Policy Report

Constraints in GROUNDNUT Production

District Mainpuri (U.P.)

SURVEY REPORT

Directorate of Research

Chandra Shekhar Azad University of Agriculture & Technology

Kanpur

Policy Report

on

Constraints in

Groundnut Production

District - Mainpuri (U.P.)

Directorate of Research

Chandra Shekhar Azad University of Agriculture & Technology

Kanpur

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Foreword

I feel immense pleasure in presenting the study report on **"Constraints in Groundnut production in district Mainpuri" prepared** by Dr H.G. Prakash and his associates Dr M.C. Verma and Dr H.C. Singh. The groundnut (*Arachis hypogaea* L.) is grown on a large scale in almost all the tropical and sub-tropical countries of the world. Production of groundnut has grown almost double in last decade. The major producing states of groundnut are Gujarat (26.34%), Andhra Pradesh (19.08%), Rajasthan (17.68%), Tamil Nadu (9.54%), Karnataka (7.63%), Madhya Pradesh (7.25%), Maharashtra (5.34%). The groundnut has an important place among all oilseed crops (Castor, Sesamum, Rapeseed, Mustard, Sunflower, Safflower etc.) grown in the state. Groundnut productivity in India is low due to moisture stress, poor soil fertility, pests and diseases, and low inputs, and cultivation of the crop on marginal and sub-marginal lands. Nearly 80% of the area sown to groundnuts in India is rainfed and relies entirely on summer monsoon rainfall. Uttar Pradesh must become self sufficient in groundnut to strengthen in overall economic position and also contribute to the national economy. Several policy and technological issues must be address in order to arrest the declined in the area by giving due weight to oil seeds crop *viz.* sugarcane and wheat and steps must be taken to evaluate the low yield levels which shall go a long way in establishing the production in the State. Normally groundnut is cultivated in sub marginal, undulated and deficient soils of the nutrients giving rise low pod yield. Prevalence of local varieties in groundnut growing is causes poor yield. Farmers do not adopt improved package of practices in spite of availability of suitable technology/methodology. Earlier district Mainpuri was famous for groundnut cultivation because of crop coverage but now area under groundnut cultivation is reduced. Hence, this study was designed to investigate constraints in groundnut production in districts Mainpuri.

I feel that purpose of the study report has been fulfilled and this report will be useful for policy planner and researchers on groundnut.

(D.R. Singh)

Dated: August 19, 2021

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EXECUTIVE SUMMARY

1- In U.P. Groundnut Production 1.00 lac tonnes, and 0.88 lac tonnes during 2018-19 and 2019-20 respectively.

2- For selection of samples farmers, two districts (Mainpuri and Etah) were selected. From each district, one block and from each block five villages were selected randomly. All the farmers in a village were grouped into three categories viz; Marginal, small and medium of their size of holdings. A total of 10 farmers from each village were selected. Thus, a total of 100 farmers were selected for the detailed farmers survey.

3- Samples of farmers from each district were grouped into marginal, small and medium farmers. It revealed that out of total sample farmers (100), there was 41 marginal, 38 small and 21 medium farmers having average size of holding are 0.50, 1.46 and 3.84 ha. respectively.

4- There was also recorded that there were 744 in house family members in all sample farmers.

5- Maximum area coverage during Kharif-2020 under groundnut cultivation was increased by 15.92 percent in marginal farmers over kharif-2019 followed by small farmers (15.83%) and medium farmers (8.75%) in district Mainpuri where as 12.98% increased area under groundnut coverage was also recorded in small farmers of sample village of District Etah followed by 11.64% in marginal farmers and 10.71% in medium category farmers.

6- Survey report revealed that increase area coverage in groundnut may be due to availability of labour and family members (38% respondents), availability of irrigation (21% respondents), less losses due to absence of rains in summer season groundnut (11% respondent), less losses due to insects, pest and disease in summer groundnut (14% respondent), assured production (8% respondent) and assured marketing (8% respondents)

7- It was also recorded that increased hectarage of groundnut cultivation is due to shifting of Maize, Urd, Moong, pearl millet (partial), Arhar and watermelon crops in marginal, small and medium farmers in both districts Mainpuri & Etah.

8- It was also revealed that as area coverage in sample village of both representative districts increased over the year by replacing Maize (Largely), Urd, Moong crops.

