

KHARIF-2019 SURVEY OF GROUNDNUT CROP

Executive Summary

The groundnut crop plays an important role in the edible oilseed economy of India. Besides being a source of good quality cooking oil, the seeds of groundnut also provide expeller- and extraction-cakes which being very rich in protein, are used extensively as animal feed supplement. In India, though groundnut is cultivated in one or more seasons (kharif, rabi and summer) nearly 80% of annual acreage and production comes from kharif crop (June-October). With an objective of assessment of groundnut production from kharif-2019 crop, an extensive survey was undertaken in six major groundnut growing states during the peak harvesting period. Ten teams moved across the major groundnut growing regions and interviewed 3053 groundnut farmers in 46 districts across the six states. For the information of the stakeholders in the export trade, a brief presentation of the estimates was made at the Annual Trade Meet of the IOPEPC on 21 October 2019 at Deira, Dubai.

Kharif-2019 all India groundnut acreage was 39,31,700 hectares. Six states, Gujarat (15,52,200 ha; 39%), Andhra Pradesh (5,53,383 ha; 14%), Rajasthan (5,73,889 ha; 15%), Karnataka (3,70,564 ha; 9%), Maharashtra (1,87,500 ha; 5%), Madhya Pradesh (2,21,700 ha; 6%) jointly accounted for about **88%** of the national acreage. At the national level, there was an increase in acreage by 1.1% with respect to kharif-2018. The maximum increase was observed for Gujarat (5.8%) while maximum decrease was observed for Andhra Pradesh (-16.2%). Increase was also observed for Rajasthan (4.5%).

Most groundnut farmers (45 to 64%) owned farm land smaller than two hectares. At national level, the peak period of sowing was 4th week of June to 2nd week of July. Most farmers procured seed from the local vendors and some used their home-grown seed. The vendors quite often sell groundnut seeds that are a mixture of a few varieties under the guise of any popular authentic variety or assign a new name to their seed stocks. As most farmers relied on local seed vendors, they were not able to specify the identity (variety) of the seed they had used. Application of pesticides, for managing diseases and insects, was commonly practiced by the farmers of Gujarat and Rajasthan (90-95%). The proportion of farmers using pesticide, however, was relatively low in Maharashtra (88%), Karnataka (82%) and AP (77%).

Among the surveyed states, the highest yield of 2,485 kg/ha was estimated for Rajasthan, followed by 1,893 kg/ha for Gujarat, 1,414 kg/ha for Andhra Pradesh, 1,268 kg/ha for Karnataka, 1,034 kg/ha for Maharashtra and 1,025 kg/ha for Madhya Pradesh. The national average yield was estimated at 1,745 kg/ha. The combined production of these six states was estimated at 60,37,905 MT which accounted for about 88% of the estimated national production. With 29,38,315 MT, Gujarat contributed 43% of the national production followed by Rajasthan (14,26,114 MT; 21%), Andhra Pradesh (7,82,484; 11%), Karnataka (4,69,875 MT; 7%), Madhya Pradesh (2,27,243 MT; 3%) and Maharashtra (1,93,875; 3%) while the joint contribution of the remaining states was estimated at 8,24,660 MT i.e. 12%. Thus, the all-India kharif 2019 production was estimated at 68,62,565 MT.

In kharif 2019, the rainfall was rather irregular and large excess in major groundnut growing regions. Due to acreage increase by 1.1% and yield increase in

most of the states, kharif 2019 production (68.62 lakh MT) was estimated to be higher than that of kharif-2018 season (51.95 lakh MT).

INTRODUCTION

Groundnut (*Arachis hypogaea* L.), is a leguminous crop plant which is widely cultivated in the tropics and subtropics between 40°N and 40°S latitudes. Groundnut is not only an important oilseed crop of India but also an important agricultural export commodity.

With annual all-season coverage of about 70 lakh hectares, globally India ranks first in groundnut acreage and with an output of approx. 80-85 lakh MT (in shell groundnuts), second in production. Although in various states of India groundnut is cultivated in one or more (kharif, rabi and summer) seasons, nearly 80% of acreage and production comes from kharif crop (June-October).

For estimating groundnut production from kharif-2019 crop season, a well-planned and extensive crop survey was undertaken in major groundnut growing states of India with a view to providing estimates as early as third week of October 2019.

IMPORTANCE AND OBJECTIVES OF THE CROP SURVEY

The bulk arrival of kharif groundnut crop in the marketing yards begins usually in the third week of October and continues up to the second week of November. Being by and large a rain dependent crop, the production of kharif groundnut in various regions of India varies considerably from year to year.

The second advance estimate, the earliest realistic crop estimates are announced by Government of India in January/February, i.e. three-four months after the bulk harvest of the kharif crops. If the estimates for kharif-2019 groundnut crop are made available close on the heels of the harvesting season (first fortnight of November), it would be very helpful in making right decisions about procurement, processing and export.

Therefore, with a view to fulfilling the crucial need of the stakeholders, a survey was undertaken in six major groundnut growing states of India viz. Rajasthan, Gujarat, Maharashtra, Karnataka, Madhya Pradesh and Andhra Pradesh. A brief presentation of the estimates was made at the Annual Trade Meet of the IOPEPC on 21 October 2019 at Deira, Dubai. The details of the methodology adopted for survey and the estimates are described in this report.

METHODOLOGY

District wise and state wise groundnut acreage

The data on weekly progress of state-wise coverage of kharif 2019 groundnut crop was obtained from the website of the Directorate of Economics and Statistics, Government of India. Information on district wise final acreage was obtained from the state departments of agriculture concerned either through correspondence or by downloading the information from the website of the respective state department.

Selection of states and districts

The states were first arranged in decreasing order of their groundnut acreages and then only those states were identified as would jointly account for at least for 80% of the national acreage. Similarly, within a state, the districts were first arranged in decreasing order of their acreages and then as many districts as would jointly account at least 75% of the acreage of the respective states were selected.

Determination of number of farmers to be interviewed

In each state, efforts were made to interview as many farmers as would be equal to 0.1 per cent of the figures for the kharif 2019 groundnut acreage of that state (e.g. for a state having an acreage of 10,000 hectares, at least 10 farmers were to be interviewed.)

Composition of the survey teams

Each survey team comprised two well-trained agri-experts and one member for assistance. The teams were required to collect data through on-site interview of farmers at their fields or villages. A pre-designed structured questionnaire (Annexure 1) was used for recording the data. Selection of the representative villages/farmers was done on a random basis.

GPS tagging of movement of survey teams

All survey teams were equipped with GPS (Global Positioning System). Survey teams tagged the interview points. The GPS tagged points superimposed on the respective state/district maps get a clear picture of the route followed by the interview teams.

Rainfall data

The month wise (June, July, August and September) data for rainfall along with its departure from the normal was downloaded from the website of IMD (Indian Meteorology Department). This data pertained to various defined meteorological sub-divisions of Indian states and UT.

Scheduling of survey

The survey was undertaken during the peak harvesting period of kharif groundnut crop i.e. during the last week of September to the second week of October to have maximum number of farmers interviewed in their respective fields when the crop had been just harvested, being harvested or was about to be harvested.

