

Agricultural Characteristics, Cropping Pattern and Cropping Intensity of Kashmir Division

Rouf Ahmad Wagay¹ and Dr Bhakti Chourey²

¹ Research scholar, School of Social Science DAVV Indore M.P

² Associate Professor, Department of Geography Mata Jija Bai Govt P.G college Moti Tabela Indore M.P

Abstract

Kashmir division has distinct geographical outlook and agro climatic zones. Agriculture is one of the main economic activity in valley where most people are engaged in agriculture allied sector for their livelihood. The present study is to know about agriculture, cropping pattern and intensity of Kashmir division which is largely determined by its undulating terrain and unique climatic conditions. Micro level variations in temperature, precipitation and soil has wide impact on agriculture in valley where mono cropped agriculture is practised. Paddy is the main crop of valley followed by maize, oil seeds, pulses, vegetables etc.

Keywords: Agriculture, Cropping pattern, cropping intensity, Climate

Introduction

Kashmir valley is distinctly basin shaped surrounded by Himalayas mountains from all sides characterized by snow covered lofty peaks. Kashmir division is basically agrarian and agriculture occupies an important place in the economic development of the region providing employment to about 70% of populations. Due to rugged terrain and harsh climatic condition which are not feasible for industrial development it is agriculture which is main service sector of Kashmir. It contributes about 65 % of state revenue which clearly explains the overdependence of the state on agriculture. Judicious utilisation is necessary to meet the growing need of the tremendously increasing population, Land being a limited resource would continue to be under stress in future. A very high priority will, therefore be accorded to exploring possibilities and potentialities of crop diversification in different agro climatic zones with a view to maximizing the return per unit area of the land to farmer, consistent with ecological and environmental considerations

Study area.

The valley of Kashmir has unique geographical location situated between 33° 20' to 34° 54' N latitude and 73° 55' E and 75° 35' E longitude. The state of J & k is a natural and inevitable destination. The main valley is 100 km wide and 15520.3 km in area. The Himalayas divide the Kashmir valley from Ladakh while the Pir Panjal range which encloses the valley from west and south separates it from the plain of north India the average height is about 1850 m above mean sea level.

Data source and methodology:

The present study is based on secondary source of data. Data is collected from various published records of Department of Statistics and Economic (Srinagar). Data is also collected from books, journals, and magazines. Further the collected data is processed to analyse the agricultural characteristics and cropping pattern of Kashmir division. Tables and pie diagram is used to show district wise agriculture and cropping pattern.

Agricultural characteristics.

The practice of cultivating the soil in order to produce crops, domestication of animals and pastoral farming are known as agriculture. The agricultural processes of a region are directly controlled by the prevailing physical environment conditions like temperature, terrain, soil etc. and socio-cultural milieu like size of holding, land tenancy, technology, workforce, irrigation marketing etc. Agriculture is the main source of employment in Kashmir division, as it directly or indirectly provides employment to about 70% of workforce. It plays an important role in the economy of Kashmir division as it has a major share in state revenue. Land available for agriculture in Kashmir division is limited; therefore the judicious use of land is important to meet the growing needs of increasing population. The existing classification of land use in the Kashmir division is as follow in the below mentioned table.

Table No. 1 Area and its classification 2015-16

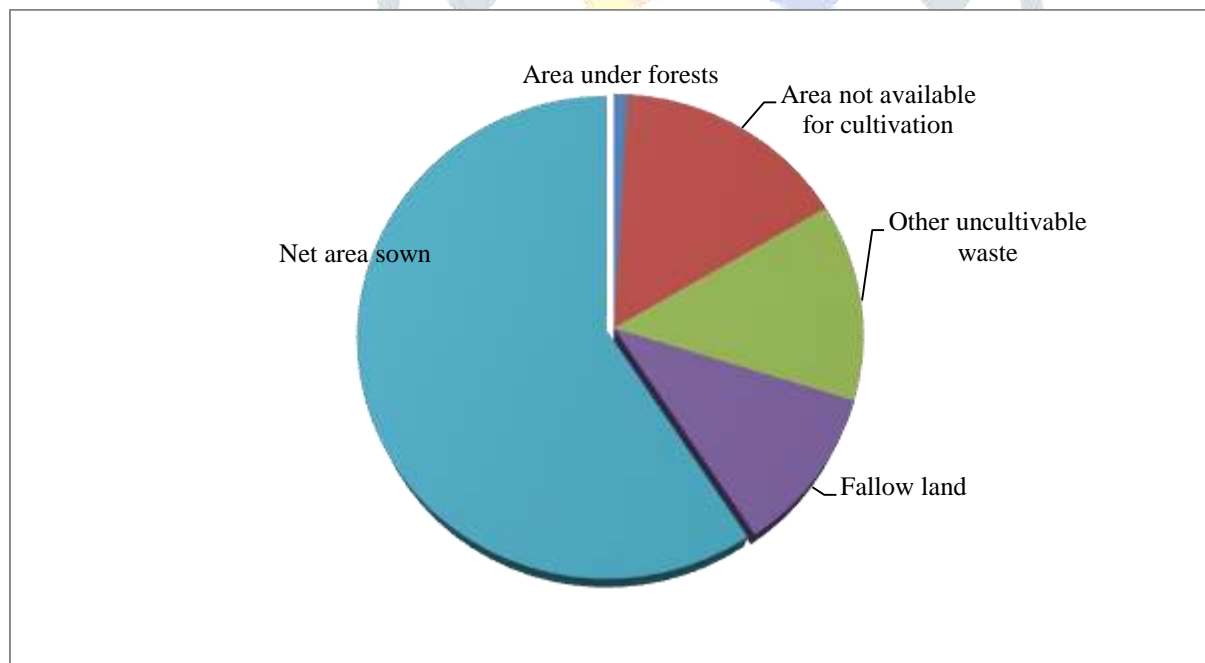
(area= hectares)