9- It is concluded that there is in area coverage in groundnut (Mainpuri 13.50% & Etah 11.77%) due to availability of labour & family members. It is also observed that increased average in groundnut replaced area coverage of Maize, Urd, Moong, Arhar in sample village of representative districts

INTRODUCTION

Groundnut is the sixth important oil Seed Crop in the world and grown in an area of about 26.4 million hectares with total production of 37.1 million tonnes and average productivity of 1400kg per hectare.

In India groundnut area, production and productivity was 48.537 lakh ha, 69.696 lakh tonnes and 1436 kg/ha. respectively during 2018-19.

In U.P. groundnut area of 0.94 lakh ha, production 0.88 lakh metric tonnes and productivity 9.42 ql/ha during Kharif 2019-20 while in summer more than 3 lakh ha area are grown which obviously indicated that the kharif area is rapidly switching over to summer groundnut cultivation where the productivity is high upto 25-30 ql/ha.

Groundnut is cultivated in India in the tropics and subtropics with an annual precipitation of around 600mm. It is grown in marginal and sub-marginal soils having low level of available nutrients and deficit in major nutrients like N, P, K, Ca and S and micronutrients like Mn, Zn, Fe, B, Mo etc., Though groundnut is a leguminous

crop, the biological nitrogen fixation of groundnut is highly erratic because of its promiscuity, which is compounded further by the application inefficient rhizobia. Therefore, by proper management of mineral nutrition and biological nitrogen fixation, the productivity of groundnut can be enhanced substantially.

Utilization of different parts of groundnut plant: Seed (kernel) consumed directly raw, roasted and boiled or processed into confections and peanut flour for flavour enhancement or crushed for oil for edible and industrial use, source of high quality edible oil (44-56%), easily digestible protein (22-30%), Carbohydrates (10-25%), vitamins E,K and B complex, minerals and fibre.

METHODOLOGY

Study Area

Semi-arid zone of Uttar Pradesh is consisted of district covering 3 percent acreage of groundnut with production435 metric tonnes. Out of eight district of Semi-arid zone, two districts viz; Mainpuri and Etah were randomly selected for study. District Mainpuri is consisted of six Tehsil viz; Mainpuri, Bhongaon, Karhal, Kishni, Kurawali and Ghiror, Nine blocks namely- Mainpuri, Ghiror, Bewar, Jagir,Sultanganj, Karhal, Kurawati, Kishni and Barnahal with 868 revenue villages where as district Etah is consisted 03 Tehsil viz., Aliganj, Etah and Jalesar, 08 blocks namely Sheetalpur, Sakeet, Nidhaulikala, Marhara, Awagarh, Jaithara, Aliganj, Jalesar, with 853 revenue villages. One block from each district i.e., Sultanganj from Mainpuri district and Aliganj from Etah district were also selected randomly. Ten villages i.e., five from each blocks were randomly selected covering 100 farmers samples as detailed below-

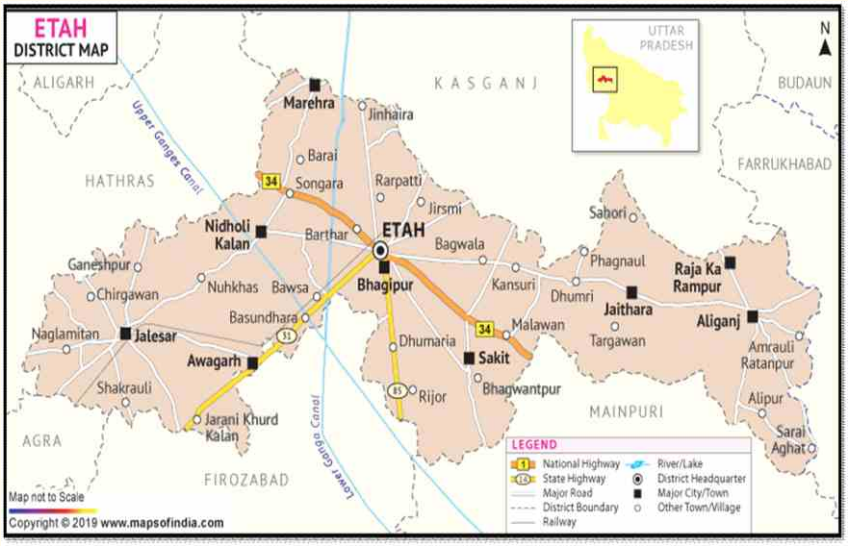


Table 1-Samples districts & villages

S. No.	Districts			
	Dis-mainpuri Block-Sultanganj		District- Etah Block- Aliganj	
	Name of Village	No. of Farmers (samples)	Name of Villages	No. of Farmers (Samples)
1	Nagla Bhajan	10	Mache Khiria	10
2	Bhanau	10	Allahpur	10
3	Sahara	10	Dadingra	10
4	Naka	10	Khanpur	10
5	Dulhapur Khiria	10	Kharanpur	10
Total	05	50	05	50

