

ENVIS NEWSLETTER

State Environment Related Issues, J&K

Directorate of Environment & Remote Sensing January-March, 2003

Inaugural Issue

EDITORIAL

The State of Jammu and Kashmir which is the part of North Western Himayans situated in the extreme North of the Country can be regarded as a gift of nature. The State is rich in biodirversty because of its unique Bio-geo-agro and climatic placement. The State has four distinct climatically different zones having different altitudinal zonation and very different temperature and rainfall pattern. The State can boast of its clear streams, blue skies , green turf ,vast meadows, magnificent and mighty mountains. The State has very unique Horticulture and Agriculture production regime where in the Ambri apple and saffron constituent the crops not found elsewhere. The specific Wild life in form of Hangul, Snow Leopard, Black Necked Crane, Shapu, Chiru, wild ass and Markhor makes it a destination for the nature lovers. The State with four numbers of National Parks, Fourteen numbers of wild life sanctuaries, Thirty one numbers of Wild life, Wetland and Charku reserves. The total area under this category is 15,751 Sq.Kms under protective area network.

The State has been suffering from degradation of forest cover because of the pressure of population, cattle population and development needs. The problems of encroachment in the forests, illegal removal of forest trees, grazing pressure of vast cattle population have effected the Ecology and Environment of the State. The Department of Environment in collaboration with a forest Department and Non Govt. Organizations is regularly organizing the Awareness, Education, Public Interaction Programmes not only to tackle the problems of the forestry sector but also the regarding the general Environmental issues of the State and the st strategie

The Department of Environment has close liaison with Ministry of Environment and Forest Govt. Of India and is working for the protection of Environment of J&K.s to be adopted for addressing these issues.



ENVIS (Environment Information System) is a project of the Ministry of Environment & Forests, Govt. of India

1. Environmental issues of Jammu & Kashmir:

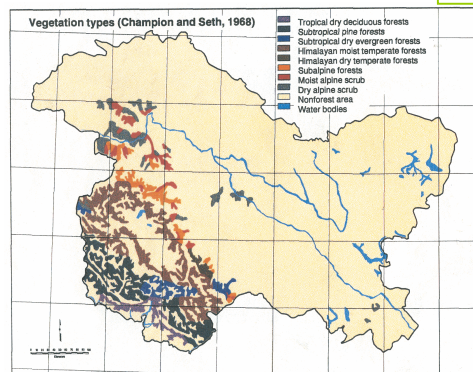
The State:

The State of Jammu and Kashmir, comprising three distinct regions of Jammu, Kashmir and Ladakh, has an area of 2,22,236 Sq. kms with a population of over 10 million people. It has following four distinct zones:-

- 1 The Sub-tropical plains of Jammu with an elevation of about 100 to 700m and an annual rain fall of

Activities of ENVIS-EMCB Node, J&K

- ⊕ *Publication of Newsletter in every three month.*
- ⊕ *Launching website in the subject areas allotted with regional language interface.*
- ⊕ *Creation of database.*
- ⊕ *Collection of daily and monthly news*
- ⊕ *Answering quarries.*
- ⊕ *Establishing linkage with users/ organizations.*



1124mm.

- 2 The moist temperate regions and alpine pastures in Jammu Shiwalik and Chenab Valley with an annual rainfall of 1454mm.
- 3 The temperate and alpine regions of Kashmir Valley ranging in elevation from 1800m to 7500m and annual rainfall of 733mm.
- 4 The cold high-level desert of Ladakh with an annual rainfall of 160mm.

2. Past Ecological Scenario:

Historically, the State has been the favourite haunt of lovers of beauty and adventurers in all ages. The State of environment that existed, not in a very remote past, can best be described in the language of historians, for whom, Kashmir

was “an emerald set in pearls, a land of lakes, clear streams, blue skies, green turf, magnificent trees and mighty mountains where sun shine mildly over saffron fields, iced water and grapes that are rare even in heavens.”

In the recent past, the Shiwaliks of Jammu and the high mountains of Kashmir respectively supported one of the densest and richest sub-tropical and temperate forests of the world, covering more than 60% of the total land area. These wilds had a great variety of flora and varied animal life. The region abounded in high altitude lakes, swamps and neat and clear streams and rivers. The lakes like Wuler, Dal and Mansbal are still the best, inspite of the blunders in the management and ever increasing pressure of human and livestock population.

3. Present Ecological Scenario:

In recent years, visible changes have occurred in the physical and biological components of the Environment that is catching the attention and concern of the common man in the State. These changes include receding snow line and glaciers, fast depleting tree cover, recurring floods, periodic droughts, declining moisture regime, deteriorating water bodies, and landscape of the cities and the countryside.