Estimating average yields (kg/ha) and production (metric tonne) of the districts and the states:

The figures for the average groundnut (in-shell) yield of each district were estimated as the mathematical average of the figures of the expected/realized yield reported by the farmers of the respective districts. The yield was expressed as 'kg/ha'. For each district, the production of groundnut was estimated by multiplying the estimated average yield of the district with the acreage (in hectares) of that district. The production was expressed as 'MT' (metric tonnes).

The anticipated production of non-surveyed districts was calculated by multiplying the figures of the collective acreages of non-surveyed districts with the weighted average yield of the surveyed districts in the states concerned. The total anticipated production of a state was calculated by summing up the figures for anticipated production in the surveyed and non-surveyed districts.

Estimating average yield of non-surveyed states

The average yield of the non-surveyed states was assumed to be equal to that of the weighted average yield of the surveyed states. The production from each of the non-surveyed state was calculated by using the figures of the weighted average yield of the states and the acreage of state concerned.

The all India production was calculated by summing up the anticipated production of the surveyed states and the non-surveyed states.

RESULTS

Kharif-2019 groundnut crop acreage

According to the Directorate of Economics and Statistics, GOI, all India kharif 2019 the groundnut acreage was 39,31,700 hectares. The states which jointly accounted for about 88% of the national acreage were Andhra Pradesh, Maharashtra, Rajasthan, Gujarat, Madhya Pradesh and Karnataka. The state wise breakup of acreages in these six states are given in table 1.

Table 1. Kharif-2019 groundnut acreage (states arranged in decreasing order of acreage)

	State	Acreage (ha)	Share (%)
1	Gujarat	1552200	39
2	Rajasthan	573889	15
3	Andhra Pradesh	553383	14
4	Karnataka	370564	9
5	Madhya Pradesh	221700	6
6	Maharashtra	187500	5
7	Others	472464	12
8	All India	3931700	100

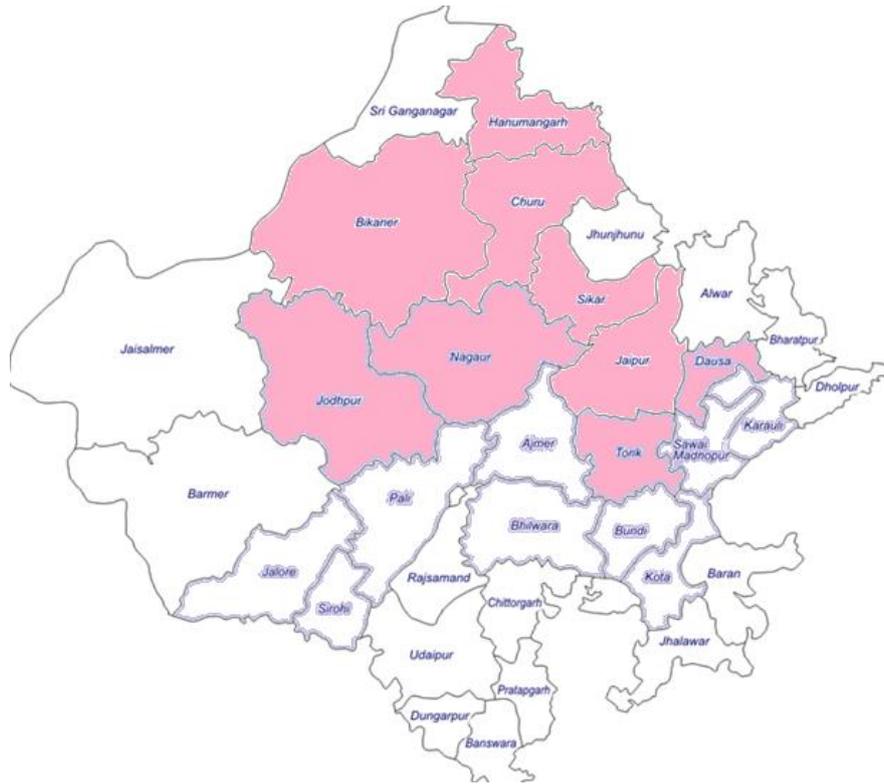
A total of 46 districts across the six identified states were covered by survey. In all ten teams were deployed to interview as many as 3053 groundnut farmers. State wise number of districts covered, and the farmers interviewed along with the dates of start and completion of survey are shown in table 2.

Table 2: State wise particulars of kharif 2019 groundnut crop survey

State	Acreage (ha)	Number			Period	
		Districts	Teams	Farmers	From	To
Gujarat	1552200	10	3	1200	23 Sep	9 Oct
Rajasthan	573889	9	2	518	23 Sep	7 Oct
Andhra Pradesh	553383	5	2	600	23 Sep	8 Oct

Karnataka	370564	11	1	400	23 Sep	8 Oct
Madhya Pradesh	221700	4	1	120	30 Sep	9 Oct
Maharashtra	187500	7	1	215	23 Sep	6 oct
Others	472464	-	-	-	-	-
Total	3931700	46	10	3053	23 Sep	9 Oct

The district boundary maps of six states showing the surveyed districts (color shaded) and also the satellite map showing GPS points visited by the survey teams are shown in figures 1a to 1f.



