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An economic analysis of production of peanut in Nad Ali district, Helmand province Afghanistan

Ali Ahmad[1], Sor Gul Sandakhil[2], Mohammad Hasham Popal[3], Abdul Wali Hemat[4], Baryalai Rafi[5]
[1] PhD graduated student, Dept. of Agricultural Economics, Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad, Uttar Pradesh, India
[2, 3, 4, 5] Assistant Professors, Helmand Institute of Higher Education, Afghanistan

Abstract
The present research entitled "An Economic Analysis of Production of Peanut in Nad Ali District Helmand Province - Afghanistan" was carried out during the year 2018. The main objectives of the study are to analyze per hectare costs of peanut production and to examine the returns and profitability of peanut on different size farm groups. Out of the total villages of Nad Ali District, in total six (6) villages and (60) respondents were selected randomly. Family and hired human labour utilization is 2852 Af/ha. in different size farm groups. The cost of cultivation of peanut per hectare in small, medium and large farm groups is Af. 65100.1, Af. 66213.3 and Af. 66863.4 respectively. Overall, estimated gross return of peanut was Af/ha 208695.60 and obtained net return was Af/ha 142636.67, the benefit received on per Afghani investment was 2.16. The average yield per hectare of peanut came to 3998 kg and the cost of production, on an average was worked out to 66058.93 AF/ha. on the sample farm groups.

Keywords: cost of production, returns and profitability

1. Introduction
Helmand or Hillmand is one of the 34 provinces of Afghanistan, in the south of the country. The province contains 14 districts, encompassing over 1,000 villages, and roughly 879,500 settled people. Lashkargah serves as the provincial capital. Helmand Province has irregular highlands which gradually increase in elevation in the northern and southern parts of the province. Winter wheat is the predominant cultivated crop for Helmand. Barley is also a winter grain crop that is produced on a smaller area, but is an important crop. Maize (corn) is the largest crop produced in the summer. Wheat, barley, and corn are all grain crops which are critical to food security. They are grain crops that produce maximum levels of storable food per hectare. This is an extremely important fact to realize when considering any shifts in production in the Helmand agricultural system. Certified seed for wheat and barley is critical for good yield potential. Hybrid corn seed is a must for acceptable production. Quality seed and nutrient management are opportunities for improvement in the Helmand agricultural system. In Helmand peanut is largly sown in all the districts especially in Nad Ali district which around reach to 7010 metric tonnes in 2017. Peanut is considered as Industrial crops of the Province which is exported to neighboring Provinces either. These are also high protein commodities which would supplement human nutrition. Peanuts and soybeans are legumes which fix their own nitrogen making them excellent rotation crops providing some nitrogen for winter grain crop.

Objectives of the study
1. To analyze per hectare costs of peanut production in the study area.
2. To examine the returns and profitability of peanut on different size farm groups.

2. Material and Methods
The present study was conducted in Nad Ali district of Helmand Province - Afghanistan during 2018. Four stages stratified sampling procedure was adopted to select the samples which are briefly shown as under.

First Stage	Province Selection, Purposively done
Second Stage	District Selection, Purposively done
Third Stage	Village Selection, Randomly done
Fourth Stage	Peanut respondents selection, randomly done

Out of the total 14 districts of Helmand Province, Nad Ali district was selected purposively for the study, as peanut production is maximum and productivity is high and economical as well as this district was easily reachable to the researcher. 60 respondents were selected randomly for the collection of data regarding production. The peanut growers were categorized into three groups on the basis of their size of land holding.
1. Small size group, which is having below one hectare of land.
2. Medium size group, which is having from one to two hectare land.
3. Large size group, which is having above two hectare land.

3. Results and Discussion
3.1. Cost of Cultivation for Peanut in Sample Farms
The cost of cultivation of peanut of sample farms is worked out in Af/ha and presented in Table and Fig 3.1. It reveals that overall cost of cultivation of peanut crop was Af/ha 65100.1, Af/ha 66213.3 and Af/ha 66058.93 in small, medium and large farm size respectively. The large contribution has been observed in farmer share with Af. 34782.6 Roughly. The power use in the form of tractor hour

was also contributed the minimum share to the total cost of cultivation of peanut, which shared 8250, 8233 and 8100 Af/ha. Respectively. Among the materials input cost manure and fertilizer shared the maximum (Af/ha. 8000) followed by harvesting (Af/ha. 3643.33), seed (Af/ha. 3563.33, irrigation (Af/ha. 1203.33) and minimum in plant protection which shared nearly, Af/ha. 576.67. The input value of family labour use was noticed to be Af./ha 1233.67.