S. No	Districts	Total area	Area under forests	Area not available for cultivation	Other uncultivable land excluding fallow land	Fallow lands	Net area sown	Total cropped area
1	Anantnag	72149	253	11979	12152	12342	35423	58830
2	Kulgam	47642	190	5713	4907	7549	29283	40597
3	Pulwama	60772	320	10929	10672	6191	32660	55870
4	Shopian	36834	263	5700	5780	6408	18683	20177

5	Srinagar	11703	700	2438	167	2488	5910	8199
6	Ganderbal	39304	988	6322	5646	12714	13634	19505
7	Budgam	77827	711	8744	9672	-----	58700	71407
8	Baramulla	109470	1024	21568	16030	6337	64511	65678
9	Bandipora	34368	330	4568	4068	-----	25402	29022
10	Kupwara	66593	340	9068	4779	6688	45718	45718
		556662	5199 (0.93)	87029 (15.63)	73873 (13.27)	60717 (10.90)	329924 (59.26)	415003

Source: Digest of statistics, 2015-201

Fig. No 1



The analysis of table shows that out of the total reported area in Kashmir division, the Net area sown is 59.26 per cent, Area not available for cultivation is 15.63 per cent, 13.27 per cent is under other uncultivable land excluded fallow land, 10.90 per cent is under fallow land and 0.93 per cent is under forests.

District wise Anantnag has 49.09% under net area sown, 17.10% under fallow land, 16.84% under other uncultivable land excluding fallow land, 16.60% under area not available for cultivation, , and 0.35% under forests. Kulgam has 61.46% under net area sown, 15.84% under fallow land, 11.99% under area not available for cultivation, 10.29% under other uncultivable land excluding fallow land, and 0.39% under forests. Pulwama has 53.74% under net area sown, 17.98% under area not available for cultivation, 17.56% under other uncultivable land excluding fallow land, 10.18% under fallow land and 0.52% under forests. Shopian has 50.72% under net area sown, 17.39% under fallow land, 15.69% under uncultivable land excluding fallow land, 15.47% under area not available for cultivation, and 0.71% under forests. Srinagar has 50.49% under net area sown, 21.25% under fallow land, 20.83 % under area not available for cultivation 5.98% under forests and 1.42% under other uncultivable land excluding fallow land. Ganderbal has 34.68% under net area sown, 32.34% under fallow land, 16.08% under area not available for cultivation, 14.36% under other uncultivable land excluding fallow land and 2.51% under forests. Budgam has 75.42% under net area sown, 12.42% under other uncultivable land excluding fallow land, 11.23% under area not available for cultivation, and 0.91% under forests. Baramulla has 58.93% under net area sown, 19.70% under area not available for cultivation, 14.64% under other uncultivable land excluding fallow land, 5.78% under fallow land and 0.93% under forests. Bandipora has 73.91% under net area sown, 13.29% under area not available for cultivation, 11.83% under other uncultivable land excluding fallow land and 0.96% under forests. Kupwara has 68.65% under net area sown, 13.61% under area not available for cultivation, 10.04% under fallow land, 7.17% under other uncultivable land excluding fallow land, and 0.51% under forests.

The net area sown of Kashmir division is about 59.26%. Looking at the district wise analysis all the districts has area more than 50% in this category except Ganderbal because of presence of Lake Manasbal. Budgam has highest area of 75.42% in net area sown category followed by Bandipora, Kupwara, Kulgam, Baramulla and Pulwama.