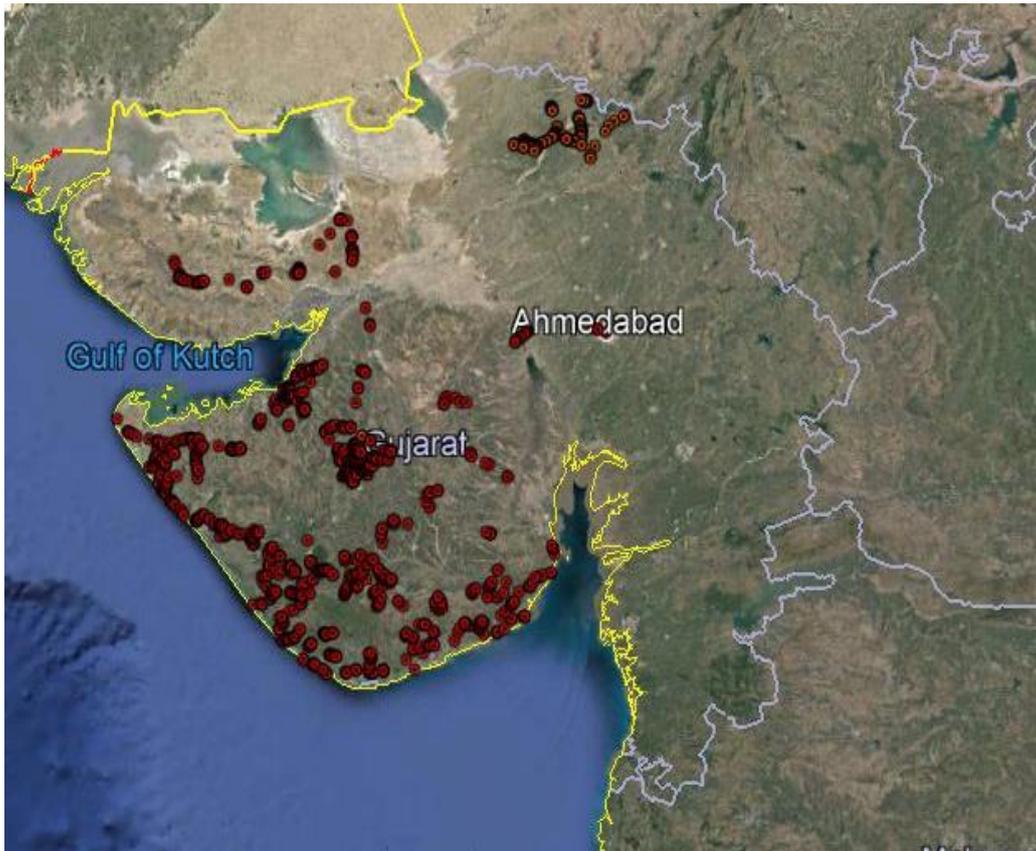
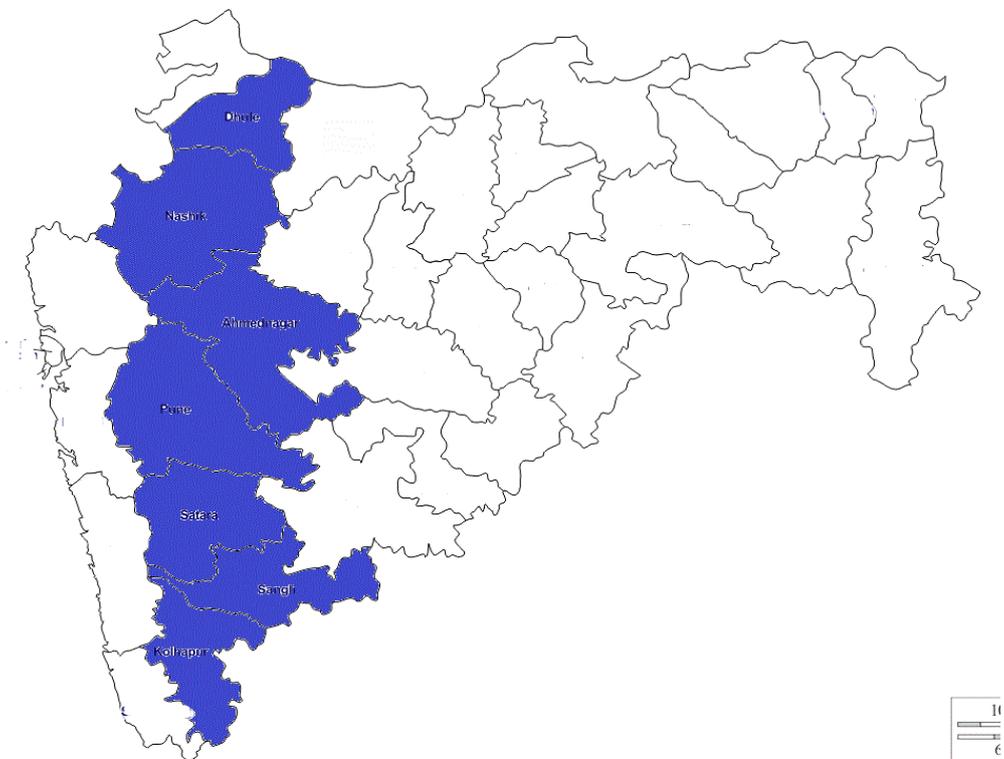


