



A study on village base Agricultural cropping: A Case Study of Nalgonda District-Telangana State

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ABSTRACT

The current paper focuses on the village base agriculture cropping in Nalgonda District. It studies the type of crop cultivation, crop production, irrigation and temporal variation. The primary data source was from interview schedules in four villages such as Suryapet, Nalgonda, Miryalaguda and Bahuvanagiri. The secondary data was also incorporated to verify the collected primary data from the field. The Secondary sources of data include censuses; human, livestock, agriculture, government documents, administrative records, financial records, publications and magazines, institutional libraries, and so on. In addition, advanced secondary sources include remote sensing, computer networks, and databases, among others. The present study will be useful to farmers, local agricultural authorities, state government policies, academia, and researchers in the field of agriculture.

Keywords: Nalgonda, Agricultural Cropping, Crop Cultivation, Irrigation, agro-economic.

INTRODUCTION

Nalgonda district has the highest number of Mandals in the state. The district shares boundaries with Suryapet, Rangareddy, Yadadri and Nagarkurnool districts and with the state boundary of Andhra Pradesh. It is divided into eleven tahsils which form an important agro-economic region essentially. This district comes under Nalgonda Administrative.

The Krishna River forms a border over the entire north, with the main Nalgonda range on the west and southwest. The section of the hills on the East restricts, to some extent, the lands of the Nalgonda district.

Nalgonda district is characterized by sharp differences in terrain, soil, climatic factors, settlement pattern and social identity. The Nalgonda district is an agrarian with good irrigation sources and favourable climatic conditions. Approximately 75 per cent of the population depends directly or indirectly on agriculture in the district. The major growing crops are Paddy and Cotton. Villages such as Suryapet, Nalgonda Circle, Miryalaguda, and Bahuvanagiri have the highest agricultural production, and almost 85-95 per cent of the population depends on crop cultivation and agricultural activities. Most of the farmers in these villages are interested in cultivating foods and commercial crops. The present study shows that the area is very good regarding irrigation systems and agricultural land. As a result, village agricultural cropping level research is a good means to create an authentic village information system to upgrade agricultural production and agro-business in Indian villages.

STUDY AREA

The Nalgonda district is situated in the western part of Telangana, India. It is one of the districts with the highest number of Mandals in the Telangana State. The district shares boundaries with Suryapet, Rangareddy, Yadadri and Nagarkurnool districts and with the state boundary of Andhra Pradesh. It is divided into eleven tahsils which form an important agro-economic region essentially.

This district comes under Nalgonda Administrative. Administratively, it is bordered by the Nalgonda district on the whole of the northern side, the district on the East, the district on the southeast and south, the district on the west, and the district to the northwest. Although the district's boundaries are mainly administrative, along several lines, these coincide with physical features. The Krishna River forms a border over the entire north, with the main Nalgonda range on the west and southwest. The section of the hills on the East restricts, to some extent, the lands of the Nalgonda district.

Nalgonda district is characterized by sharp differences in terrain, soil, climatic factors, settlement pattern and social identity. The physiography of the district is typical; altitude ranges from 600 meters in the basin in the East to above 1200 meters in the pinnacles, and the high plateau of the main in the west above mean sea level. The district has a Monsoonal type of climate. The annual average rainfall ranges from over 6000 mm in the western part to 500 mm in the eastern part.

The famous villages of the Nalgonda district in agricultural production and crop cultivation are Suryapet, Nalgonda Circle, Miryalaguda, and Bahuvanagiri. They have the highest agricultural production, and almost 85-95 per cent of the population depends on crop cultivation and agricultural activities (Figure 1).