A. The Forests:

The Forests in the state cover an area of 20230 Sq. kms., which is 19.95% of the total geographical area of the State. The Jammu region supports forest area of 12066 Sq. kms., amounting to 45.89% of its geographical area. The Valley of Kashmir has a forest area of 8128 Sq. kms. Contributing 50.97% of its geographical area. The Ladakh region has practically no forest (Forest Statistical Digest, 1992). The Pine forests of Jammu region have been heavily and continuously tapped for resin extraction for the last more than three decades .

The ever increasing grazing pressure on the forest lands, particularly in the alpine pastures and sub tropical belt have deteriorated and depleted the forests rendering unfit for sustaining a staggering livestock population of 100 lakhs. The scrub forests in Jammu region and alpine pastures of the State are subject to indiscriminate grazing by sedentary and migratory livestock population. The phenomenon prevents regeneration of the forests and accelerates the soil erosion.

B. Water Resources:

Despite an increasingly desperate situation, the State still believes that it has plenty of water reserves in the form of the river systems, glaciers, lakes and springs. It is becoming increasingly difficult to meet the requirements of water for drinking, irrigation, industry and power. The study conducted by the Directorate of Environment & Ecology, purely based on GT Sheets published by the Survey of India in early seventies and limited satellite data, has revealed that there are as many as 1248 lakes, water bodies, and wet lands of variant sizes in the State. Many of these water bodies might have gone extinct and turned into ponds by now due to various environmental factors. The gradual disappearance of lakes of the State is an area of concern for the Department. The main river systems of the State comprising Jehlum, Chenab and Ravi are fast deteriorating in the quality and quantity of waters. The Jehlum river, the life line of the Valley of Kashmir, is getting silted up due to its fast eroding catchment and is getting polluted due to ever increasing human settlement along its banks

C. Tourism:

The most serious environmental threat is the accelerating deterioration of the most picturesque wilds of the State in the recent years. The State, in its enthusiasm to develop and promote tourism, has been urbanizing the forested watersheds of the State. This development is punishing and eating into the pristine glory of the magnificent Valley of Kashmir & Jammu Province.

D. Chemical Environment:

Although the State has not industrialized heavily, yet it has its share of problems due to chemical pollution. The problems related to the atmospheric pollution on account of the growth of cement factories, stone crushers, brick and limekilns and vehicular exhaust. The excessive use of chemical fertilizers and pesticides for increasing the agricultural and horticultural production is another area posing serious threat to the environment, as very little of the large quantities of chemical fertilizers and chemical used for sustaining the agricultural and horticultural production in the State reach the "target" and the rest of it is absorbed by the environment.

E. Population growth and Urbanization:

The population of J&K State has been increasing at a rapid pace leading to the present figure of more than 10 million. This has exerted a tremendous pressure on the natural reserves especially habitable land, particularly in the cities of Jammu & Srinagar.

F. Land use Policy:

There is no land use policy for the State. Over the years, the fertile agricultural land has been converted into urban slums and industrial areas. Similarly, the dryland agriculture has been converted into horticultural orchards and most of the forests adjoining villages have been encroached upon and turned into dry land agricultural lands



GROWTH IN POPULATION DURING PAST 100 YEARS.

S.No.	District/Region/ State	Year	Persons	Decadal Increase.	%age Decadal Variation.
1.	Jammu and Kashmir State.	1901	2139362	-----	-----
		1911	2292535	153173	+7.16
		1921	2424359	131824	+5.75
		1931	2670208	245849	+10.15
		1941	2946728	276520	+10.36
		1951	3253852	307124	+10.42
		1961	3560976	307124	+9.44
		1971	4616632	1055656	+29.65
		1981	5987389	1370757	+29.69
		1991	7803962	1816593	+30.34
		2001	10069917	2265955	+29.04
	Kashmir Region (including Ladakh)	1901	1089186	-----	-----
		1911	1214219	125033	+11.48
		1921	1310498	962709	+7.93
		1931	1460073	149575	+11.41.
		1941	1602519	142446	+9.76
		1951	1795304	192785	+12.03
		1961	1088089	192785	+10.74
		1971	2540992	552903	+27.81
		1981	32969276	728284	+28.66
		1991	4180743	911466	+27.87
3.	Jammu Region	1901	1050176	28140	+2.68
		1911	1078316	35545	+3.30
		1921	1113861	96275	+0.64
		1931	1213135	134074	+11.08
		1941	1344209	134074	+11.08
		1951	1458588	114339	+8.51
		1961	1572887	114339	+7.84
		1971	2075640	502773	+31.96
		1981	2718113	642473	+30.95
		1991	3537957	819844	+30.16