Source of Data

Data collected from Department of Agriculture Uttar Pradesh (KrishniAkare). Primary data was collected from farmers practicing the groundnut Summer/Kharif cultivation. For selection of sample farmers, two districts (Mainpuri and Etah) were selected.From each districts, one blocks and from each blocks five villages were selected randomly. All the farmers in a village were grouped into three categories viz. Marginal, small and medium on the basis of their size of holding. A total of 10 farmers from each village were selected. Thus a total of 100 farmers were selected for the detailed survey-

Collection Primary Data in villages

Farmers Groundnut Field

Estimation of area under Groundnut Cultivation-

In the investigation, the Secondary data on land use pattern and groundnut cultivation trend of Sample district was collected from Department of Agriculture U.P. whereas primary data on acreage of groundnut crop was recorded by interview with selected farmers on structured schedule.

RESULTS AND DISCUSSION

Size of Holding of Sample Farmers

Samples farmers from each district were into marginal, small and medium farmers. Perusal of table-2 it revealed that out of total sample farmers (100), there was 41 Marginal, 38 Small and 21medium farmers having average size of holding are 0.5, 1.46 and 3.84 ha. respectively.

Table 2 – Size of holding of samples

S. No	Block Sultanganj (Mainpuri)			Block- Aliganj (Etah)			No. of Farmers (Samples)	Average Size of Holding (ha)
	Size of Holding	No. of farmer	Average (ha)	Size of Holding	No. of farmer	Average (ha)		
1	Marginal	23	0.54	Marginal	18	0.46	41	0.50
2	Small	20	1.52	Small	18	1.41	38	1.46
3	Medium	07	3.21	Medium	14	4.48	21	3.84

Table 3:- Average number of members in Family.

Particulars	Marginal		Small		Medium		Total
	Block Sultanganj (Mainpuri)	Aliganj (Etah)	Sultanganj (Mainpuri)	Aliganj (Etah)	Sultanganj (Mainpuri)	Aliganj (Etah)	
No. of farmers Families	23	18	20	18	07	14	100
No. of in House family Members	148	130	114	145	65	142	744

It was also observed from table-3 that there were 744 in house family members in all sample farmers in two blocks of district Mainpuri and Etah.

Land use pattern in Sample Districts-

Land use pattern of sample districts is depicted in table-4 Data revealed that in Mainpuri total reported area, forest, land under non-agricultural use, permanent pastures, cultivable waste land, land under Misc. Tree crops and Grooves, Barren and uncultivable land, current fallows, other fallows and net area sown 272723, 1775, 20914, 1367, 6745, 1631, 15488, 13834,16003 and 194966 ha. respectively corresponding to 244068, 1033, 21577, 328, 12946, 601, 2319, 10212, 9130 and 185922 ha respectively in Etah district.

Table 4 : Trend in net sown area under Kharif & Summer

(Area in ha.)

S. No	Particulars	Sample districts		U.P
		Mainpuri	Etah	
1	Reported area	272723	244068	7300536
2	Forest area	1775	1033	331872
3	Land under non-agricultural use	20914	21577	833895
4	Permanent pastures	1367	328	13579
5	Cultivable wasteland	6745	12946	83112
6	Land under misc. tree crops and groves	1631	601	45821
7	Barren and uncultivable land	15488	2319	112952

8	Current fallows	13834	10212	181740
9	Other fallows	16003	9130	99931
10	Net area sown	194966	185922	5597634

Trend in Kharif & Summer sown area in sample districts and villages is depicted in table 5. Perusal of data it was evident that during both season sown area in Mainpuri was 1246, 1376, 1320, 1276 and 2763 ha during 2019-20, 2018-19, 2017-18, 2016-17 and 2015-16, respectively, corresponding to 975, 400, 367, 376 and 1113 ha respectively in Etah district. In sample villages of Mainpuri 31, 29, 27, 28 and 39 ha in 2019-20, 2018-19, 2017-18, 2016-17 and 2015-16 respectively corresponding to 58, 50, 53, 47 and 50 ha in sample villages of Etah.