Srinagar has largest area of 5.98% area under forests, the second district with above 1% of area under forests is Ganderbal 2.51% and the rest of eight districts have area below 1% under forests.

Area not available for cultivation is above 15% in five districts namely, Srinagar 20.83%, Baramulla 19.72%, Pulwama 17.98%, Anantnag 16.60% and Ganderbal 16.08% the rest of districts have below 15 % in this category. The reason of having high percentage of area uncultivable is because of mountainous area with rugged topography, hilly, snow covered and also because of marshy land.

Other uncultivable land excluding fallow land is highest in Pulwama 17.56% followed by Anantnag, Shopian, Baramulla, Ganderbal, Bandipora, Pulwama. Srinagar has area below 10% in this category. The land in this category includes settlements, roads, and water bodies.

Fallow land in Kashmir division is about 10.90% and district wise Ganderbal has highest area 32.34% followed by srinager, shopian, Anantnag, Kulgam, Pulwama, Kupwara and baramulla.

Cropping pattern of Kashmir Division.

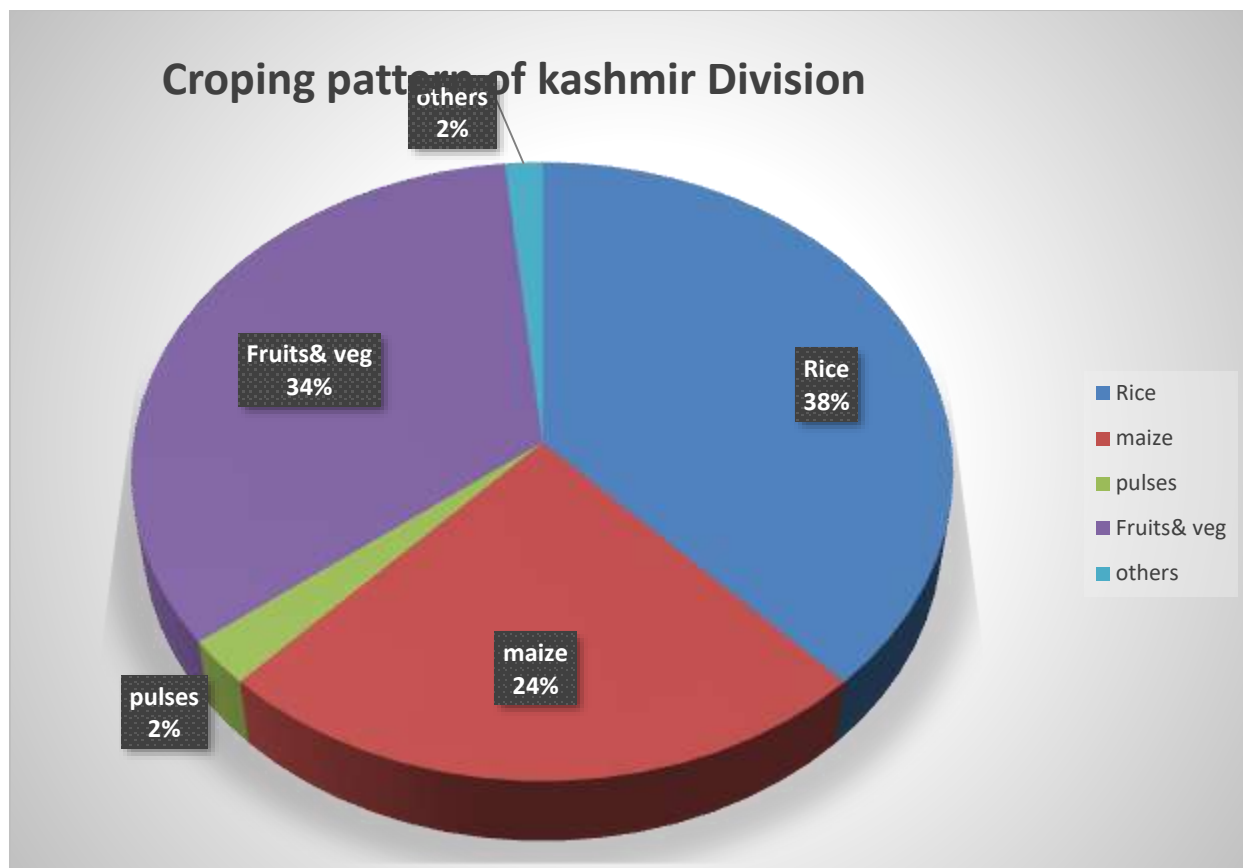
Cropping pattern means the proportion of area under different crops at a point of time. Cropping pattern is however, a dynamic concept as it changes in space and time. Cropping pattern of a region is the direct outcome of the physical, socio-cultural and historical factors.