Figure 1b: Surveyed districts (colour shaded) and GPS points in Gujarat



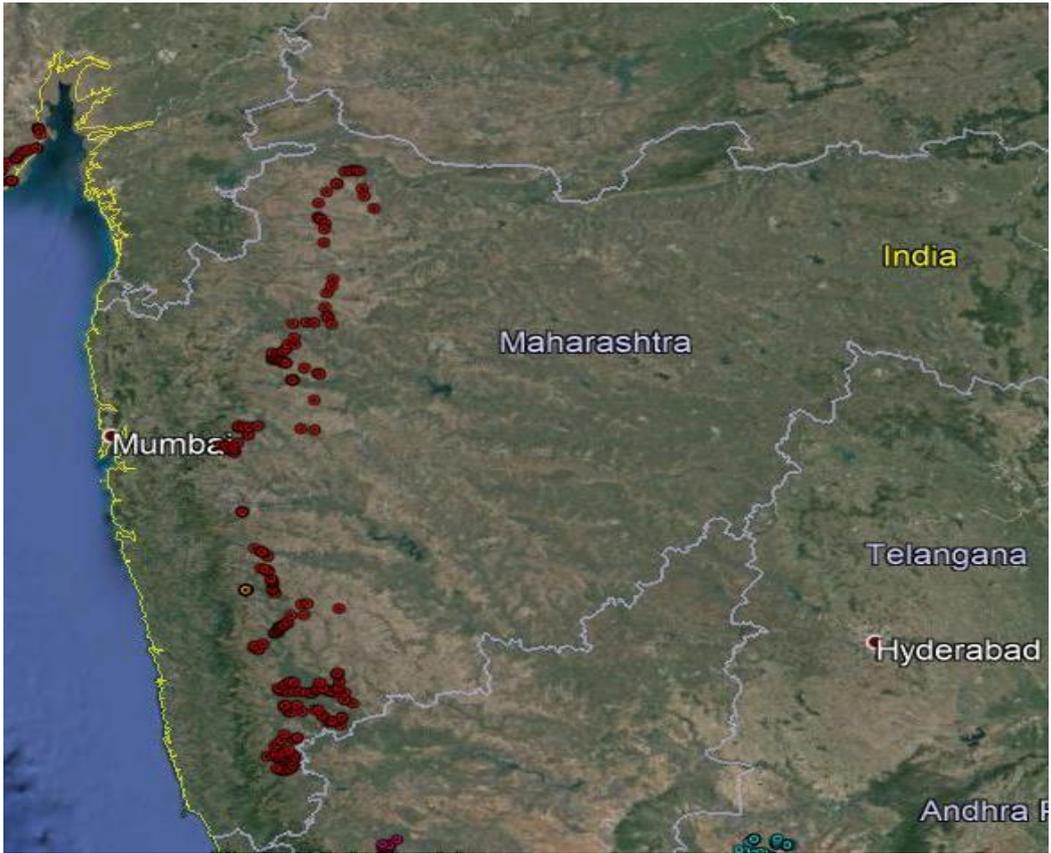


Figure 1c: Surveyed districts (colour shaded) and GPS points in Maharashtra

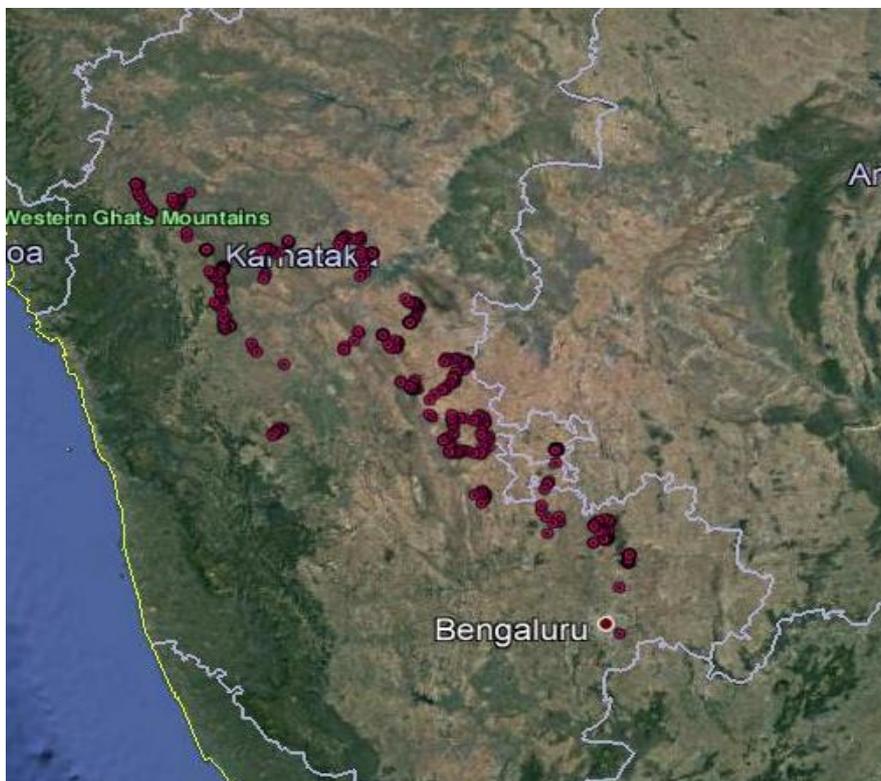
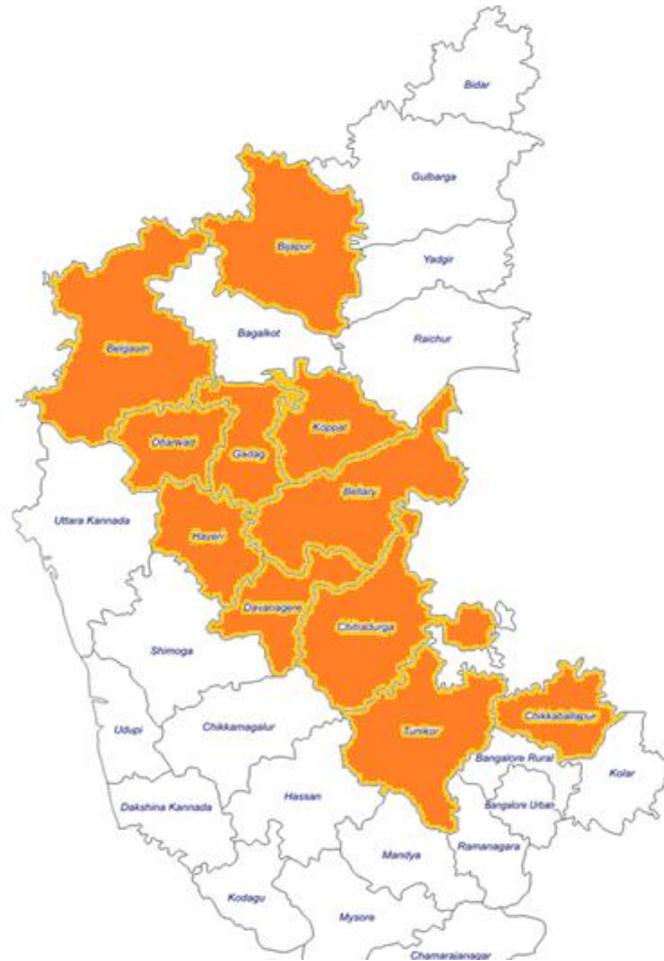


Figure 1d: Surveyed districts (colour shaded) and GPS points in Karnataka

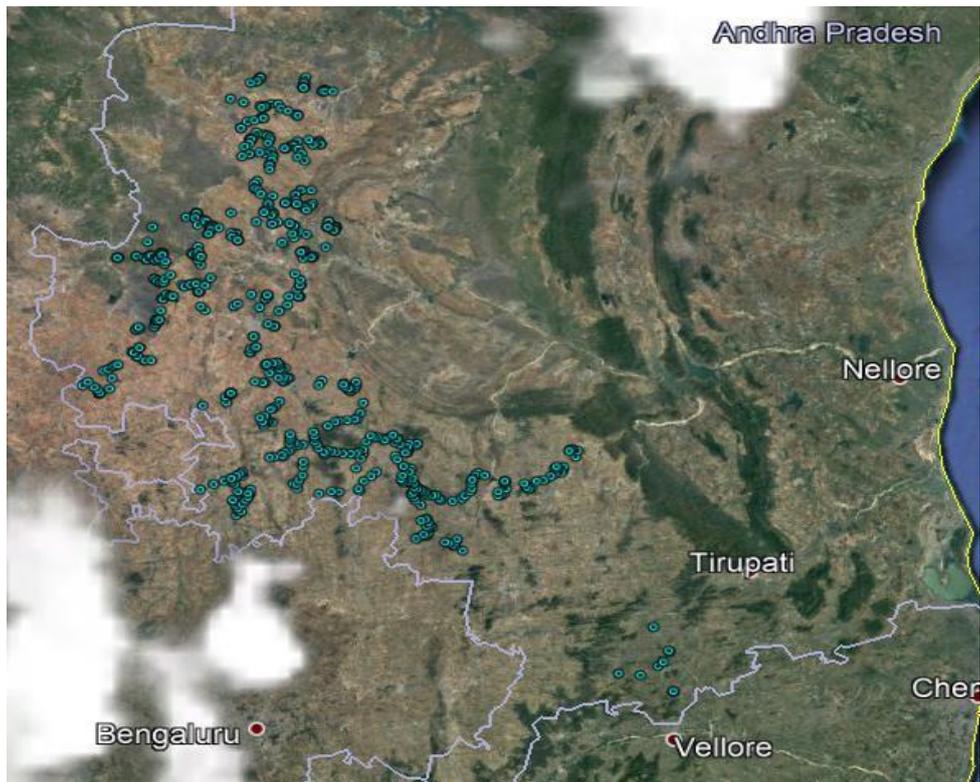
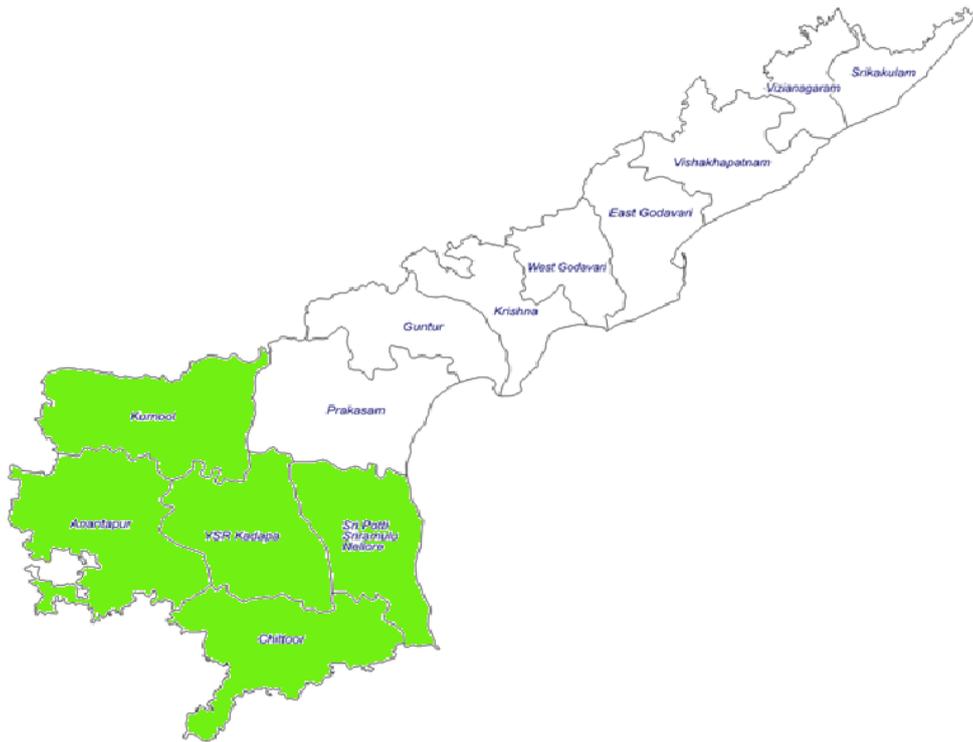


