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Identify the Major Factors Driving to Agricultural Diversification in Telangana

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Abstract – Examples of crop diversification of current agricultural technology, particularly amid the time of the Green Revolution in the late sixties and mid-seventies, there is a constant flood for expanded agribusiness as far as crops, essentially on economic contemplations. Indian horticulture is progressively getting impacted increasingly more by economic factors. This need not be astounding in light of the fact that water system extension, infrastructure development, infiltration of country markets, development and spread of brief span and dry season safe crop innovations have all added to limiting the role of non-economic factors in crop decision of even little ranchers. Liberalization and globalization strategies are going to reinforce the role of cost related economic motivations in deciding crop composition at both the small scale and large-scale levels. This paper has surveyed the diversification situation of horticulture at the national dimension and its appearance at homestead level of circumstance close by. It has been see that concentration proportion (CR4) for four major agricultural sub-areas has declined from 73.6 percent to 69.6 percent for the examination period, 1999-00 to2013-14. It plainly shows a move in Indian farming from oats based production example to other high-esteem based production design.

Keywords - Crop Diversification, Green Revolution, Infrastructure Development, Liberalization, Globalization, Agricultural Growth.

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1. INTRODUCTION

Crop diversification infers development of an assortment of crops in a district. More noteworthy the quantity of crops in mix, more noteworthy will be the level of diversification. In late sixties and mid-seventies amid the time of the Green Revolution, there is a constant flood for differentiated horticulture as far as crops, because of the extension of irrigation offices. infrastructure development, and infiltration of rustic markets, development and spread of brief span and dry season safe crop advancements settled on crop selection of ranchers in country areas. Family related factors covering nourishment and grub independence requirement just as investment limit, Price related factors covering yield and info costs, Institutional and infrastructure Related factors covering ranch size and occupancy arrangements and further liberalization and globalization approaches are additionally change the crop diversification at miniaturized scale and large-scale levels. It gives wider choice to produce variety of crops to lessen the risk in the areas of Drought or with distinct soil problem.

In India, horticulture is a major division that assumes crucial role in the development of agrarian economies. However, farming part in India has witnessed drastic changes after presentation of modern technology amid green revolution in mid-1960s.Green revolution gave lift to the economy by achieving huge uptrend in oats based cropping pattern than less beneficial existing crop-blend. As a result, presently 50 percent of gross cropped area comes under high beneficial major grain crops, driving to cropping design particularly skewed towards oat based cultivating which results in low level of diversification.

S.C Batia crop diversification technique. The spatial variations and purposes behind such variations of area level are likewise uncovered, the investigation of crop diversification is important to comprehend the competition that exists among crop geography in various environmental.

1.1 Diversification

The examination proposed the establishment of agro handling enterprises and infrastructural offices, arrangement for crop assurance, development, upkeep and management of irrigation works, look into prioritization, appropriation of value seeds and seed materials of the particular crops in the particular zone based on cropping pattern and need of the general population of the locale. The investigation recommended that for accomplishing the additions of diversification of farming, there is a pressing requirement for further reinforcing the required

infrastructure relating to include supply framework displaying framework and the current research and expansion developers to build the selection of innovative production technologies. In their examination on the effect of diversification on little ranches economy area of Himachal Pradesh saw that the diversification of arable farming frameworks with business undertakings, for example, high yielding milk creatures, poultry feathered creatures, honey bee keeping, gardening and so on, brought about a checked increment in the homestead pay from 6 to 138 percent. So also, the capital and credit requirement demonstrated an expanding pattern with the degree of diversification suggesting in this manner that to broaden the current farming frameworks with the most efficiently, remunerative and in fact plausible endeavors, satisfactory offices ought to be made accessible by the money related foundations.