GEOGRAPHICAL FEATURES

Features	Unit	
Geographical area	Sq. Km	101387*
Forest area	Sq.Km	20230
(* Excluding 120849 Sq. Km area under illegal occupation of Pakistan and China.)		
%Age of forest area to geographical area.		
a) Jammu region	%age	45.89
b) Kashmir region	%age	50.97
c) Ladakh region	%age	0.06
Total J&K State	%age	19.95
Per capita land area	Ha.	1.05
Per capita forest area	Ha.	0.26
Districts.	Nos.	14
Villages.		
a) Inhabited	Nos.	6477
b) Un-inhabited	Nos.	281
Town/ Cantonments of J&K State.	Nos.	58
Municipalities.	Nos.	3
Literacy.	%age	54.46

POPULATION

Population (2001)		10069917
Rural		7564608
Urban		2505309
Males		5300574
Females		4769343
Density of population	Per Sq. Km	99

ESTIMATED DISTRICT-WISE POPUATION OF J&K, STATE-1991 AND ACTUAL POPULATION 2001

S.No.	Region	District.	Estimated Population.	
			1991	2001
a)	Kashmir:	1. Anantnag.	826291.	1170013
		2. Pulwama.	516441.	632295
		3. Srinagar	892506	1238530
		4. Budgam	497346	593768
		5. Baramulla	861214	1166722
		6. Kupwara	416404	640013
		Total:		4010202
b)	Ladakh.	7. Leh	89474	117637
		8. Kargil.	81067	115227
		Total:	170541	232864
c)	Jammu.	9. Jammu	1207996	1571011
		10. Udhampur.	602807	738965
		11. Doda.	525326	690474
		12. Kathua.	492288	544206
		13. Rajouri.	417333	478595
		14. Poonch.	292207	371561
		Total:-		3537957
	Total J&K State.	7718700	10069917	

DISTRICT-WISE FOREST AND GEOGRAPHICAL AREA

Region	District	Geographical Area (Sq. km)	Forest Area (Sq.km)	%age of col.4 to col. 3
a) Kashmir	1.Srinagar	2228	380	17.06
	2. Budgam	1371	477	34.79
	3. Anantang	3984	2068	51.91
	4. Pulwama	1398	810	57.94
	5. Baramulla.	4588	2690	58.63
	6. Kupwara	2379	1703	71.58
	Sub-total Kashmir:-	15948	8128	50.97

b) Jammu:-	1.Doda	11691	5555	47.52
	2.Udhampur	4550	2343	51.49
	3. Kathua	2651	991	37.38
	4. Poonch	1674	951	56.81
	5. Rajouri	2630	1267	48.17
	6. Jammu	3097	959	30.97
Sub-total Jammu:-		26293	12066	45.89
c) Ladakh:-	1. Leh	45110	29	0.06
	2.Kargil.	14036	7	0.05
Sub-total Ladakh:-		59146	36	0.06
Total J&K State:-		101387	20230	19.95

GROWING STOCK SPECIE-WISE.

Species	Area in Ha.	G.S (M ³)	G.S/HA (M ³)	%age of Total Forest Area by Composition.	
Cedrus deodara (Deodar).	107527	18580	171	5.31	
Pinus wallichiana Kail).	196837	25988	132	9.73	
Abies pindrow. (Fir)	340093	73766	216	16.81	
Pinus roxburghii (Chir.)	182482	14591	80	9.02	
B/Leaved	188524	---	---	9.32	
Un-Commercial.	1007578	-----	----	49.81	
		2023041	13292	150(Avg.)	100.00

OUT-TURN OF MAJOR FOREST PRODUCE

S.No.	Produce	Unit	1997-98	1998-99	1999-00
1.	Timber	000 Cum	163.49	217.12	165.03
2.	Firewood	000 Qtls.	54.31	63.69	69.13



WILD-LIFE

ABSTRACT OF NATIONAL PARKS/SANCTUARIES/RESERVES.

(Area in Sq. Kms.)