Figure 1e: Surveyed districts (colour shaded) and GPS points in Andhra Pradesh



Figure 1f: Surveyed districts (colour shaded) and GPS points in Madhya Pradesh

Relative abundance of different sizes of land holdings:

Based on size of the farm holdings owned, the groundnut farmers were grouped into six categories viz., 2 ha or less, 2 to 4 ha, 4 to 8 ha, 8 to 12 ha, 12-16 ha and >16 ha. The relative abundance of farmers belonging to each of these categories is shown in figure 2.

In all six states, the largest extent (half to two-thirds, 45% to 64%) of farmers belonged to 2 ha or less category. One-fourth (25%) to one-third (38%) to 2 to 4 ha category, a small proportion (7-18%) to 4 to 8 ha category while all those belonging to >8 ha categories formed the smallest (1 to 10%) group even on a combined basis.

Thus, it was concluded that in India groundnut crop is cultivated mostly by the farmers having farm land smaller than two hectares.

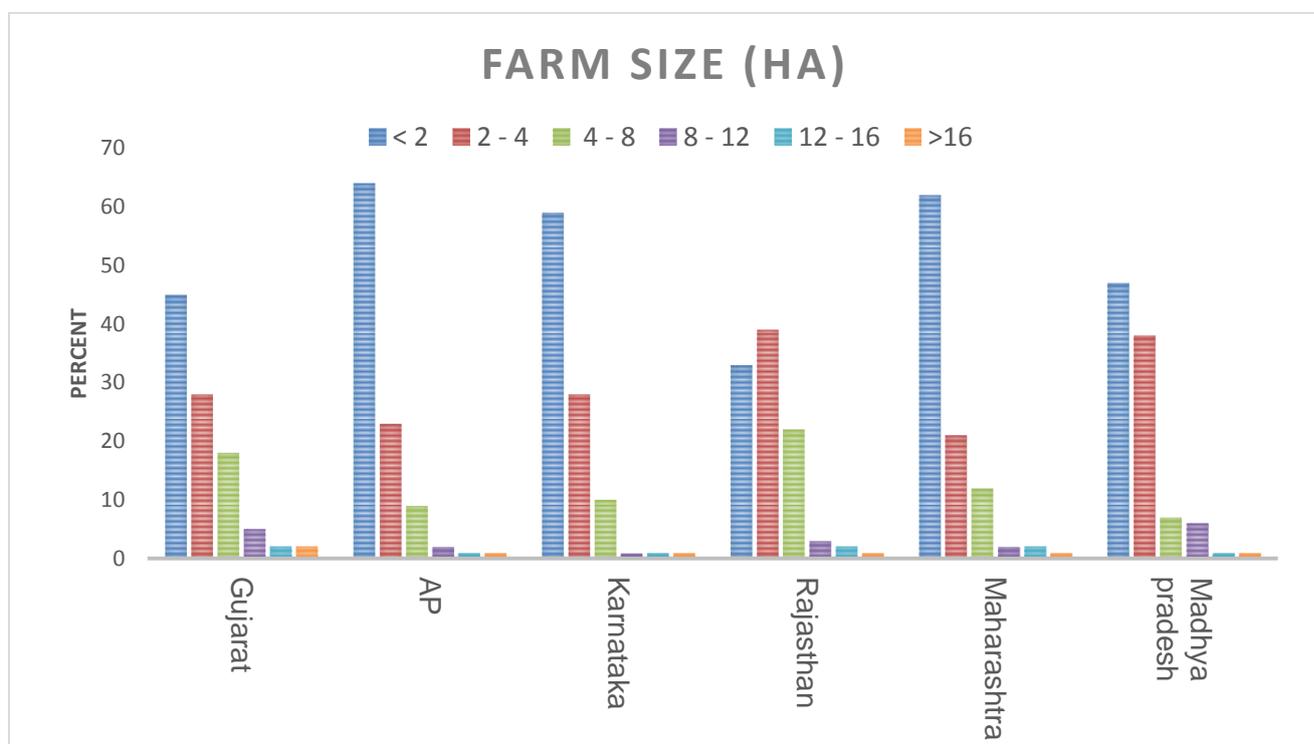


Figure 2: Farm size distribution in the surveyed states (figures have been rounded to the nearest whole numbers)

Period of sowing:

In the surveyed states, on a combined basis the sowing operations began in the first week of June and were concluded in the second week of August. The weeks during which sowing of more than 10% of the final acreage of the state was completed are indicated in table 3.

The peak period of sowing lasted for about one month in all the states except for Rajasthan and Andhra Pradesh where it was protracted for over 40 days. However, the bulk of sowing began earliest in Rajasthan and Gujarat i.e. in the first week of June. In Maharashtra the bulk of the sowing began in the third week of June while in Andhra Pradesh sowing began in first week on June and again bulk sowing

done in fourth week of June. In Karnataka bulk sowing began in second week of June And in Madhya Pradesh it was started in first week of July.

Maximum extent of sowing was done during 2 June to 15 June in Gujarat (41%); and during 23 Jun to 6 July in Rajasthan (43%) and in Maharashtra (59%); and during 9 Jun to 22 Jun in Karnataka (45%); and during 30 June to 13 July in Andhra Pradesh (42%); While in Madhya Pradesh maximum sowing was done during 30 Jun to 13 July (58%). Thus, at national level, the period of 9 June to 13 July appeared to be the period of maximum coverage.