STUDY AREA MAP (VILLAGE MAP, NALGONDA DISTRICT)

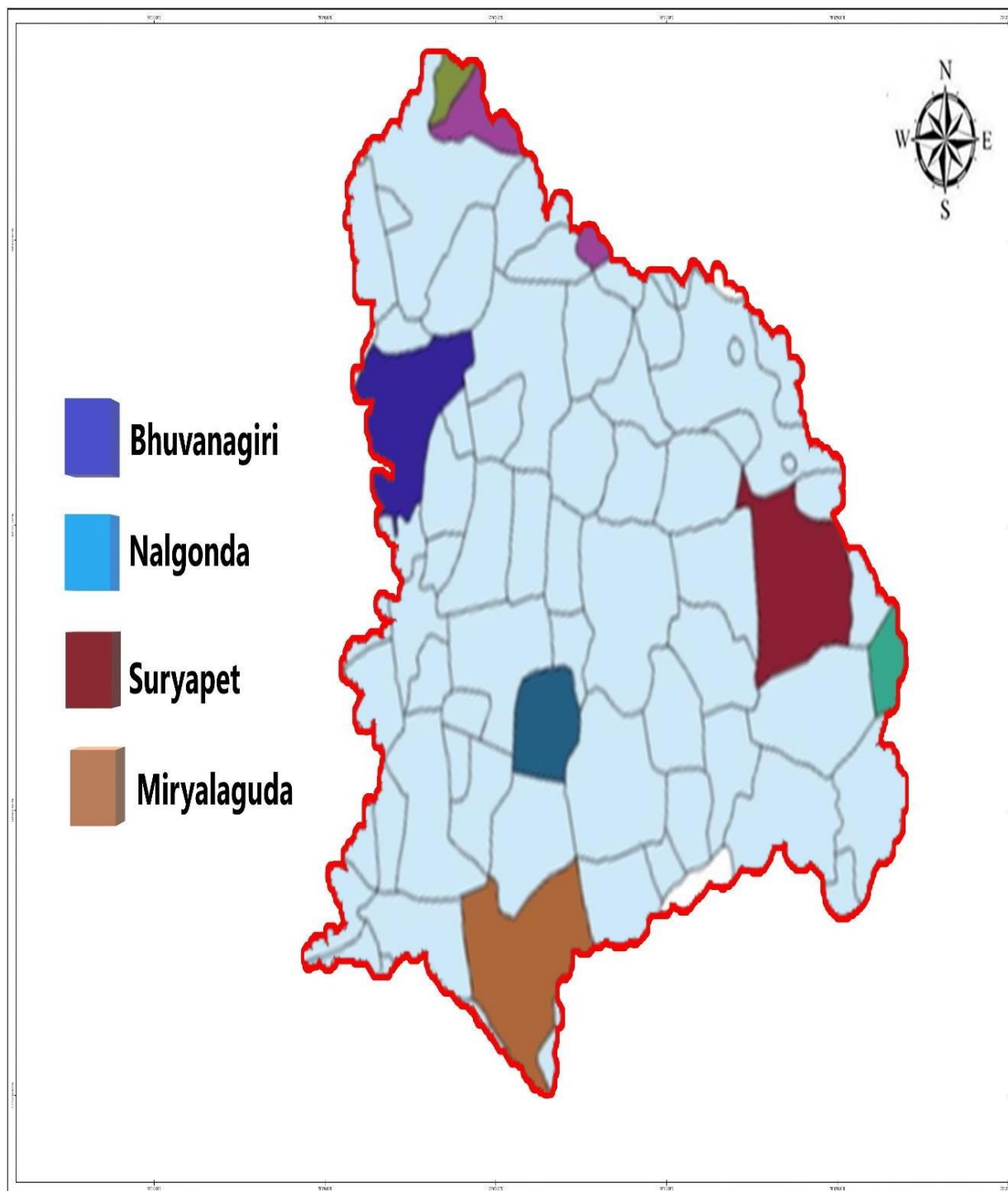


Figure: 1. Sample Locations, Villages Map

ANALYSIS AND DISCUSSION

1. MIRYALAGUDA VILLAGE

The city of Miryalguda is located in the Nalgonda district, the western part of Telangana state of India. It is a Division 71 Kilometers east of Nalgonda District Headquarters and 15 Kilometers from Nalgonda center. Nalgonda is the postal headquarters, and Suryapet and Miryalguda are surrounding villages. Miryalaguda is a hamlet in the Miryalaguda Mangal district. City in the Miryalaguda district of Nalgonda, Telangana, India. Miryalaguda was declared as part of the Atal for Rejuvenation Mission and Transformation Urban by the Indian government in 2015. Nalgonda, the district headquarters, is 44 kilometres away, and Hyderabad is 142 kilometres.