	Jammu		Kashmir		Ladakh		Total	
	No.	Area	No.	Area	No.	Area	No.	Area
1. N.P	1	400.00	2	180.25	1	4,100.00	4	4,680.25
2. W.L.S	5	166.00	7	1,132.50	2	9,000.00	14	10,298.50
3. W.R/C.R	4	199.00	13	331.25	1	100.00	18	630.25
4. W.L.R	5	96.50	8	46.25	-	---	13	142.75
Total:-	15	861.50	30	1,690.25	4	13,200.00	49	15,751.75

REGION-WISE DETAIL OF NATIONAL PARKS/SANCTUARIES/RESERVES.

JAMMU REGION

S.No	Name	Status	District.	Area in Sq. Kms
1.	Kishtwar	N.P	Doda	400.00
2.	Ramnagar	W.L.S	Jammu	12.75
3.	Surinsar-Mansar.	W.L.S	Jammu	55.50
4.	Nandni	W.L.S	Jammu	44.25
5.	Trikuta	W.L.S	Jammu	27.75
6.	Jasrota	W.L.S	Kathua	25.75
7.	Sud-Mahadev.	W.R.	Udhampur	142.25
8.	Jawahar-Tunnel.	W.R.	Doda	18.00
9.	Thein	W.R.	Kathua	19.00
10.	Bahu	W.R.	Jammu	19.75
11.	Garana	W.L.R.	Jammu	0.75
12.	Pargawal	W.L.R	Jammu	49.25

13.	Kukarian	W.L.R	Jammu	24.25
14.	Sangral	W.L.R	Jammu	7.00
15.	Nanga.	W.L.R	Jammu	15.25

KASHMIR REGION

16.	Dachigam	N.P	Srinagar/Pulwama	171.25
17.	City Forest	N.P.	Srinagar	9.00
18.	Overa-Aru	W.L.S	Anantnag	511.00
19.	Gulmarg	W.L.S	Baramulla	139.25
20.	Lachipora	W.L.S	Baramulla	93.50
21.	Hirpora	W.L.S	Baramulla	114.50
22.	Baltal	W.L.S	Srinagar	210.50
23.	Limber	W.L.S	Baramulla	43.75
24.	Rajparian	W.L.S	Anantnag	20.00
25.	Dara/Khimber	W.R.	Srinagar	34.00
26.	Brain	W.R.	Srinagar	15.75
27.	Khonmoh	W.R.	Pulwama	67.00
28.	Khrew	W.R.	Pulwama	50.25
29.	Khanagund	W.R.	Pulwama	15.00
30.	Panyar	W.R.	Pulwama	10.00
31.	Ajas	W.R.	Baramulla	48.00
32.	Zaloor-Harwan	W.R.	Baramulla	25.25
33.	Naganari	W.R.	Baramulla	22.25
34.	Shikargah	W.R.	Pulwama	15.50
35.	Khiram	W.R.	Anantnag	15.75
36.	Wangat (Chategul)	W.R.	Srinagar	12.00
37.	Narkara	W.L.R.	Budgam	3.25
38.	Malgam	W.L.R	Baramulla	4.50
39.	Ajas	W.L.R	Baramulla	1.00
40.	Hokera	W.L.R	Srinagar	13.75
41.	Hygam	W.L.R	Baramulla	7.25
42.	Shallabugh	W.L.R	Srinagar	16.00
43.	Chatlum-Pampore	W.L.R	Pulwama	0.25
44.	Manibugh	W.L.R	Pulwama	0.25
45.	Achabal	W.R.	Pulwama	0.50

LADAKH REGION

46.	Hemis	N.P.	Leh.	4,100.00
47.	Karokoram	W.L.S	Leh.	5,000.00
48.	Changthang	W.L.S	Leh.	4,000.00
49.	Kanji.	W.R.	Kargil	100.00
50.	Shang	G.R.	Leh.	100.00
51.	Sabu	G.R.	Leh.	
52.	Bodhkhharbu	G.R.	Kargil	
53.	Psomoriri	W.R.	Leh.	
54.	Noorichan	W.R.	Leh.	
55.	Chashul	W.R.	Leh.	
56.	Henlay	W.R.	Leh.	