Table 3.1: Cost of Cultivation of Peanut (Af/ha.)

Particulars	Small	Medium	Large	Average
Inputs (Variable and Fixed)				
Hired human labour	1540	1630	1685	1618.33
Family labour	1190	1266	1245	1233.67
Tractor power	8250	8233	8100	8194.33
Cost of seed	3500	3690	3500	3563.33
Manure and fertilizer (DAP)	8000	8000	8000	8000.00
Irrigation	1200	1170	1240	1203.33
Plant protection	540	600	590	576.67
Harvesting and drying	3600	3620	3710	3643.33
Depreciation on fixed capital	1650	1800	1780	1743.33
Farmer share (6th)	34130.1	34704.3	35513.4	34782.60
Government tax	1500	1500	1500	1500.00
Total input cost	65100.1	66213.3	66863.4	66058.93

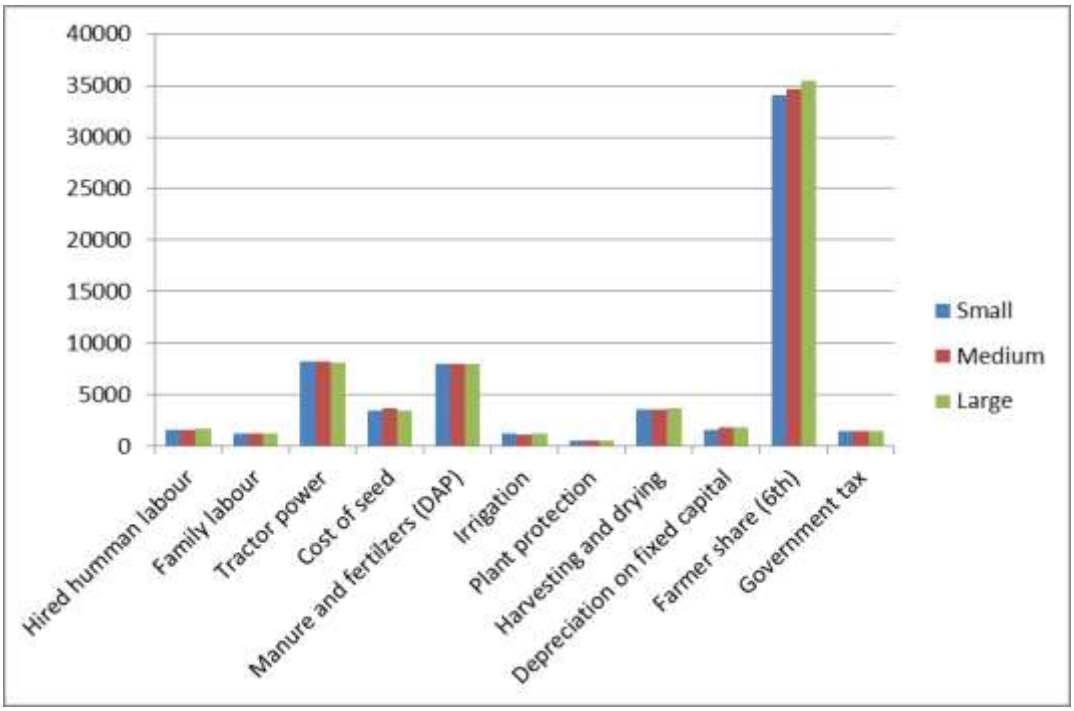

Fig 1

3.2. Profitability in cultivation of Peanut

A brief summary of the costs and return of peanut by farm size is represented on gross return received; net returns obtained after subtracting the total cost of cultivation, yield per hectare of peanut production and benefit received on per Afghani investment in peanut cultivation (Table 3.2). Overall, estimated gross return of peanut was Af/ha 208695.60 and obtained net return was Af/ha 142636.67. The benefit received on per Afghani investment was 2.16. Across the farm size of holdings, the gross return of peanut was varied from Af/ha 204780.60 to Af/ha 213080.40 of small to large farms. The obtained net return was ranging from Af/ha 139680.50 of small farms to Af/ha 146217.00 of large farms. The benefit cost ratio of small, medium and large farm size is Af. 2.15, Af. 2.14 and Af. 2.19 respectively. However, The average of net return is found to be Af. 142636.67 Per hectare which confirms that peanut production in the study area is highly profitable.

