicinal plants of the area under study that 51 medicinal plant species out of 101 medicinal plants have their commercial values comparatively more at least at local market status. **Table-1.1** illustrates the applied aspect of medicinal plants for commercial uses, Shekhawati Region, Rajasthan. It is quite obvious from the above mentioned table that out of them 26% medicinal plant species of the study area of which "Fruit-part" have commercial values and ranks at first place whereas at second place "Seed-part" stands, respectively. 16% medicinal plants ranks at third place in which the "Whole Plant" more or less have their commercial values. "Leaf-part", "Root-part" and "Gum-part" individually makes 12% each for the above mentioned aspect. The minimum 4% is covered by the group of those medicinal plant species which have their "Flower-part" and "Bark-part" and portion as commercial values in local market.

Table : 1.1 Applied Aspect of Medicinal Plants for Commercial Uses in Shekhawati Region, Rajasthan

S. No,	Medicinal Plants	Local Name	Applied Part and Portion	Commercial Value (Rs./Kg.) Approximate
1.	Adhatoda vasica	Arusa	Leaf	50
2.	Achyranthus aspera	Apamarge	Whole Plant	80

3.	Aristolochia bracteolata	Jufa	Leaf	80
4.	Adiantum venustum	Hansraj	Leaf	120
5.	Argemone mexicana	Satayanasi	Seed	80
6.	Asparagus racemosus	Satawar	Root	140
7.	Albizia lebbeck	Siris	Seed	90
8.	Acacia nilotica	Desi Babool	Gum, Fruit	120
9.	Acasia senegal	Kheri	Gum	180
10.	Abutilon indicum	Kangani	Seed	60
11.	Azadirachata indica	Neem	Fruit	60
12.	Barleria prionitis	Bajardanti	Leaf	120
13.	Bambusa bambos	Banslochan	Pulp	150
14.	Boswellia serrata	Salar	Gum	450
15.	Butea monosperma	Palas	Flower, Seed, Gum	130
16.	Boerhavia diffusa	Punarnva	Whole Plant	90
17.	Blumea obliqua	Jal Bhangaro	Whole Plant	150
18.	Commiphora mukul	Gugal	Gum	600
19.	Cordia gharaf	Gundi	Fruit	180
20.	Cassia fistula	Amaltas	Fruit	60
21.	Cassia angustifolia	Sennai	Leaf	80
22.	Citrullus colocynthis	Tumba	Root, Fruit	120
23.	Clerodendrum indicum	Bharangi	Bark	110
24.	Caesalpinia pulchirrima	Morpush	Whole Plant	90
25.	Cyperus rotundus	Motho	Root	50
26.	Capparis decidua	Ker	Fruit	80
27.	Corchorus depressus	Chamkas, Kurand	Whole Plant	50
28.	Eclipta prostata	Jal Bhangaro	Whole Plant	150
29.	Ficus bengalensis	Bargad	Proproot, Fruit	150
30.	Ficus religiosa	Pipal	Proproot, Fruit	150
31.	Grewia vilosa	Gangeti	Twigs	80
32.	Ipomea hederacea	Kaladana	Seed	160
33.	Mangifera indica	Aam	Seed	50
34.	Mimosa hamata	Jinjari	Seed	150
35.	Moringa oleifera	Sahajana	Gum	200
36.	Ocimum americanum	Bapji	Seed	150
37.	Partulace oleracea	Luni	Leaf	80
38.	Phoenix acaulis	Khajur	Fruit	120
39.	Polygonum plebium	Kamali	Leaf	110
40.	Psorolia corylifolia	Babchi	Seed	120
41.	Saraka asoca	Ashok	Bark	50
42.	Sida alba	Kharenti	Fruit	120
43.	Sida acuta	Kala Beej Bandh	Seed	150
44.	Solanum albicaule	Naharkanto	Root	110
45.	Solanum nigrum	Makoi	Fruit	220
46.	Solanum surrattense	Kantkari	Whole Plant	80
47.	Tribulus terrestries	Gokharu	Fruit	120
48.	Tinospora cordifolia	Giloya	Bel	80
49.	Vernonia cinerea	Sia Kanto	Root	80
50.	Vernonia anthelmintica	Kali Ziri	Seed	350
51.	Withania somnifera	Asgandh	Root	350

To asses the approximate commercial values in cash, the author made field surveys of several Medical Shops which have sale counter for the different parts of medicinal plant species, By thus, the author finally traced out the actual appropriate price at per Kilogram and for this purpose the author tallied many shops at different places in this regard

viz; Churu, Sikar, Jhunjhunu and Jaipur also, at last the author briefed out in the **Table-1.1.**