Note:- (**N.P.** : **National Park** **W.L.S** : **Wild Life Sanctuary.**
W.R. : **Wild Life Reserve** **W.L.R.:** **Wet Land Reserve.**
C.R. : **Chakore Reserve** **G.R.** : **Game Reserve.**

RARE MAMMALS

The rare mammals of the region include the Kashmir stag or Hangul :

S.No	Common Names	Scientific Name
1.	Hangul	<i>Cervus elephus hanglu</i>
2.	Musk Deer	<i>Moschus moschiferus</i>
3.	Tibetan Antelope or Chiru	<i>Panthelops hodgsoni</i>
4.	Tibetan Gazelle	<i>Procapra picticaudata</i>
5.	Scrow	<i>Capricorms sumatraensis</i>
6.	Markhor	<i>Capra falconeri</i>
7.	Wild Yak	<i>Bos grunniens</i>
8.	Snow Leopard	<i>Panthera unicia</i>
9.	Brown Bear	<i>Ursus arctos</i>
10.	Ibex	<i>Capra siberica</i>

RARE BIRDS

Some of the rare and threatened birds found in the area include exotic species like the Himalayan :

S.No	Common Names	Scientific Name
1.	Golden Eagle	<i>Aquila chrysatos</i>
2.	Bearded Vulture	<i>Gypaetus barbatus</i>
3.	Monal Pheasant	<i>Lophopherus impejanus</i>
4.	Koklas	<i>Puersia macrolopha</i>
5.	Western Tragopan	<i>Tragopan malanocephalus</i>
6.	Black necked Crane	<i>Grus nigricollis</i>
7.	Snow Cock	<i>Grus nigricollis</i>
8.	Bar-Headed Goose	<i>Anser indicus</i>

MIGRATORY WATERBIRDS

Migratory Water birds include Duck, Geese and Swans. The most common water birds which visit the state during winter months are :

S.No	Common Names	Scientific Name
1.	Mallard	<i>Anas platyrhynchos</i>
2.	Common Teal	<i>Anas crecca</i>
3.	Pintail	<i>A.acuta</i>
4.	Red Crested Pochard	<i>Netta rufine</i>
5.	Greylag Goose	<i>Anser answer</i>
6.	Wigeon	<i>Anas penelope</i>
7.	Shoveller	<i>A.clypeata</i>
8.	Garganay	<i>A.guerguedula</i>
9.	Coot	<i>Fulica altr</i>
10.	Gadwall	<i>Anas ctripera</i>

OUT-TURN OF NON-TIMBER FOREST PRODUCE

S.No	Produce.	Unit	1997-98	1998-99	1999-00
1.	Resin.	Mt.tons.	8466	11020	10798
2.	Charcoal	Qtls.	228	---	---
3.	Anardana. (<i>Punica granatum</i>)	-do-	364	635	1405
4.	Morin (<i>Artemisia spp.</i>)	-do-	500	----	-----
5.	Bunafsha (<i>Viola spp.</i>)	-do-	385	457	275
6.	Kanis (<i>Dioscorea Deltoidea</i>).	-do-	----	3405	4273
7.	Guchies (<i>Morchella esculenta</i>)	-do-	447	495	525
8.	Rasount (<i>Berberis lycium</i>)	-do-	100	315	815
9.	Dhoop (<i>Jurinea macrocephala</i>)	-do-	129	117	259
10.	Others.	-do-	1929	3286	3523

AREA STATEMENT OF JAMMU AND KASHMIR SHOWING THE EROSION STATUS UNDER EROSION INTESITY CLASSES DISTRICT WISE AREA IN HECTARES

EXTENT OF EROSION

S.No	Name of Districts	Slight Erosion (E.I.)	Moderate E-II	Severe E-III	Marshy/ Salinity	Stream bank erosion	Reservoirs Lakes	Glaciers P.Snow	Area not grasped E.I.	Settlement/ Habitation	Total Area
1.	Baramulla	78911	138197	195062	8996	15034	11550	_____	10750	_____	457200
2.	Kupwara	57996	116058	62022	_____	1824	_____	_____	_____	_____	237000
3.	Anantnag	58782	151399	98587	_____	6102	_____	8806	_____	_____	323076
4.	Budgam	48121	35226	31697	_____	4466	_____	_____	_____	_____	119510
5.	Pulwama	46790	51140	59632	944	7391	629	_____	_____	_____	166526
6.	Srinagar	40842	50661	37375	7543	6731	3456	5724	20129	2202	174663
7.	Doda	24658	3731123	642757	_____	6767	_____	121025	_____	_____	1167130
8.	Kuthua	70577	133731	24469	_____	7502	_____	_____	_____	_____	236309
9.	Jammu	148451	60827	69173	_____	30050	_____	_____	_____	7000	315501
10.	Udhampur	22708	226576	201403	_____	4214	_____	_____	_____	_____	454501
11.	Rajouri	27111	88693	147641	_____	4655	_____	_____	_____	_____	268500
12.	Poonch	9939	54254	96827	_____	4781	_____	_____	_____	_____	165801
	Total	634886	530016	1666645	17483	100517	14338	135555	30885	19202	4131527