Miryalaguda village randomly chose in the Nalgonda district. "In this tahsil, this settlement is the center of the circle. In the Nalgonda village, the open caste category was largely found.

Miryalaguda circle this village, the inhabitants were analyzed by caste People from the open category were largely found in Nalgonda village. Other groups of persons, such as OBC and NT, were found to have 1.01 and 7.07 percentiles, respectively. In Nalgonda village, agriculture was the most common occupation and 95% of the land is irrigated. The majority of farmers in Nalgonda prioritize the sugarcane crop. Irrigation is given to the Krishna River, which is lifted. Paddy, onion, bajara, green gram, groundnut, and other crops are farmed in this village" (Dube, 1987).

Miryalaguda Social categories

Caste in Miryalaguda

Open category makes the majority of the caste system in the village with 72.03 percentage, the OBC includes 26.57 percent and NT with 1.4 percent (Table 1). NT was also discovered in 26.57 percent and 1.40 percent, respectively.

Table: 1. Percentage of Caste in Miryalaguda

Miryalaguda			
S. No	Caste	No of population	Percentage of Caste
1	ST	0	0.00
2	SC	0	0.00
3	Open	103	72.03
4	OBC	38	26.57
5	NT	2	1.40
6	Open	103	72.03

Data Source: Field Survey

Irrigation in Miryalaguda Village

Miryalaguda is an agricultural village; 95 per cent of the agriculture comprises irrigated land, and 5 per cent is Non-irrigated land. The settlement is located in the tahsil's northwestern corner. The Krishna River irrigates the majority of the land. A total of 89.29% of the land is irrigated. The majority of farmers in Miryalaguda prioritize cash crops. This community grows a wide range of crops (Table 2).

Table: 2. Percentage of Irrigation Land in Miryalaguda Village

S.No	Types of Irrigation	Percentage of Facility
1	Irrigated Land	95%
2	Non-Irrigated land	5%

Data Source: Field Survey

Source of Irrigation in Miryalaguda Village

There are five types of irrigation facilities in the village (Table 3); among them, the lift makes 72.09 per cent, the Well and Tub Well come with 11.63 respectively, and the others count 4.65 per cent of the source of irrigation in the village. Irrigation is delivered by wells, canals, Tub Wells, and Lifts, among other things.

Table: 3. Source of Irrigation

S.No	Facilities	Source	Percentage of Water Source
1	Well	5	11.63
2	Tub well	5	11.63
3	Canal	0	0.00
4	Lift	31	72.09
5	Other	2	4.65
	Total	43	100.00

Data Source: Survey data

Crop Production in Miryalaguda Village

Different crops are producing the village. The paddy, Onion and wheat are among the common crops producing the village. These crops are commercial crops, and most of the farmers cultivate them. In percentages, Bajara, Jowar, 4.81 per cent, 7.05 percent respectively and Wheat, and Groundnut cover 12.82 and 6.41 percent respectively (Table 4).

The settlement of Miryalaguda is situated on the Nagarjunasagar left Canal. Sugarcane, Onion, Jawar, Bajara, and other crops are grown, and medium-dark soil is observed. Nagarjunasagar's left bank gives Canal irrigation. Miryalaguda village has a more prominent irrigation infrastructure and facilities.