Table : 1.2 Name of the Shops or Dealers of Sale Counter for Different Specimens of Useful Parts and Portions of Medicinal Plants

S. No.	Name of the Shop or Dealers	Number of Specimens
1.	Leeladhar Bhatt Pansari, Khetri, Jhunjhunu	20
2.	Surajmal Satyanarayan Pansari, neemkathana, Sikar	10
3.	Chunni Lal Pansari, Chhoti Chopar, Jaipur	5
4.	Mukesh Kumar Ashok Kumar Pansari, Jaipur	3
	Total	38

Source : The Author, Based on Field Survey Visits

Further in this regard, **Table-1.2.** is also prepared by the author which illustrates the names of shops as well as dealers which have sale counter where the useful parts and portion of medicinal plants are sold at local market status. One can't get or collect all useful parts and portion of all medicinal plants from one shop or one dealer but one has to wander at several places from one shop to another shop. Some shop have many useful parts and portion of many medicinal plants whereas some shops have less parts to sale for few medicinal plants.

IV. CATEGORIZATION OF MEDICINAL PLANTS WITH REFERENCE TO THEIR COMMERCIAL VALUES

Table-1.3 illustrates the Analytic Aspect of Commercial Medicinal Plants with reference to their Commercial Values at 'Local Market Status'. Further in this regard, the author simplified this matter by categorization of 51 commercial valute medicinal plant species into 3 Major Commercial Groups-Viz; I-Low Commercial Group (below 100 Rs/ Kg), II-Medium Commercial Group (101 to 200 Rs/Kg), and III- High Commercial Group (above 200 Rs/Kg).

Table : 1.3 Analytic Aspect of Commercial Medicinal Plants with reference to their Commercial values at Local Market Status

Major Commercial Groups	Number of Medicinal Plants (in %)	Commercial Values
I-Low	21 (41%)	Below 100
II-Medium	24 (47%)	101 to 200
III-High	6 (12%)	Above 200
Total (in %)	51 (100%)	

Source : The Author, Based on Table : 1.1

It is very interesting to mentioned here that Major Commercial Group-II of Medium range ranks at first place by covering 24 total number of Medicinal plant species out of 51 medicinal plants of Shekhawati Region and by thus, it covers about 47% of the total (e.g.- *Asparagus racemosus and Butea monosperma*). I- Low Major Commercial Group stands at second place by covering 21 total number (about 41%) of medicinal plant species (e.g. *Adhatoda vasica* and *Azadirachta indica* etc.) whereas III - High Major Commercial Group (above 100 Rs/kg.) stands at third place by covering only 6 total number of medicinal plant species out of 51 medicinal plants of commercial values and by thus, it covers about 12% of the total, respectively.

Owing to High Commercial values by this Group it is quite obvious that there are few medicinal plant species whose useful parts and portion are being sold in the market at high price values, among them following medicinal plant species are covered - *Acacia senegal, Bambusa bambos, Boswellia serrata, Commiphora mukul, Eclipta prostrata and Withania somnifera*.

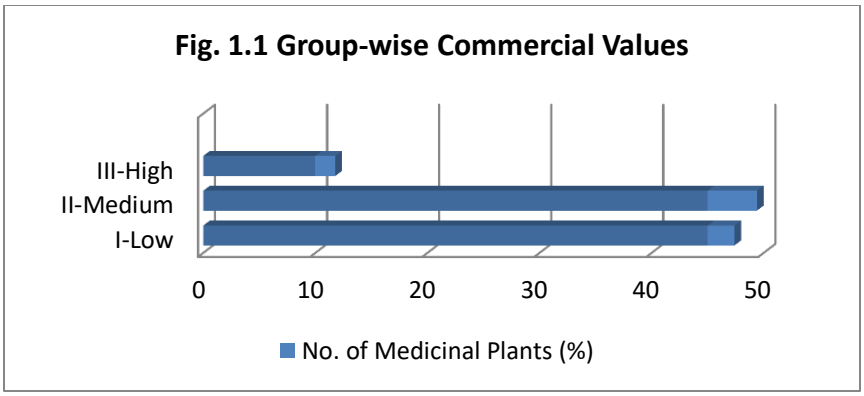


Figure-8.1 illustrates the same analytic aspect by showing a graphical presentation of commercial medicinal plants with reference to their commercial values at local market status.

The particular graph obviously shows the percentage contribution of each Major Commercial Group on the basis of commercial values of their useful parts according their respective price values at local market status. By thus, one can visualize very well a comparative account of the contribution of 3 commercial groups with their respective commercial values.

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