Table 5- Trend in sown area (ha) of groundnut in sample district

Districts	Year				
	2019-20	2018-19	2017-18	2016-17	2015-16
Mainpuri (districts)	1246	1376	1320	1276	2763
Etah (district)	975	400	367	376	1113
Mainpuri (villages)	31	29	27	28	39
Etah (villages)	58	50	53	47	50

Trends in acreage (ha) of groundnut in sample villages –

Trend in acreage (ha) of groundnut in sample farmers is presented in Table-6. It indicates that the area at village level has decline trends during 2016-17, 2017-18. And in 2018-19, 2019-20 and 2020-21 showed increasing trendin Mainpuri while the area under groundnut cultivation showed increasing trends in villages of Etah District over 2016-17.

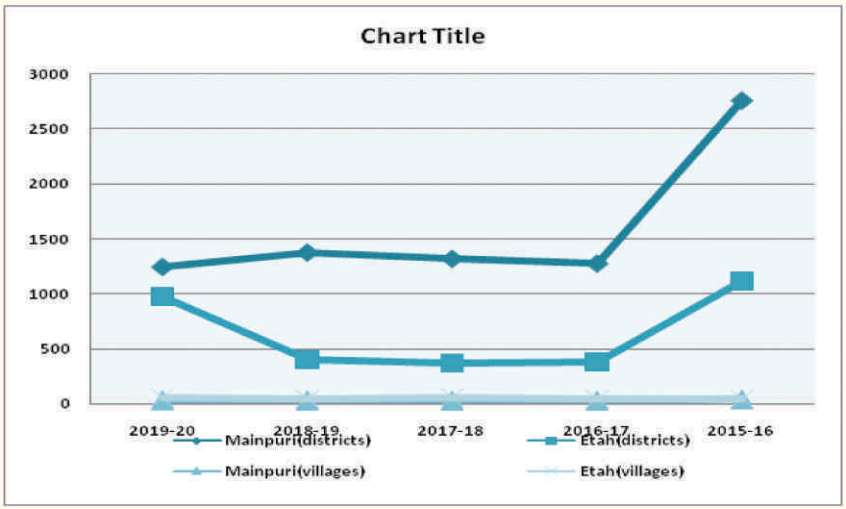


Table 6- Trend In acreage (ha) of Groundnut in sample farmers.

Particulars	Years					
	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16
Mainpuri	40	31	29	27	28	39
Etah	66	58	50	53	47	50

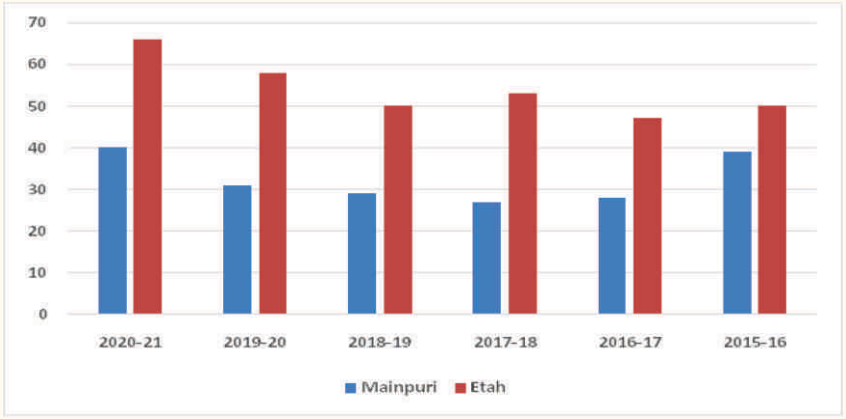


Fig. 2. Trends in acreage (ha) of groundnut in sample farmers.

Trends in acreage (ha) of groundnut in sample farmers

Result of the study revealed that the maximum increase in area coverage during Kharif 2020 under groundnut cultivation was increased by 15.92 % percent in marginal farmers over Kharif 2019 followed by 15.83 % in small farmers over previous year while it was only 8.75%increase among medium farmers of Mainpuri district. In Etah district the comparative increase in area among marginal, small and medium farmers showed that maximum area increased in the tune of 12.98% among small farmers followed by marginal farmers 11.64% and medium farmers 10.71% respectively over 2019.