Table 3: Peak period of sowing of groundnut in the surveyed states (% of acreage)

Period	Gujarat	Rajasthan	Maharashtra	Andhra Pradesh	Karnataka	Madhya Pradesh
2 Jun – 8 Jun	18	29	#	17	#	#
9 Jun – 15 Jun	23	10	#	#	29	#
16 Jun – 22 Jun	10	#	10	#	16	#
23 Jun – 29 Jun	#	13	15	12	11	#
30 Jun – 6 Jul	32	30	44	24	17	27
7 Jul – 13 Jul	#	11	11	18	#	31
14 Jul – 20 Jul	#	#	#	10	#	21
21 Jul – 27 Jul	#	#	#	10	#	10
28 Jul – 3 Aug	#	#	#	#	#	#
Total coverage in peak period	83	93	80	74	73	89

The sign '#' values less than 10.

Scenario of groundnut crop varieties:

A vast majority of farmers used either their home-grown seed or procured the same from the local vendors. The vendors sell the seeds which are quite often a mixture of varieties. This seed material is sold under the guise of any popular authentic variety or any other assigned brand name. As most farmers relied on local seed vendors, they were not able to ascertain the identity of the seed material used

by them for raising their crops. However, based on information furnished by the farmers, the state wise list of varieties sown is described below.

In Gujarat, the list of varieties included Ankur, Gujarat, Bold, Desi, G9 G-10, 20, 22, 29, 30, 31, G-33, 37, 38, 39, 41, 44, 45 G-66, Gujarat II, Nigam, Sagadi, western 44, Samrudhi. The varieties G-20, G-24, G-45 were the most favourite ones.

In Andhra Pradesh, the varieties used were Dagal, 44, K, K-6, Nati, Narayana, TAG-24, Teja and Tosfu. The variety among all above K and K6 were the most popular ones and also 70 % of the farmer used variety K-6

Bold, Challakore, Gujarat, G10, G20, G22, G24, G37, G39, G40, G41, G45, G64, G66, G99, GIB14, Giri, GL, GL24 GTB, JL, JL20, K6, KF6, PL, KL, Kopargaon-1, Mardur, Rohini, Nati, Shigon and TMU are the varieties used by the farmers of Karnataka.

In Rajasthan, the list of varieties included Akshay, Avani, Awani 20, G10, 20, Bombay Super, Desi, GG 20, Girnar, King111, Lodha, Pariksen, Rajdhar, Shankar, Shriram, Sonapari, Srinath, Swastik, Swati 10, TG37, USA37 and western.

Varieties 114, Chira, Desi, Dhanlaxmi, DNP, GL24, Gungari, HB11, JAL24, JL24, Kalabala, Phulepragati, Rashi, SB11, TAG24, TAZA and Western were used by the farmers of Maharashtra.

In Madhya Pradesh varieties used were Batalian, Betal, Desi, Jhumkha, Gujarat 20, 22, Jalgoan, Indori and Kanpuri

Use of pesticides

For managing diseases and insect pests, application of pesticides was widely practiced by the farmers in all the Six states.

In Gujarat and Rajasthan, most of the farmers (85%) applied pesticides for their crop husbandry. The extent of farmers using pesticide although quite low in Maharashtra (84%), Karnataka (80%), Madhya Pradesh (74%) and AP (67%) compared to Gujarat and Rajasthan.

Change in acreage: kharif-2018 vis-à-vis Kharif 2019:

At the national level, with respect to Kharif-2018, in Kharif 2019 there was an Increase in acreage by 1.1 %.

The all-India kharif 2019 acreage was 39,31,700 hectares. Rajasthan, Gujarat, Maharashtra, Karnataka, Madhya Pradesh and Andhra Pradesh jointly accounted for 34,59,236 hectares i.e.88.0% of national acreage. The kharif 2019 crop acreages of the surveyed states, their shares in the national acreage and change in acreage with respect to kharif 2018 are given in table 4.

Table 4: Change in groundnut acreage from kharif-2018 to kharif-2019

STATE	Kharif 2018		Kharif 2019		
	Acreage (ha)	Share (%)	Acreage (ha)	Share (%)	Change (%)
Gujarat	1467600	38	1552200	39	5.8
Rajasthan	549052	14	573889	15	4.5
Andhra Pradesh	660000	17	553383	14	-16.2
Karnataka	382940	10	370564	9	-3.2
Madhya Pradesh	234900	6	221700	6	-5.6
Maharashtra	195594	5	187500	5	-4.1
Sub-total	3490086	90	3459236	88	-0.9
Others	399914	10	472464	12	18.1
All India	3890000	100	3931700	100	1.1

Source: Directorate of Economics and Statistics, Govt. of India

Compared to kharif 2018, there was a decrease in acreage in all the states covered under survey except Gujarat and Rajasthan. The maximum decrease was observed in Andhra Pradesh (-16.2%) and in Madhya Pradesh (-5.6). While it was negligible in Karnataka (-3.2%). The increase in Gujarat was (5.8%) and in Rajasthan was minimal (4.5). On all-India basis, however, there was a minimal Increase by 1.1%.

Based on district wise acreages in the Six states, 46 districts were identified for survey in each state. The names of the districts and their respective share (%) in the state acreage are given in tables 5a to 5f.

Estimated production

The data generated on yield by the survey and the data on acreage collected from the state/central government agencies were used for estimating production of groundnut in each of the districts surveyed and accordingly the production figures for each of the Six states were estimated. The shares of the estimated production of each district in the total estimated production of the respective state are also indicated in tables 5a to 5f.

Rajasthan

In nine districts of Rajasthan, the highest yield (2,950 kg/ha) was estimated for Bikaner and the lowest (1,348 kg/ha) for Jaipur. The highest production was estimated for Bikaner which accounted for the largest acreage too as well as 38% of total production of Rajasthan. The total production of in shell groundnut for Rajasthan was estimated at 14,26,114 MT with an average yield of 2,485 kg/ha (table 5a).

Table 5a: Estimates of production of kharif-2019 groundnut (in shell) in Rajasthan

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Bikaner	183074	32	210	2950	540068	38
Jodhpur	115000	20	150	2378	273470	19
Churu	41040	7	46	2511	103051	7
Jaipur	31899	6	32	1348	43000	3
Hanumangarh	11060	2	20	1961	21689	2
Sikar	21123	4	25	1450	30628	2
Nagaur	19096	3	15	2556	48809	3
Tonk	12660	2	10	1706	21598	2
Dausa	20493	4	10	2419	49573	3
Subtotal	455445	79	518	-	1131887	79
Others	118444	21	-	-	294228	21
Total	573889	100	518	2485	1426114	100

Gujarat

As shown in table 5b, in Gujarat all ten districts were surveyed, the highest yield was estimated for Jamnagar (2806 kg/ha) and the lowest for Porbandar (886 kg/ha). The highest production was estimated for Rajkot which accounted for the second largest acreage in the state. The total production for Gujarat was estimated at 29,38,315 MT with an average yield of 1,893 kg/ha (table 5b).