1.2 Crop Diversification and Composition

As noted as of now, area moves and crop pattern changes can lead either to crop specialization or to crop diversification. The area offer of food grains expanded amid 1967-76 due mostly to their yield points of interest made by irrigation development and Green Revolution technologies and halfway to government approaches sought after to support nourishment production and take out sustenance imports. Accordingly, there was an inclination towards oat-focused specialization. Be that as it may, later when expanded efficiency of food grains, particularly oats, made it conceivable to allot more area to different crops, for example, oilseeds with a serious supply deficiency, the specialization propensity saw before has given space for generally speaking crop diversification. Indeed, even inside such a general crop diversification, it is likewise conceivable to see specialization inclinations inside each crop gathering. For example, inside grains, the declining offer of coarse oats and expanding offer of wheat and rice demonstrates a rice and wheat focused specialization. Such a specialization has turned out to be conceivable in light of the fact that inside the achievement of independence, fundamentally through a growing production of wheat and rice, the nourishment ramifications of coarse grains has declined practically agreeing with their declining request provoked by an undeniably causing pay level. Then again, inside oilseeds, despite the fact that groundnut still has a prevailing area share, the growth of area under rapeseed and mustard, sunflower and soybean shows a progressing auxiliary change prompting diversification inside the oilseed part. The issue of crop diversification, albeit considered in area terms, accept significance in perspective on its impacts on the supply-request equalization of fundamental crops and crop gatherings. The rice and wheat-focused specialization, for example, demonstrates an expansion in the supply of wheat and rice however a diminished supply of coarse grains. Since the interest for coarse oats is declining and that for wheat and rice is expanding because of changes in the salary pattern, the adjustments in their supply are important to accomplish the required interest supply balance. A comparative line of argument can likewise be reach out to different crops where notwithstanding residential interest; worldwide interest and supply additionally accept significance.

1.3 Crop Diversification in the Indian Perspective

With the approach of present day agricultural technology, particularly amid the period of the Green Revolution in the late sixties and mid-seventies, there is a constant flood for enhanced agricultural as far as crops, primarily on economic considerations.

- Asset related factors covering irrigation, precipitation and soil fruitfulness.
- Technology related factors covering seed, fertilizer, and water technologies yet in addition, those identified with advertising, stockpiling and handling.
- Family related factors covering sustenance and feed independence requirement just as investment limit.
- Cost related factors covering yield and information costs just as exchange policies and other economic policies that influence these costs either legitimately or indirectly.
- Institutional and infrastructure related factor covering ranch estimate and other economic policies that influence these costs either legitimately or indirectly.
- Institutional and infrastructure related factors covering ranch size and occupancy arrangements, research, expansion and showcasing frameworks and government administrative policies.

What is most striking is the adjustment in the general significance of these factors after some time. From an exceptionally summed up point of view, Indian farming is progressively getting affected increasingly more by economic factors. This need not be astonishing because irrigation extension, infrastructure development, infiltration of country markets, development and spread of brief term and dry spell safe crop technologies have all added to limiting the role of non-economic factors in crop decision of even little ranchers. Furthermore, the change activities embraced about the continuous agricultural liberalization and globalization policies are going to fortify the role of cost related economic motivating forces in deciding crop composition at both the small scale and large-

scale levels. Clearly, such a changing economic environment will likewise guarantee that government cost and exchange policies will turn out to be still increasingly incredible instruments for coordinating area allotment choices of ranchers, adjusting accordingly the crop pattern changes in accordance with the evolving request supply conditions. In a condition where agricultural growth results more from profitability improvement than from area development, the expanding role that cost related economic motivators play in crop decision can likewise make ready for the following phase of agricultural advancement where growth originates increasingly more from esteem included production.

Figure 1 - Crop Diversification

2. REVIEW OF LITERATURE

Meena (2011) - announced that the Herfindhal file of all out qualities was found to 0.359, which are near the zero and large hole from one which showed enough crop diversification in the production of principle crops in the examination area. The estimation of the Herfindhal record was assess for little, medium and large ranchers were observe to be 0.292, 0.308 and 0.401 separately. The estimation of Herfindhal file demonstrates that it found to increment with the expansion of size of holding. Consequently, it very well may be tell that there were immediate relationship between size of holding and diversification list among the distinctive class of the farms. The examination demonstrated that the production estimations of the crop diversification were discover more on little farms as against large size of groups.