Table: 4. Crop Production in Miryalaguda

S NO	Name Crop	Rupees Crop Production
1	Others	0
2	Paddy	6560005
3	Onion	1555000
4	Jawar	7000
5	Bajara	0
6	Wheat	10003
7	Groundnut	0

Data Source: Field data

Percentage of Crops Area

The most common crops in the village include Groundnut, Sugarcane, Onion, Jawar, and Bajara. These crops have different varieties and cultivate in different percentage of area. Sugarcane take much of the area with 51.52 percent, Onion is the second most area cultivates, Groundnut is with the 9.09 percent and Jawar and Bajara includes 3.64 percent each (Table 5). Sugarcane and Onion are the most common and cultivated crops in the area.

Table: 5. Percentage of crops area

S.NO	Crop name	Crops Verities	Percentage %
1	Groundnut	15	9.09
2	other	5	3.03
3	Sugarcane	85	51.52
4	Onion	39	23.64
5	Jawar	6	3.64
6	Bajara	6	3.64
7	Sugarcane	85	51.52

Data Source: Field survey

2. NALGONDA CIRCLE

"The Suryapet, also known as Suriapet, is located at 17.1500°N 79.6167°E. It covers 54 square kilometres. Suryapet is a town in India's Telangana state that serves as both a municipality and the administrative centre for the district that bears its name to the Indian government; Suryapet will be built as part of the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) initiative" Arunachalam, B., 1959. "Suryapet was named the "cleanest city" in South India by the Ministry of Urban Development in Swachh Survekshan 2017. Telangana's Gateway is another name for it. It's around 138 kilometres (86 miles) west of Vijayawada and 134 kilometres east of Hyderabad, the state capital" Ali (1949).

Suryapet village in Nalgonda District serves as a township as the Mandals' circle's foundation. This settlement is part of the Nalgonda district. The caste analysed the population of this town. Suryapet has

57.28 per cent of the unemployed people. Other classifications, such as OBC, NT, SC, and ST, yielded 0%, 34.95 percent, and 0%, respectively. 2.91percentage, 4.85percentage. The settlement is located in the tahsil's southwestern corner. The Krishna River irrigates the land. Irrigation covers around 69.95 per cent of the land. The majority of farmers in Suryapet prioritize cash crops. This community grows a wide range of crops. The sugarcane crop accounts for 44.63 per cent of the total crop area.

The onion crop climbed by 30.51 per cent after that. Jawar covers 7.34 per cent and 10.73 per cent of the land for other crops like bajara and groundnut. 2.82Percent.3.39Percent. Suryapet's irrigation system is more powerful. This community has a lift irrigation rate of 20.59 per cent. And the figure is 29.41 per cent. The onion crop climbed by 30.51 per cent after that. Jawar covers 7.34 per cent and 10.73 per cent of the land for other crops like bajara and groundnut. 2.82Percent.3.39Percent. Suryapet irrigation system is more powerful (Table 6). This community has a lift irrigation rate of 20.59 per cent.

Table: 6. Number of Water Resources in Nalgonda Circle

S.No	Facilities	Number of Water Source	% of Each No. of Water Source
1	Well	20	29.41
2	Tubwell	14	20.59
3	Canal	20	29.41
4	Lift	14	20.59
5	Other	0	0.00
6	Total	68	100.00

Data Source: Field Survey

Crop Production in Nalgonda Circle

The most common crop production in the Nalgonda Circle includes Bajara, Wheat, Groundnut, and others (Table 7). Groundnut is the first crop with the highest production in the Nalgonda Circle, the second one is Bajara, and the third one is Wheat, among the common crops in the study area.

Table: 7. Types of Crop Production in Nalgonda Circle

S.No	Crop Name	Crop Production
1	Bajara	800000
2	Wheat	200000
3	Groundnut	150000
4	other	20000
5	Wheat	200000
7	other	20000

Data Source: Field Survey

Cropping Area in Percentage

The following Table shows the percentage of area in acre in the Nalgonda Circle.