Maharashtra

In seven districts of Maharashtra, the highest yield (1,370 kg/ha) was estimated in Ahmednagar followed by Nashik (1,340 kg/ha). As per estimates, the lowest (820 kg/ha) was in Kolhapur. The highest production was estimated for Satara which was followed by Nashik. The total production in Maharashtra was estimated at 1,93,875 MT with an average yield of 1,034 kg/ha (table 5c)

Table 5b: Estimates of production of kharif-2019 groundnut (in shell) in Gujarat

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Rajkot	233900	15	225	2216	518322	18
Junagadh	234600	15	200	1851	434245	15
Dwarka	197200	13	150	1020	201144	7
Jamnagar	148000	10	150	2806	415288	14
Banaskantha	113800	7	100	1925	219065	7
Amreli	112900	7	100	2716	306636	10
Gir somnath	103300	7	100	2246	232012	8
Bhavnagar	95600	6	80	1020	97512	3
Porbandar	83100	5	70	886	73627	3
Kutch	27600	2	25	2111	58264	2
Subtotal	1350000	87	1200	-	2556114	87
Others	202200	13	-	-	382200	13
Total	1552200	100	1200	1893	2938315	100

Table 5c: Estimates of production of kharif-2019 groundnut (in shell) in Maharashtra

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Kolhapur	42362	23	60	820	34737	18
Satara	33286	18	40	1176	39144	20
Nashik	26614	14	35	1340	35663	18
Sangli	31598	17	40	854	26985	14
Pune	13290	7	15	1000	13290	7
Dhule	11355	6	20	1073	12184	6
Ahmednagar	5502	3	5	1370	7538	4
Subtotal	164007	87	215	-	169540	87
Others	23493	13	-	-	24335	13
Total	187500	100	215	1034	193875	100

Karnataka

In Karnataka, eleven districts were covered (table 5d). The highest yield (2409 kg/ha) was estimated for Chikaballapur and the lowest (900 kg/ha) for Chitradurga. The highest production was estimated for Chitradurga which was followed by Bellary and Tumakuru. The total production was estimated at 4,69,875 MT with an average yield of 1,268 kg/ha (table 5d).

Table 5d: Estimates of production of kharif-2019 groundnut (in shell) in Karnataka

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Chitradurga	73198	20	75	900	65878	14
Bellary	53676	14	60	1200	64411	14
Tumakuru	54211	15	65	1180	63969	14
Gadag	44559	12	55	1150	51243	11
Dharwad	25875	7	25	1394	36070	8
Belgaum	22910	6	25	1521	34846	7
Haveri	19085	5	25	1297	24753	5
Davangere	13482	4	25	1500	20223	4
Chikaballapur	23060	6	25	2409	55552	12
Koppal	16230	4	20	1359	22057	5
Subtotal	346286	93	400	-	439001	93
Others	24278	7	-	-	30784	7
Total	370564	100	400	1268	469875	100

Andhra Pradesh

In five districts of Andhra Pradesh, the highest yield (1,804 kg/ha) was estimated for Kurnool and the lowest (1,212 kg/ha) for YSR Kadapa. The highest production was estimated for Anantapur which also accounted for the largest acreage (65%). The total production of in-shell groundnut was estimated at 7,82,484 MT with an average yield of 1,414 kg/ha (table 5e)

Table 5e: Estimates of production of kharif-2019 groundnut (in shell) in Andhra Pradesh

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Anantapur	357455	65	400	1375	491501	63
Chittoor	95256	17	100	1237	117832	15
Kurnool	80107	14	80	1804	144513	18
YSR Kadapa	8122	1	10	1212	9844	1
Nellore	5607	1	10	1633	9156	1
Subtotal	546547	99	600	-	772845	99
Others	6836	1	-	-	9638	1
Total	553383	100	600	1414	782484	100

Madhya Pradesh

In four districts of Madhya Pradesh, the highest yield (1,215 kg/ha) was estimated for Tikamgarh and the lowest (952 kg/ha) for Shivpuri and Alirajpur. The highest production was estimated for Shivpuri which also accounted for the largest acreage (33%). The total production of in-shell groundnut was estimated at 2,27,243 MT with an average yield of 1,025 kg/ha (table 5e)

Table 5f: Estimates of production of kharif-2019 groundnut (in shell) in Madhya Pradesh

District	Acreage (ha)	Share (%)	Farmers (no.)	Yield (kg/ha)	Production (MT)	Share (%)
Shivpuri	72400	33	75	952	68925	30
Tikamgarh	23900	11	15	1215	29039	13
Chattarpur	21000	9	20	1114	23394	10
Alirajpur	14900	7	10	952	14185	6
Subtotal	132200	60	120	-	135542	60
Others	89500	40	-	-	91700	40
Total	221700	100	120	1025	227243	100

All India Production

The figures for estimated state wise production and estimated all India production are given in table 6. With an estimated production of 29,38,315 MT, Gujarat had a share of 43% in the national production and this was followed by Rajasthan (14,26,114 MT) with a share of 21%, Andhra Pradesh (7,82,484) with a share of 11%, Karnataka (4,69,875 MT) with a share of 7%, Maharashtra (1,93,875 MT) with a share of 3% and Madhya Pradesh(2,27,243) with a share of 3%. The Six states collectively accounted for about 88% of the national production. Among the Six states, the highest yield of 2,485 kg/ha was estimated for Rajasthan which was followed by 1,893 kg/ha for Gujarat, 1,414 kg/ha for Andhra Pradesh, 1,268 kg/ha for Karnataka 1,025 kg/ha for Madhya Pradesh and 1,034 kg/ha for Maharashtra. The national average yield was estimated at 1,745 kg/ha (Table 6)

Table 6: All India production of in-shell groundnut

District	Acreage (ha)	Share (%)	Yield kg/ha	Production (MT)	Share (%)
Andhra Pradesh	553383	14	1414	782484	11
Gujarat	1552200	39	1893	2938315	43
Karnataka	370564	9	1268	469875	7
Maharashtra	187500	5	1034	193875	3
Madhya Pradesh	221700	6	1025	227243	3
Rajasthan	573889	15	2485	1426114	21
Subtotal	3459236	88	-	6037905	88
Others	472464	12	-	824660	12
Total	3931700	100	1745	6862565	100

Seasonal rainfall

The Meteorological Department of India has divided the states into two or more meteorological sub-divisions. Accordingly, from the point of view of survey the important subdivisions are West Rajasthan, East Rajasthan, Saurashtra, Gujarat region, Madhya Maharashtra, North interior Karnataka, South Interior Karnataka and Rayalseema.

The graphical representation of rainfall pattern in the meteorological sub divisions of the major groundnut growing regions is given in figure 3.