It followed similar trend in both the sample village of representative district. Perusal of data (fig 3). It revealed the increased area covered in groundnut is due to absence availability of labour & family member (38% respondents), availability of irrigation (21% respondents), less losses due to absence of rain in summer groundnut (11% respondents), less losses due to insect's pest & disease in summer season groundnut (14% respondents) assured production in summer groundnut (8% respondents) and assured marketing (8% respondents). It was also observed that increase hectarage of groundnut cultivation is might be due to shifting, current fallow, maize, urd, moong and arhar in marginal farmers, small farmers and medium farmers in both the sample district (table-8)

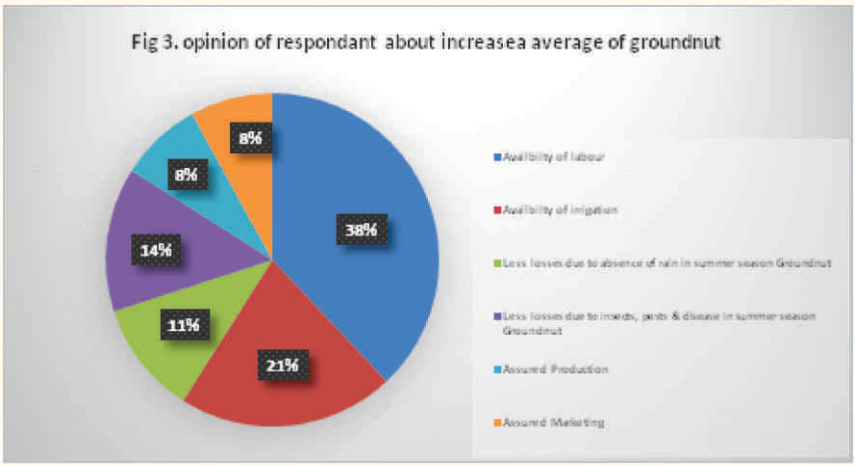
Table 7- Trends in acreage (ha) of groundnut in category wise sample farmers

Farmers	Groundnut Cultivation					
	Mainpuri			Etah		
	2019	2020	% increase	2019	2020	% increase
Marginal	6.6	7.85	15.92	15.10	17.09	11.64%

Small	11.70	13.90	15.83	11.40	13.10	12.98%
Medium	1.05	2.00	8.75	25.0	28.0	10.71%
Total	19.95	23.75	13.50	51.50	59	11.77

Table 8- Diversification of crops in groundnut acreage.

Farmers Category	Name of Blocks	Crops
Marginal	Sultanganj	Maize, urd, Moong, watermelon,
	Aliganj	Current fallow, Maize, urd, moong, arhar, watermelon
Small	Sultanganj	Maize, urd, moong, watermelon
	Aliganj	Maize, urd, Moong, pearlmillet (partial), watermelon
Medium	Sultanganj	Maize, urd, Moong, watermelon
	Aliganj	Maize, Urd, Moong, pearlmillet (Partially)



CONCLUSION

Perusal of survey data it is concluded that there is 13.50% increase in area coverage of groundnut in Mainpuri district whereas it is 11.7% in Etah due to availability labour and family members. It is also observed that increase acreage in groundnut resulted reduction in area coverage of major crops (Maize, Urd, Moong) besides reduction in current fallow in sample Villages of representative districts.

Problems/Production Constraints:

The major constraints which is virtually faced during the cultivation of groundnut are-

1. Normally groundnut is cultivated in sub marginal, undulated and deficient soils of the nutrients giving rise low pod yield.
2. Prevalence of local varieties in groundnut growing are causes poor yield.
3. Farmers do not adopt improved package of practices in spite of availability of suitable technology/methodology.
4. It is worth mentioning that the groundnut growers do not plant the seed in accordance with recommendations. It has been observed the if there is recommendation of 90kg seed/ha, they either plant half or a little bit more which adversely effect the groundnut production.
5. Shortage of early duration and high yielding varieties.
6. Supply of quality seed of improved varieties in accordance with recommendation is very poor.
7. Lack of disease and pest resistance varieties with special reference to bud necrosis and white grub pest.
8. Practically the seed of improved varieties are not reaching to the farmers for its cultivation.

9. The cost of seed is so high that farmers do not purchase the seed as per recommendation, but they plant lesser quantity of the seed which directly affects the productivity of the crop.

10. Seed production programme be strengthened to disseminate the seed of the farmers as per recommendations.

Note

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