Table 3.2: Gross return, net return and benefit cost ratio of Peanut

S. No.	Particular	Farm Result			Average
		Small	Medium	Large	
1	Production of peanut (Kg/ha)	3923.00	3989.00	4082.00	3998.00
2	Gross return (Afs/ha)	204780.60	208225.80	213080.40	208695.60
3	Total cost (Afs/ha)	65100.10	66213.30	66863.40	66058.93
4	Net Return (Afs/ha)	139680.50	142012.50	146217.00	142636.67
5	B: C ratio	2.15	2.14	2.19	2.16

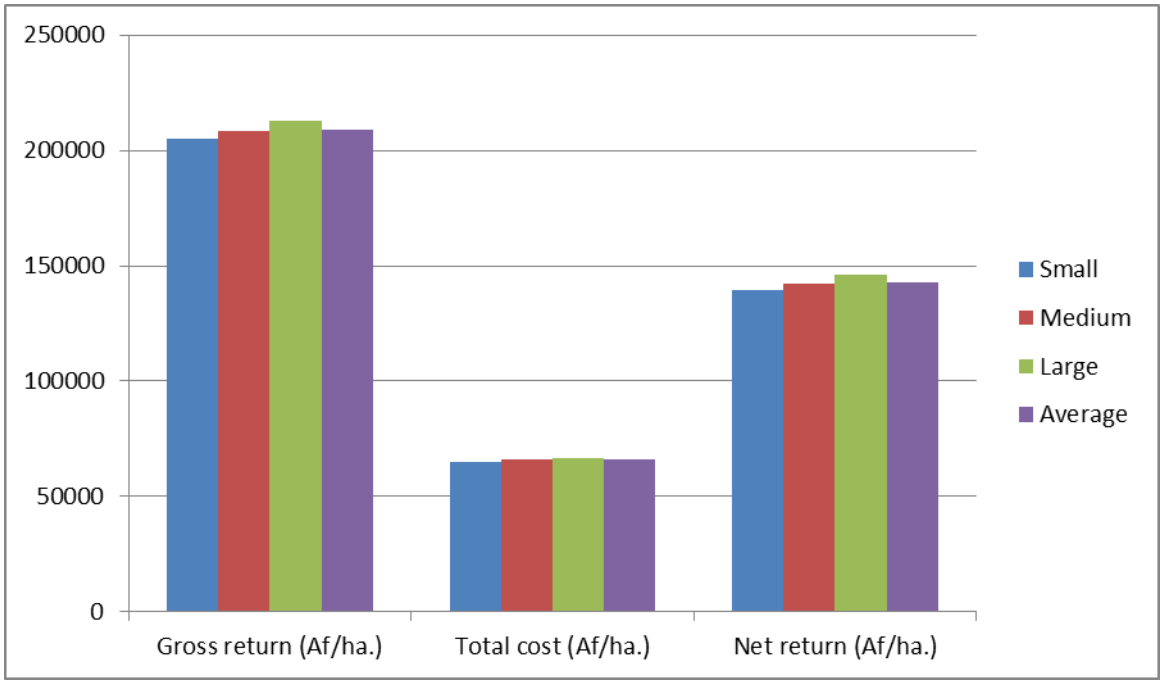

Fig 2

4. Conclusion

From the findings of the study following conclusion has been derived.

1. Peanut is highly labour depended crops and requires more labour than cereals. It reveals that overall, Af/ha. 1618.33 were used for hired human labour and Af/ha. 1233.67 for family labour in cultivation of the crop.
2. The cost of cultivation is maximum in large size groups, followed by medium and small size groups.
3. The cost and return analysis revealed that peanut production in the study area was profitable with the net farm income of Af 142636.67 per hectare. The benefit received on per Afghani investment was 2.16 which the producers are highly profitable.
4. It is conformed from the findings that large farms were more efficient than that of medium and small farms because of good management practices, supervision and availability of sufficient capital in cultivation of peanut.
5. The average yield per hectare of peanut came to 3923, 3989 and 4082 Kg in small, medium and large farm size respectively and on an average was 3998 kg/ha. Thus it is conform that the productivity of peanut is quite high in the study area.
6. The net revenue is higher in large size group followed by medium and small size group.

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