Table: 8. Percentage of Cropping Area

S.No	Crop Name	Area acre	PercentCrops Area
1	Paddy	79	44.63
2	Onion	54	30.51
3	Jawar	19	10.73
4	Bajara	13	7.34
5	Wheat	5	2.82
6	Groundnut	6	3.39
7	other	1	0.56
8	Total	177	100.00

Data Source: Field Survey

3. YENDLA PALLE

Yendla Palle is a village in the Nalgonda district. Suryapet District Headquarters is 69 kilometres to the east and 10 kilometres to the southwest. The village is spread out on 1449 hectares. Yendla Palle has a population of 4,196 people. There are around 1,116 buildings in Yendla Palle village. Suryapet, around 13 kilometres away, is the closest town to all important commercial activity in Yendla Palle.

"In this study, Yedla Palle village in Nalgonda district was the village chosen system information town is the focal point Mandal's circle Nalgonda circle includes this settlement. In this village, the caste-wise population is being examined. People from the open category were predominantly found in Yedla Palle. Other groups, such as OBC, accounted for 14.94 per cent of the total settlement in the tahsil's south direction (Table 9). Tub well irrigation is used to irrigate most of the land" Z.T. Khan., 1983.

"Around 71.25 per cent of the land is irrigated, whereas 28.75 per cent is not. Most farmers in Yedla Palle prioritise cash crops community grows a wide range of crops. Sugarcane covers 7.02 per cent of the land, onion covers 33.33 percent of agricultural space, while other crops such as jowar and groundnut cover 42.11 percent, 14.04 percent, and 3.51 percent of cropland, respectively in Yedla Palle village, the irrigation facility is more prominent well irrigation is 22.58 percent in this village. In contrast, tub well irrigation is 45.16 per cent" Ahmed G Enayat (1945).

Table: 9. Caste wise Population

S.No	Castes		No. of Population	Percentage
1	NT		0	0.00
2	ST		0	0.00
3	SC		13	14.94
4	ST		0	0.00
5	SC		13	14.94
6	Total		87	100.00

Data Source: Field Suvey

Types of Irrigation in the Area

Around 71.25 per cent of the land is irrigated, whereas 28.75 per cent is not. Most farmers in Yedla Palle prioritise cash crops community grows a wide range of crops (Table 10).

Table: 10. Type of Irrigation of the area

S.No	Irrigation Types	Percentage of Area
1		
2	Irrigated Land	71.25
	Non-Irrigated Land	28.75

Data Source: Field Survey

The common source of Irrigation in the Yedla Palle is Well, Tub Well, Canal, Lift and others. The canal makes up 45.16 per cent of the irrigation and is used for agricultural irrigation. Well, and tub wells are the second and third in terms of percentage and utilization of agricultural irrigation in the village (Table 11).

Table: 11. Source of Irrigation

S. NO	Facilities	Source	Percent
1	Well	10	32.26
2	Tubwell	7	22.58
3	Canal	14	45.16
4	Lift	0	0.00
5	Other	0	0.00
	Total	31	100.00

Name of the common Crop Production in the village

Different crops are producing in the village. The Wheat, Groundnut, Bajara, Jawar and others are the common crops producing the village. Groundnut and Bajara are the most profitable corps in the village and cultivating

hugely (Table 12)

Table: 12. Name of cropping production

S.No	Crop Name	Crop Production
1	Wheat	0
2	Groundnut	80000
3	Jawar	0
4	Bajara	10000
5	Wheat	0
6	Groundnut	80000
7	Other	0

The following Table (14) shows the percentage of each crop land in the village and its area in acre. The Jawar and Onion occupy the most cultivated land among the others.

Table: 14. Percentage of the cropping area

S. No	Crop name	Area (acre)	Percent
1	Paddy	4	7.02
2	Onion	19	33.33
3	Jawar	24	42.11
4	Bajara	0	0.00
5	Wheat	8	14.04
6	Groundnut	2	3.51
7	Other	0	0.00
	Total	57	100.00

4. SURYAPET CIRCLE

"The village of Venkatrampur is part of the Suryapet Division. Venkatrampur is a small village/hamlet in Telangana's Nalgonda District's Suryapet Mandal area governed by the Venkatrampur Panchayath. Telangana is the state where it is located as part of Telangana's district reorganisation; Venkatrampur Village Suryapet Mandal was moved from Nalgonda to Suryapet District, located 39 kilometres east of the district seat of Nalgonda and 11 kilometres east of Suryapet" Agarwal M (1972).