3. OBJECTIVES OF THE STUDY

1) To examine Pattern of Crop Diversification in Telangana State.

2) To identify the major factors driving to agricultural diversification in Telangana.

3) To identify Crop Diversification in the Indian Perspective and its Composition.

4. METHODOLOGY

This examination is totally founded on auxiliary information gathered from different productions and records of the Telangana and Erstwhile Andhra Pradesh, Statistical Abstracts, Crop report, Economic Review and Agricultural Census Reports. To comprehend the degree of crop diversification, S.S. Bhatia technique to gauge level of crop diversification. This technique gives a helpful and appropriate to estimating the level of diversification in the cropping pattern. For choosing the major crops, the strategy followed in this technique is as per the following. Separation 100 by 'N' number of crops developed in area. At that point consider just those crops as vital on the off chance that they spread an area larger than 100/N. the remainder of crops which are developed in an area under 100/N are disregarded. Here scientist chose 10 primary crops for the reason and overlooked the crops with under 10 percentage of sown area to gauge the level of diversification. ArcGIS programming were utilize for spatial information investigation.

$$\text{Crop diversification Index} = \Sigma x^2 / (\Sigma x)^2$$

Where,

X = percentage of total cropped area occupied by each crop which occupy individually 5 percent or more.

5. RESULTS AND DISCUSSION

The district wise pattern of assorted variety based on 10 crops uncover that a large portion of the districts fall under the category of high diversification delivering number of crops. Spatial pattern of crop diversification in the state is cluster into high-, medium-and low-diversification Zones. A spatial perspective on these zones is appear in Map 2. (Crop diversification map).

Table I. Crop Diversification in Telangana State during 2006, 2011 and 2015

Sl. No	District	Crop Diversification 2006-07	Crop Diversification 2011-12	Crop Diversification 2014-15
1	Mahaboobnagar	13.38	16.37	17.19
2	Rangareddy	18.43	17.93	18.10
3	Hyderabad	-	-	-
4	Medak	22.2	19.03	19.30
5	Nizamabad	26.05	46.1	43.00
6	Adilabad	18.05	34.15	23.50
7	Karimnagar	32.15	37.05	32.20
8	Warangal	29.75	36.55	33.30
9	khammam	23.26	32.65	34.20
10	Nalgonda	24.76	28.6	41.40

High crop diversification involves a major offer of agricultural area, portrayed by low and flighty rainfall and particular soil issue with a low

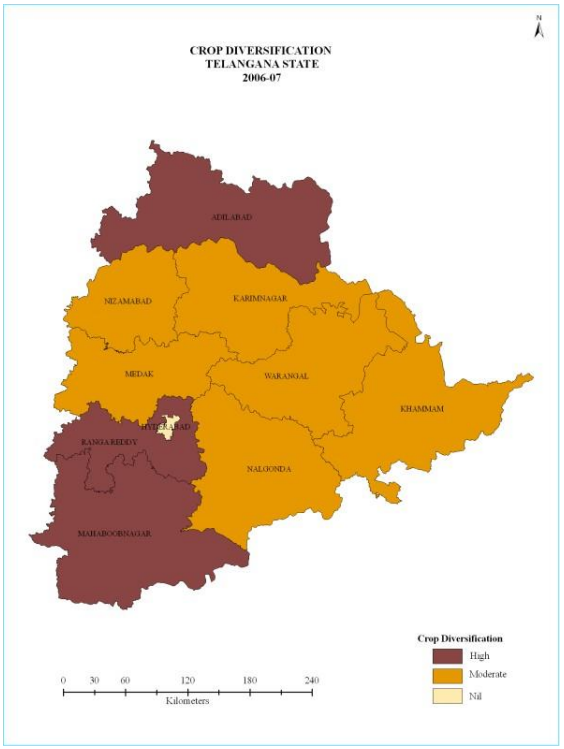
dimension of agricultural strengthening. The districts with under 20 level of diversification incorporate Mahabubnagar, Rangareddy and Medak. In this area, rainfall is low, contrast with different districts. The principle crops developed are cotton, beats groundnuts, Jowar and rice. Absence of Irrigation facilities, Fragmentation of land holding less supporting modernization and mechanization of farming are the principle factors for high diversification of crops. This demonstrates the whole area is with positive comments for financial and environmental angles. Poor essential infrastructure like provincial streets, Power, Transport, Communications likewise different factors for diversification. Ranga reddy and Medak districts are extremely close to Hyderabad, capital of Telangana where individuals are requires assortment of sustenance stuff because of these reason distinctive crops are developed.