Characterised with mountainous and undulating terrain and micro level variations in temperature, precipitation and soil, the Kashmir division has a high degree of variation in its cropping pattern. The Kashmir division is well known for its paddy, maize, orchards (apples, almonds, walnuts, peach, cherry etc.) and saffron cultivation. The area and percentage of the total cropped area in Kashmir division is given below in table.

Table No. 2. District wise area under different crops 2012-2013(Area =Hectare)

S.No	Districts	Rice	Maize	pulses	Fruits& veg	Condiments & spices	millet	wheat	Barley	Other foods	Total food crops
1	Anantnag	25147	12279	1289	9782	51	-----	-----	-----	31	48579
2	Kulgam	16812	3827	1167	8900	118	-----	-----	-----	----	30824
3	Pulwama	16576	5951	399	10638	78	-----	320	-----	-----	33962
4	Shopian	556	1479	206	18507	15	-----	-----	-----	-----	20763
5	Srinagar	3709	865	52	4364	62	57	-----	-----	-----	9109
6	Ganderbal	7684	3375	71	2460	-----	57	-----	16	-----	13663
7	Budgam	24665	8754	1638	10089	711	-----	237	----	396	46490
8	Baramulla	20236	22119	2476	19833	1	476	16	-----	-----	65157
9	Bandipora	9486	4927	1671	33356	-----	338	-----	2125	45	51948
10	Kupwara	15639	25560	64	7476	-----	830	-----	-----	12	49581
		140510(37.96)	89136(24.08)	9033(2.44)	125405(33.88)	1036(0.27)	1758(0.47)	573(0.15)	2141(0.57)	484(0.13)	370076

Source: Digest of statistics, 2011



In Kashmir division out of total reported area under food crops, 37.96% is under rice, 33.88% is under fruits and vegetables, 24.08% is under maize and 2.44% is under pulses and rest of crops occupy below 1% of area.

District wise Anantnag has 51.76% under rice, 25.27% under maize, 20.13% under fruits & vegetables and 2.65% under pulses out of total area under food crops. Kulgam has 54.54% under rice, 28.87% under fruits & vegetables, 12.41% under maize, 3.78% under pulses and 0.38% under condiments and spices. Pulwama has 48.80% under rice, 31.32% under fruits & vegetables, 17.52% under maize, 1.17% under pulses and rest of crops occupy below 1% of area out of total area under food crops. Shopian has 89.13% under fruits & vegetables, 7.12% under maize, 2.67% under rice, 0.99% under pulses out of total area under food crops. Srinagar has 47.90% under fruits & vegetables, 40.71% under rice, 9.49% under maize, condiments & spices, millets and pulses occupy 0.68%, 0.62% and 0.57% respectively. Ganderbal has 56.23% under rice, 24.70% under maize, 18.00% under fruits & vegetables and 0.57% under pulses and 0.41% under millets. Budgam has 53.05% under rice, 21.70% under fruits & vegetables, 18.82% under maize, 3.52% under pulses, 1.52% under condiments & spices, other food crops and wheat occupy 0.85% and 0.50% respectively. Baramulla has 33.94% under maize, 31.05% under rice, 30.43% under fruits & vegetables, 3.80% under pulses, millets and wheat occupy 0.73% and 0.24% area out of total area under food crops. Bandipora has 64.21% under fruits & vegetables, 18.26% under rice, 9.48% under maize, 4.09% under

barley, 3.21% under pulses and 0.65% under millets. Kupwara has 51.55% under maize, 31.54% under rice, 15.07% under fruits & vegetables 1.67% under millets and rest of crops occupy below 1% of area.

District wise area, Ganderbal is leading in rice 56.23% followed by Kulgam, Budgam, and Anantnag having more than 50% of area under rice. In maize Kupwara has highest area of 51.55% under maize, followed by Baramulla, Anantnag, and Ganderbal having more than 20% area under maize. In pulses Baramulla is leading with 3.80% of area followed by Kulgam, Budgam, and Bandipora having area around 3% under pulses. In fruits & vegetables shopian has highest area of 89.13% followed by Bandipora 64.21%, Srinagar 47.90% and Pulwama 31.32% rest of district have below 30% area under fruits & vegetables.

Condiments & spices, millets, wheat, barley and other food crops occupy below 1% of area in Kashmir division.