MONTH	SAURASHTRA	GUJARAT REGION		WEST MP	EAST MP		WEST RAJASTHAN	EAST RAJASTHAN		NI KARNATAKA	SI KARNATAK		RAYALSEEMA (AP)		MADHYA MAHARASHTRA
JUNE	-34	-18		-26	-58		-33	8		1	-28		-23		-21
JULY	-33	-22		31	-1		-5	23		6	-22		-31		64
AUGUST	118	75		64	27		59	73		71	102		2		98
SEPTEMBER	343	100		168	124		40	104		13	44		66		65

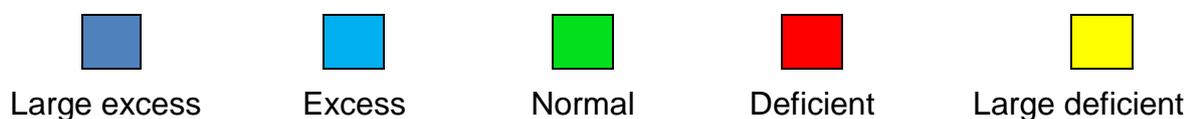


Figure 3: Graphical representation or rainfall pattern in the meteorological subdivisions of the major groundnut growing states of India

With respect to long time average, the descriptors used by the IMD to categorise the extent of rainfall in the subdivisions are: Normal- minus 19 per cent to plus 19 per cent; Deficient- minus 20 per cent to minus 59 per cent; Large deficient- minus 60 per cent or more; Excess- plus 20 per cent to plus 59 percent; Large excess- plus 60% or more; and No rains- 0 per cent.

Thus, in year 2019, the onset of monsoon was highly deficient (delayed) in Saurashtra while it was Normal in Gujarat region- this state accounted for 39.0% of the national acreage. Also, in June month, deficient rainfall was noted in MP, West Rajasthan, SI Karnataka and Rayalseema (AP). In all surveyed state, excess rainfall prevailed in August which was followed by flood like situation in later stage of crops in most of the surveyed areas.

The estimated production for kharif-2019 groundnut crop (68.62 lakh MT) is nearly 30 per cent higher than that estimated for kahrif-2018 (51.95 lakh MT). This increase in production can be attributed to an overall better rainfall than that was there in the previous year. In 2019, the excessive rains coinciding with harvest and post-harvest drying periods, however, might have adversely affected quality of the produce at certain places.

Disclaimer

SGS is responsible for the process of gathering, processing and analysing the information supplied by the farmers in India from structured face-to-face interviews. All information contained herein reflects the opinions and forecasts of the interviewed farmers at the time of survey.

Annexure 1



Screener Id: _____

Kharif Crop Survey : Groundnut - 2019

Farmer Name: GPS Location :
 Telephone No: AADHAR NO :
 Village : Interview Date:
 Block / Tehsil : Team No :
 District: Team Leader :
 State: Team Member:

Good Morning, my name is..... and I work for SGS India. At this moment we are studying Groundnut cultivation practices being adopted in the Country. Can I have your attention for some questions?

SECTION A (IDENTIFICATION/ SCREENING)

A.1.

- | | |
|---|---|
| I. Are you a farmer or responsible for farming in this region?
a. Yes (go to next section)
b. No (Stop the interview) | II. Have you grown groundnut in last 2/3 years in your fields?
a. Yes (go to next section)
b. No (Stop the interview) |
|---|---|

SECTION B (FARM MANAGEMENT)

B.1. Total Land Size of the Farmer Area Unit (Conversion 1 Acre=(Local Unit)

B.2. Cropping System

Single Cropping		}	% of farmer's total land (must sum up to 100%)
Mixed Cropping			
inter Cropping			

SECTION C (HISTORICAL CROP SURFACE)

C. What is the Groundnut acreage this year and previous year on the field and what is the production

Crop	Type Of Groundnut (variety)	Area (Unit.....)		Production (Unit.....)	
		2018	2019	2018	2019
Groundnut					

*Area Unit = Bigha,Acre, Guntha, Biswa Production Unit : Kg, Quintal, mann, Bags,MT)

SECTION D (SOWING, HARVESTING)

D.1. When have you sowed, harvested? (For the 2019 crop the farmer shall estimate harvesting)

Crop	Action	Crop 2018 (Week/ Month)	Crop 2019 (Week/ Month)
G.Nut	A. Sowing Time		
G.Nut	B. Variety Sown		
G.Nut	C. Expected Harvesting Time		

D.2a What is sowing time for current crop(2019)?

Early	Timely	Late	If not Timely, Reason for the same

D.2b Method of sowing: Broadcasting Line Sowing

D.3. Which seed variety is used? (Interviewer to probe for specific variety name.)

.....

.....

SECTION E (USE OF TECHNOLOGY)

E.1. SEED SOURCE

Action	% of Bought/Own seed For Crop 2018		% of Bought/Own seed For Crop 2019	
	Brought	Owned	Brought	Owned
Seed Utilization				

Note: For each crop, bought + own should totalize 100%

E.2. what is seed source/ fertilizers/chemicals to use: (Please tick more than one option, if answered)

- a. Self
- b. Neighbour/ Fellow Farmers
- c. Seller/ Retailer
- d. Price/ Cost of inputs
- e. Others (Specify)

E.3. Irrigation/ Pesticides

E.3. Action	E.3.A. Crop 2018	E.3.B. Crop 2019
A. Type / Source of Irrigation(Flood / DRIP/Sprinkler)		
B. Source of Irrigation (Open well, Bore-well, Pond, Canal/river, Others (specify)		
C. Rainfall (Poor, Normal, Excess, Large exce		

SECTION F (CROP CONDITION & WEED MANAGEMENT)

F.1. Please specify the following:

Parameters	Year		If Bad, Reason 2018	If Bad, Reason 2019
	2018	2019		
Crop Condition				
Weather Condition				

Please Select Bad, Normal, Good.

Parameters	Severity (L/M/H)	Stage of crop (V/F/PF/H)	Name	Management (No/Yes)
Disease attack				
Pest Attack				

Please Select Low, Normal, High. V=Vegetative, F=Flowering, PF=pod filling,H=Harvest

F.1. Weed Management Chemical Manual Mixed

F.2. Details about chemicals/fertilizers/pesticides applied

Use of Chemicals in 2019	YES/NO	Name	Dose (If possible)
Organic manure applied or note			
Name of chemicals/pesticides			
Name of chemical fertilizer used (DAP, Urea, SSP, MOP, Lime,			

* Take photograph if possible

SECTION G (PRICE INFORMATION)

G.2. Produce Utilization

Percentage of the produce Used for Consumption % / Value

Percentage of the produce Sell in the market % / Value

Price expectation for current crops _____

G.3. D- What facility / benefit /Help you expect from government and/or any other government bodies to continue groundnut cultivation on your field?.....

G.4. Where you sell your produce?

Village Grain Market
At farm directly to Trader/broker

District Grain Market

SECTION H (REMARKS)

H To be answered by Interviewer

H.1. Quality of information from the farmer (encircle the rank you feel most appropriate)

Least Satisfied

Most Satisfied

.....
0 1 3 4 5 6 7 9

H.2. General Remarks / Opinion /observations of Farmers.

.....
.....

H.3. General comment of the surveyor:

.....
.....
.....

Team Leader Name:

Signature :