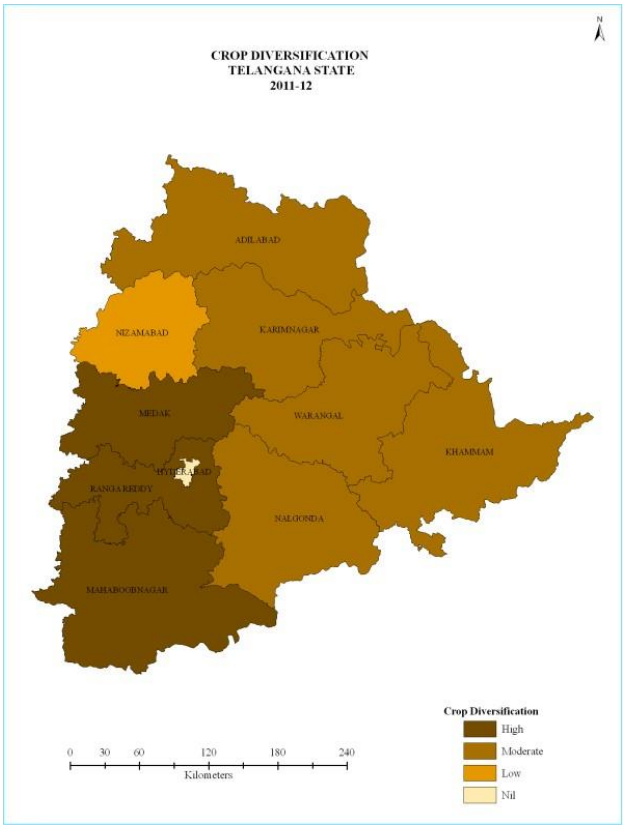
Medium-diversification zone (20-40 percent): large number of districts incorporates into this zone. Prior six districts are recognize in this zone; gradually it has boiled down to three districts to be specific Karimnagar, Warangal and Khammam districts in 2014-15. The imperative crop developed here are rice, cotton and heartbeats. These crops are develop seriously with guaranteed irrigational facilities.