Cropping intensity of Kashmir Division

Cropping intensity is the ratio of the area under crops for each season to the cultivable area operated by the farmer during the year. There are number of factors which influence the cropping intensity like land should be fertile and level, good quality of seed, assured irrigation supply, use of fertilizers, land holding, market facility etc.

Cropping intensity is calculated by using following formula.

$$\text{Cropping intensity} = \frac{\text{Total cropped area}}{\text{Net sown area}} \times 100$$

Kashmir division comprises of ten districts and cropping intensity is divided into three categories.

High = >140

Medium = 120-140

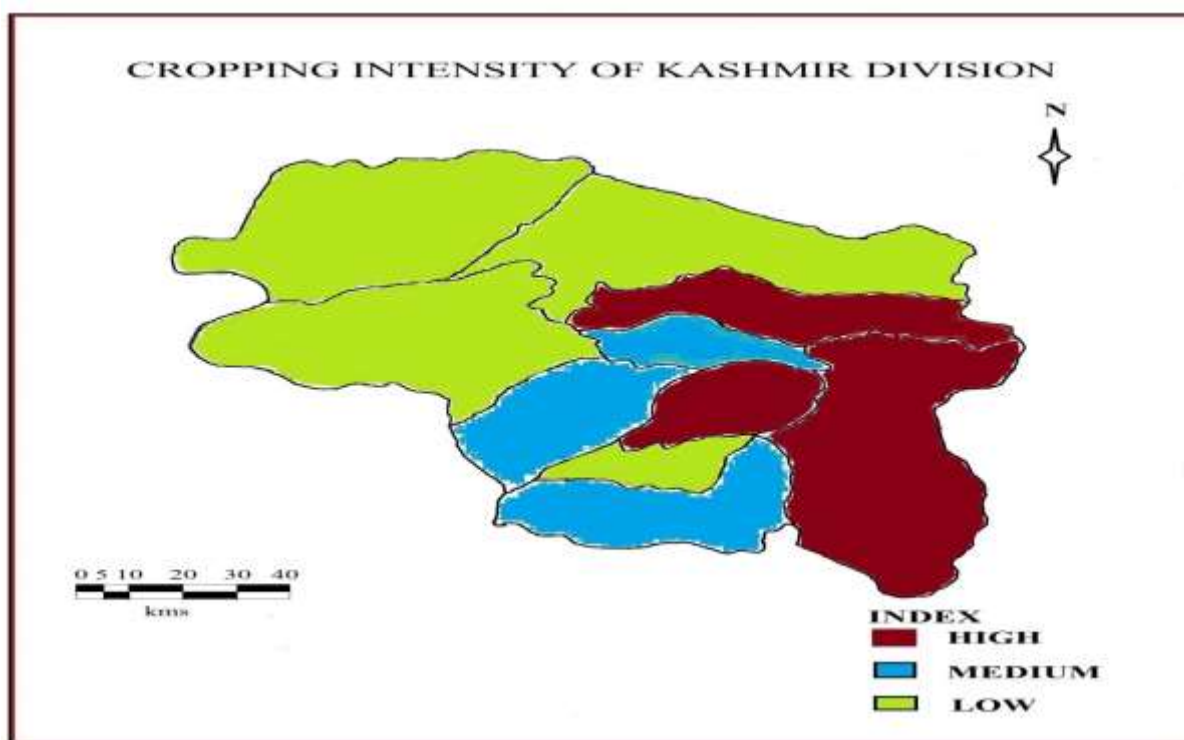
Low = <120

Table No. 3 Cropping intensity of Kashmir Division

S.No	Districts	Total Cropped Area	Net Sown Area	Cropping Intensity
1	Anantnag	58830	35423	166.07
2	Kulgam	40597	29283	138.63

3	Pulwama	55870	32660	171.06
4	Shopian	20177	18683	107.99
5	Srinagar	8199	5910	138.73
6	Ganderbal	19505	13634	143.06
7	Budgam	71407	58700	121.64
8	Baramulla	65678	64511	101.80
9	Bandipora	29022	25402	114.25
10	Kupwara	45718	45718	100.00

Source: digest of statistic



There is wide variation in cropping intensity among district due to rugged terrain and mountainous area which has direct influence on irrigation supply which in turn affects cropping intensity, from the above table it becomes clear that Anantnag, Pulwama and Ganderbal has high intensity of crops, which is due to levelled area where irrigation, fertilizer, market facility is easily available. Kulgam, Srinagar and Budgam are in medium category of cropping intensity reason behind is low land holding and marshy land in Budgam and Srinagar and in Kulgam most area is hilly. The low category includes Kupwara, Bandipora, Baramulla and Shopian, the reason of low cropping intensity is hilly and rugged terrains were irrigation is not feasible.

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