Venkatrampur village in Nalgonda district has been chosen for the village information system in this project. This town is the focal point of the Mandal's circle. Suryapet circle includes this settlement. In this village, the caste-based population was researched. People from the open category made up 87.36 per cent of the population in Venkatrampur hamlet. Other groups, such as OBC and ST, were determined to be 9.20 percent and 3.45 percent, respectively. The village is located on the tahsil's southern side. Tub well irrigation is used to irrigate the majority of the land. Around 62.62 per cent of the land is irrigated, whereas 37.37 per cent is not. The majority of farmers in Venkatrampur prioritise cash crops. This community grows a wide range of crops.

It takes up 35.38 per cent of the total crop area, with other crops, such as. Bajara, Groundnut, and other crops

cover 12.31 percent, 44.62 percent, and 3.08 percent of the total area. Venkatrampur village has a stronger irrigation system. Irrigation from wells is 32.43 percent, tub wells are 24.32 percent, and canals are 43.24 percent in this village. 6.8.1.

According to Census 2011 statistics, the location code or village code for Balemla Bamla village is 576949. Balemla village is located in Telangana's Nalgonda district, in the Suryapet Tehsil. Suryapet (tehsildar office) sub-district headquarters is 10 kilometres away, and Nalgonda district headquarters is 51 kilometres away.

According to Census 2011 statistics, the location code or village code for Balemla village is 576949. Balemla village is located in Telangana's Nalgonda district, in the Suryapet Tehsil. Suryapet (tehsildar office) sub-district headquarters is 10 kilometres away, and Nalgonda district headquarters is 51 kilometres away. According to 2009 statistics, Balemla village is also a graham panchayat. The community is spread out over a total of 2918 hectares. Balemla has a population of 4,890 people. Balemla village has a population of 1,218 people. Suryapet, around 10 kilometres from Balemla, is the nearest town for all major commercial operations.

Table: 15. Cropping Production

S.No	Crop	Production
1	Bajara	10000
2	Wheat	0
3	Groundnut	80000
4	Paddy	10000
5	Onion	0
6	Green gram	80000
7	Other	0

Data Source: Field Survey

Cropping Percentage in the Area

The majority of farmers in Venkatrampur prioritise cash crops. This community grows a wide range of crops. It takes up 35.38 per cent of the total crop area, with other crops, such as. Bajara, Groundnut, and other crops cover 12.31 percent, 44.62 percent, and 3.08 percent of the total area (Table 16). Venkatrampur village has a stronger irrigation system. Irrigation from wells is 32.43 percent, tub wells are 24.32 percent, and canals are 43.24 percent in this village. 6.8.1

Table: 16.Cropping percentage in area

S.No	Name	Area	Percentage
1	Bajara	8	12.31
2	Wheat	0	0.00
3	Groundnut	2	3.08
4	Other	0	0.00
5	Paddy	0	22000
6	Mixed	2	10000
7	Other	0	0.00

CONCLUSION

The present study was a field survey of Nalgonda's village, Telangana State. The random samples were taken from the study area within the Nalgonda district communities. The study looked at the village's population by caste, land, and irrigated and non-irrigated land. The research found that most of the land in the study area is irrigated land, and most farmers focus on cash crops.

Various type of crops is taken in these villages. Sugarcane crop covers the most dominant crop area; after that, onion ranks the second crop; Bajara, jawar, and groundnut crops cover areas in this region. Irrigation facility in villages is more dominant. Lift Irrigation, well, canals and Tub well irrigation facilities are found in these villages. Moreover, most farmers cultivated single crops, and a few practised mixed crop cultivation. The study found that the area has the condition and facilities of agricultural irrigation and other required infrastructure. As a result, it suggested that crop combination, crop diversification and crop ranking are very suitable for agricultural productivity and beneficial to the farmers.

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