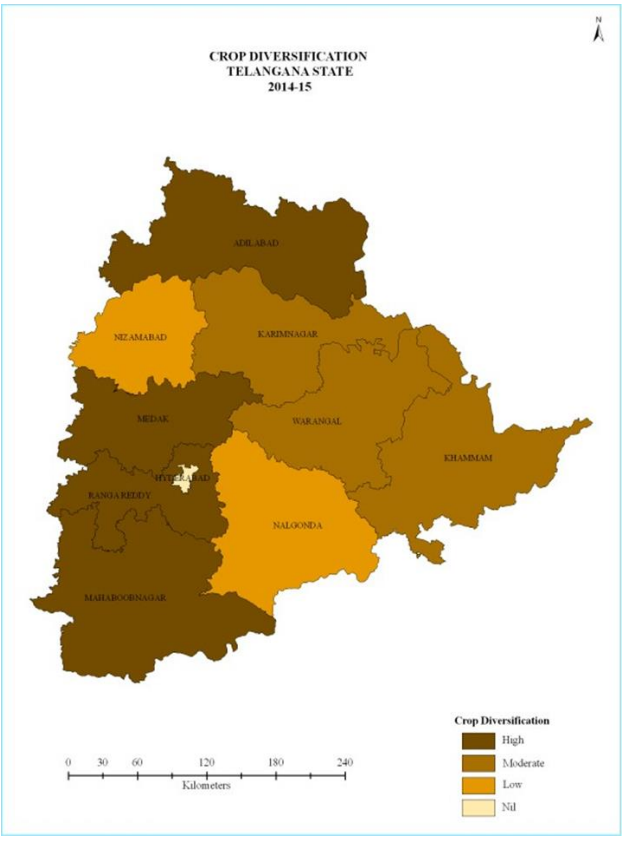
Low-diversification zone (more than 40 percent): this zone covers Nizamabad and Nalgonda just in Telangana. Prior no districts is incorporate into this zone in view of guaranteed irrigational facilities by Sriramsagar channel and Nizamsagar waterway. In view of dry spell in 2014-15, these districts are move over to direct and low diversifications. Minor irrigation ventures like Alisagar, Guptha, Singeetham, Pocharam, lift irrigation facilities and availability of bore wells in encompassing areas in Nizamabad district additionally supported to incorporate into it. Fruitful soils, utilization of fertilizer and mechanization with abnormal state of crop heightening are different factors for conveying and proceeding in low diversification of crops. Rice is the prevalent crop in Nizamabad district pursued by Oilseeds. Cotton is transcendent crop developed in Nalgonda district. Nagarjunasagar, Solipeta, Dindi are the principle irrigation extends other than event of dark soil and positive climatic conditions are different factors. Imperfect and over-utilization of assets like land and water, causing a negative effect on the environment and sustainability of farming.

Table 2. Crop Diversification in Telangana State

Level of Diversification	Range	Number of Districts in 2006-07	Number of Districts in 2011-12	Number of Districts in 2014-15
High	Less than 20	Mahbubnagar, Rangareddy, 3Adilabad	Mahbubnagar, Rangareddy, Medak	Mahbubnagar, Rangareddy, Medak and Adilabad
Moderate	20 to 40	Khammam, Warangal and Karimnagar Nizamabad and Nalgonda and medak	Adilabad Khammam, Warangal , Nalgondaand Karimnagar	Khammam, Warangal and Karimnagar
Low	more than 40	-	Nizamabad	Nizamabad and Nalgonda







6. CONCLUSION

Moderate crop diversification zone is overwhelming contrasted with high and low diversification zone in the state. It is close from the investigation that for the most part two districts have moved from moderate diversification to low diversification from 2006 to 2015. The imperative crops developed in the state are paddy, heartbeats and Cotton. Crop diversification changes primarily because of availability of irrigational facilities especially lift irrigation facilities, fruitful soil, and selection of fertilizers and mechanization of agribusiness and so on. In future, Crop pattern changes in low broadened areas would prompt genuine environmental outcomes like groundwater consumption, soil fruitfulness, water logging and saltiness, which can diminish the crop efficiency and growth capability of farming. To guarantee the sustainability, high diversification must be support.

The cross-sectional examination for chose Telangana uncovered that peripheral ranchers by and large did not have sole wellspring of pay as crop cultivation asthey have enhanced towards subordinate endeavors, small poultry, duckery, piggery or goatery. Due to using an incorporated farming methodology, these ancillary enterprises turned out to be profoundly productive in small scale with adequately low level of dangers due to its small size of range of activity. The investigation has concluded that alongside over all agricultural diversification, irrigation, cropping power, and high-esteem and auxiliary ventures will supplement farm pay and will accomplish ranch income security.

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